

Certification body



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Certification for NF APE (1) mark



The **NF136 (NF APE)** mark is applicable to accessories for polyethylene networks for the supply :

- of gaseous fuels,
- of drinking water,
- of irrigation,
- of sewerage under pressure
- of industrial applications
- of electrical confinement

(1) The NF Mark guidelines are made up of the Specific Certification rules for the concerned mark and, in the Appendix, the General Rules of the NF Mark and the normative documents referenced therein.

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These Certification Rules were submitted to AFNOR Certification's approval for admission into the NF certification system.

They were approved by AFNOR Certification's Legal Representative on **January 8th, 2023**.

They cancel and replace any previous versions.

These Certification Rules are applicable as from the approval date. There is no deadline for implementation for elements covered by the modification of these Rules, **unless a transitional period is specified in the summary table of changes**.

As a certifying body accredited by COFRAC under the number 5-0042 (scope of accreditation available on www.cofrac.fr), CERTIGAZ undertakes to draw up Certification Rules ensuring an appropriate level of requirements for the quality of products, their fitness for use and durability.

The accreditation demonstrates CERTIGAZ's independence, its impartiality and its technical capacity to develop the NF Mark.

The Certification Rules may be revised, in whole or part, by CERTIGAZ and after consultation with the Special Committee of the NF APE Mark.

The revision is approved by AFNOR Certification's Legal Representative, for admission into the NF certification system.

These guidelines are available and downloadable on the website www.certigaz.fr or www.marque-nf.com

Other information relating to certification and certified products is available on these websites, including:

- the identification of the holders;
- the identification of certified products;
- the list of certified characteristics.

In litigation, the French version applies

CHANGE HISTORY

Part changed	Revision no.	Date	Changes made	Impact on the requirements of products already certified and/or transitional period
Entire document	17	April 29th 2013	<ul style="list-style-type: none"> - Complete rewording of the guidelines in accordance with the style guide of the Certification Rules for NF Mark applications. - Integration of specifications SROB104-NF: Characteristics of threaded buffers and rings at foot of meter according to NF E 29-532. - Integration of SLAB100 specifications: specifications for the authorisation of the manufacturer's laboratory. - Update of product standards and tests. - Clarification addressed in mark committee concerning tests. - Compilation of files. - Harmonisation of the codification of families according to the product standards. - Details of testing by application group. - Marking. 	<ul style="list-style-type: none"> - Before January 2014
1 – 2 – 3 4 – 5 – 7	18	February 26th 2015	<ul style="list-style-type: none"> - Integration of MBDI with management of approval of excess flow valves and monitoring of sites, their installation and control. - Various modifications, corrections or additions marked by highlighting. - 2 new Mark laboratories for partial tests. - Management of Mark laboratories according to SLAB 110 specifications. - Limitation of roughness for the spigot ends of accessories. - Addition of the sewerage application under pressure (Group 5) 	<ul style="list-style-type: none"> - Transitional phase until end of 2015 - No impact on products already certified - Applicable for certified accessories beyond one month after the revision
1 – 2 – 3 4 – 5 7 – 8	19	July 29th 2016	<ul style="list-style-type: none"> - Update of the title of rules to add the sewerage under pressure application according to EN12201 standard - Update of product standards and tests - replacement of the ISO 10838 series of ISO 17885 - Test tables Separation (TT, BRT, PVT, AT) for families D1, D2 and D3 - Modification of the table 9 for each family D1, D2 and D3 and by technology - Role and tasks of the Committee - Replacement of the Record Form 004A by downloadable Excel file - Marking the MOP so different from MOP Max - Consideration of 2 versions of ISO9001 - Resin batch Mix - Definition observation after monitoring - Sampling of PVT and sending the information to CERTIGAZ - Clarification of the definitions of the lexicon (extension, observation, warning and suspension) 	<p>The changes apply from the date of validation rules except for the following topics :</p> <ul style="list-style-type: none"> - Transitional period is 2 years for already certified fittings for the transition to ISO 17885 at the date of revision 19 - Transitional period is 3 years for ISO 9001. The 2008 version is possible until 09/2018 - Sampling PVT arrangements apply no later than for monitoring 2017
1 – 2 – 3 4 – 5 – 7	20	April 30th 2018	<ul style="list-style-type: none"> - Clarifications on the scope of certifiable products in terms of PE, SDR, size groups, application groups. - The fabricated fittings (group D of XP CEN / TS 12201-7) are not covered by the rules. - New definition for the C2 family, only for butt fusion welding. - New scope of the ISO13954 and ISO13955 standards for cohesion tests for family A. - Precisions for hydrostatic pressure tests in addition to §10.3 of the ISO1167-1 standard for the management of breakdowns or stops. - New definition, on an experimental basis, of test plans TT, BRT, PVT and AT, for water in its various applications and for Gd3 of the gas application, for families A, B and C. - Using of cohesion test according to ISO 21751 for family B and Gd3. - Information for collars and flanges according to NF EN ISO 15494 standard, for families C. - Closing direction for valves for non-gas applications, to be recorded in 	<p>No impact on products already certified.</p> <p>The changes are applicable from the date of validation.</p>

Part changed	Revision no.	Date	Changes made	Impact on the requirements of products already certified and/or transitional period
			<ul style="list-style-type: none"> the technical file. - For valves, the calculation of the hydrostatic pressure for the multiple tests depends to SDR. - Deletion of specific articles of the code of consumption. - Additional information for test reports for a summary. - Definition of a rounding rule of the measured values. - Precision means for measuring electrical resistances. - Distribution of a list of members of the Brand Committee. - Information on the codification of certificates and approvals. - Various editorial corrections. - Addition of standards, for information purposes, NF EN 13100, 14728 and EN 16296 - Clarifications on the members of the 2nd Committee College - Information about the record for the AT report - Clarifications for the role of the Committee Chair 	
1 – 2 3 – 4 5 – 6 7 – 8	21	December 1st 2019	<ul style="list-style-type: none"> - §1.1.1 Precision of the quantity of a small series for group D of XP CEN / TS 12201-7 - §1 - 2 - 3 and 4 New application for electrical confinement - §2 - 3 and 4 Precision for the test of resistance to ammoniacal stresses and pr NF E 29-196 to replace annex 2 of SROB100 - §2.4.4.8 separation of the control plan from the B1 family triggers, to avoid confusion - §2.5.3.1 marking of the areas of application on the accessories - §3.3.1 Details on the appearance of accessories (PE / Steel protection, stitching, RPC) - §3.3.1 Table 9 - test plan in case of change of MRS or SDR in family D3 - §3.3.1 clarification of the test according to ISO13924 in family D1 - §5 update of links, to NF114 certificates on the LNE website and for ACS managed on the ministry's website - §6 information for the tariff revision based on the SYNTEC index - §7 details to constitute the technical files (PE / Steel protection, tools for stitching and RPC, key for perforator) - Correction or addition following consultation 201908 - §1.1.1 / 2.5.3 harmonization of application group with NF114 - Clarification or correction following the COFRAC audit - §2.5 added rule for using the COFRAC logo - §3.3.2 / 3.4 / 4.1.2 / 4.2 for audits and decisions - §3.1 and 7 adding EFTA to EEA - §8 addition of definitions (NCmaj, NCmin, PS, PP, PF) 	No impact on products already certified. The modifications are applicable from the date of validation.
			<ul style="list-style-type: none"> - §2.3 Regulatory changes, new decree of 23 February 2018 and CNPG guides to replace 3 decrees (2/08/1977, 4/03/1996 and 16/07/1980) - §2.1 addition of standard NF D36-136, connection 	Transitional periods, see CNPG guide: AMG "Gas appliances and equipment"
2 – 3 – 4 5 – 7 – 8	22	June 23rd 2021	<ul style="list-style-type: none"> - §2.4.4.8 monitoring for the marking durability (NF & GAS logo) - §2.5.3.1 & 3.3.1: addition of NF & GAS marking durability conditions on products : wired logo, NF letters use - §3.3.1 tables 2 & 7a & 4.1.1 table 13a– tests on normalized mechanical couplers 	<ul style="list-style-type: none"> - In the course of monitoring during audits 2021 for certified products - During AT 2021 for certified products

Part changed	Revision no.	Date	Changes made	Impact on the requirements of products already certified and/or transitional period
2 – 3 – 4 5 – 7 – 8	22	June 23rd 2021	<ul style="list-style-type: none"> - §2.2.1 addition of ISO12176-5 / NF E 29-135 (marking durability) - §2.2.2 addition of ATG B.521 & RSDG specifications - § 2.2.2 & tables of § 3.3.1 & 4.1.1 in order to specify NF E 29-196 instead of annex 2 of SROB100 06-2020 since SROB100 04-2021 version - §2.3 gas rules update - §2.4.1 ISO9001 2008 version withdrawal - §2.4.6 precisions & commitments : customer complaint management - §2.5.3.1 possible addition of a QR code - §2.5.3.2 assembling specifications for family C junctions - §3 extension specification implying a new certificate - §3.1 ELEC application specification (plan modification) - §3.3.1 WATER application specification (groups 2, 3 & 4) <ul style="list-style-type: none"> Precision for dimensional – curves - tables 4, 7a 10 & 13a precision on ammoniacal stressed samples - §3.3.2. Progress tracking removal and precision for lapse lifting during an additional audit. <ul style="list-style-type: none"> Precision on multisite and remote audits. - §4.1.1 Correction on samples number for AT <ul style="list-style-type: none"> PVT results delivery to CERTIGAZ before the end of february - §4.1.2 Precision on multisite and remote audits - §5.6.1 Precision on Special Committee guests - §7.1 Technical File providing through 1 unlocked pdf file - §7.2 Application form completed for invoicing - §7 form 005 – technical file : precision on seals and lubricants <ul style="list-style-type: none"> - lack of seal material certification → tests every 2 years - lack of EN377 certification possible if track recorded use - §8 definitions of major/minor non-conformities and agent 	<p>No impact on products already certified.</p> <p>The modifications are applicable from the date of validation.</p>
1 to 8	23	January 10th 2023	<ul style="list-style-type: none"> - Page1, §2.2, §7.2, § 7.2 letters => CERTIGAZ address change - Page 3, information on the date of application and transitional periods - Page 3, availability of information on the Afnor and Certigaz website - §1.1.1, §2.5.3, clarification of application groups and information on gaseous fuels (§2.2.1 list of standards for EN437) - §1.1.2.1 precision on virgin resin without recycling, certified NF114. - Addition of §1.1.2.3 cascading certification info for certain PE accessories (extensions, brackets, etc. with brazing or welding) to NF540 - §1.3, NF APE info recognized in the field of gas regulations - §2.4.4.8, breaking torque details NF E 29-532 and NF E 29-536 - §2.5, precisions on marking - §2.5.3.1, §2.5.3.2 and § 2.5.3.3, details on the marking and instructions including the expiry date before implementation, the coding of the CT and the recommendation of the ELEC marking on the accessory - §3, details on the different maintenance cases - §3 and 4, tables 4, 5, 6 and 14 accuracy of tests by cavity - Tables 5, no test according to ISO13924 for derivation saddles or balloon shut-off saddle on plugged extremities (family B2) - Tables 5&11, registration of saddle separation method (method A1 in case of litigation) - Tables 5 bis & 11 bis, saddle diameter info for PBDI - Tables 7c & 13c, info on ovalization of D3 family for use of PE pipe - Family E3, page 54, clarification on purges and non-NF kit component - Addition §3.3.3 Auditors/inspectors 	<p>→ 12 months transitional period for fittings already certified NF136</p> <p>→ 12 months transitional period</p> <p>→ 12 months transitional period for BRT(tab. 14)</p>

Part changed	Revision no.	Date	Changes made	Impact on the requirements of products already certified and/or transitional period
			<ul style="list-style-type: none"> - §3.4 and § 3.5, certificate validity fixed on 3 years but at the end of the previous month - Addition §3.6 Confidentiality - §4, §4.1 and §8, precision about the holder = manufacturer or distributor - §4.1.1, if NC with suspension during AT suspension maintenance <ul style="list-style-type: none"> + Details of the PVT family plan D and E + AT PBDI dn 40 to 125 + Details for the follow-up of AT samples sent within 30 days. -§4.1.2, distributor monitoring audit maintained every 2 years -§4.2, case of renewals during a suspension -§6.2, invoices issued in computer format only -§6.3, shipping time for samples fixed on 30 days -§7, form 005 -§8, progress track removal -§6.1, precision on costs incurred in the cases of visit cancellation or adjournment -§7.1, P91 and P100, precision on forms 004 and 005 -§3.4, 4.3 and 4.4, details for the granting of the right to use and its withdrawal 	

Part 1

PRESENTATION AND SCOPE

1.1 Scope

The present application, the NF APE Mark (NF136) concerns accessories for polyethylene networks for the supply of gaseous fuels, drinking water, drainage, sewerage under pressure, industrial applications and electrical confinement commonly designated as "accessories for PE networks" (APE), and classified under the following families.

1.1.1 Product families

New codification		Family code before April 2013	Description
group A: PE electrofusion socket fittings	family A1	A1	Couplers, elbows, tees, reducers, etc. made only of PE
	family A2	-	Mixed (polyethylene/metal) electrofusion socket fittings
group B: PE electrofusion saddle fittings	family B1	A21	Tapping tees (PDB), tapping tees with integrated excess flow valve (PBDI) and tapping coupler with integrated excess flow valve (MBDI)
	family B2	A22	Tapping saddle, balloon shut-off saddle, branch saddle (SDD), stop saddle and reinforcing saddle
group C: (1) PE spigot fittings	family C1	A31	for jointing by electrofusion socket
	family C2	A32	for jointing by butt fusion
group D: Joint fittings by mechanical jointing or other types of jointing removable or not	family D1	B1	"Metal-plastic" and "plastic-plastic" metal mechanical fittings
	family D2	B2	"Metal-plastic" and "plastic-plastic" plastic mechanical fittings
	family D3	B3	Transition piece (clamps, flanges, couplers, etc.) with a PE spigot part
group E: Polyethylene valves	family E1	C1	Valves for PE networks
	family E2	C2	Connection valves (RPC): valves one end of which is equipped with an electrofusion saddle
	family E3	C3	Single or dual-purges valves

(1) The fabricated fitting according to XP CEN / TS 12201-7, Group D, or fully machined, unit-manufactured or very small-series shaped fittings (<100/year) are not covered in these NF136 rules.

Accessories for PE networks belong to one or more of the following groups, depending on their applications:

Group 1	Gaseous fuels application	1-G	
Group 2	Drinking water application (with ACS, Health Compliance Certificate)	2-W	
Group 3	Irrigation or watering application	3-W	
Group 4	Industrial process application (this group includes non-drinking water) Sewerage under pressure application, Industrial process liquid	4-W 4-PI	
Group 5	Electrical confinement, for only families A1 and D2	5-ELEC	

Gaseous fuels in France and Europe are defined for test gases in standard NF EN 437, for different families:
- 1st family, gases manufactured with hydrogen as the main constituent, methane (natural gas) and nitrogen

- 2nd family, natural gases, therefore mainly methane with different levels of other constituents (hydrogen, propane, nitrogen),
 - 3rd family, liquefied petroleum gases (LPG), including butane and propane.
 PE accessories for gas application can therefore be used for these gas networks and also those containing biomethane (biogas).

Products intended for gas installations are considered as products having safety obligations in the meaning of Article 10 of the General Rules for NF Mark.

These Rules deal with NF certification and NF approval (excess flow valves fitted in PBDI or MBDI) in an identical manner. The concept of certification in these Rules covers NF approval. In case certification and approval are different, these elements are indicated in the Rules.

1.1.2 Products and product ranges

1.1.2.1 PE accessories

A PE accessory is defined according to:

- the family defined in § 1.1, the C group includes fabricated spigot fittings for applications different of gas.
- the dimension or diameter in mm : dn
- the dimension group (Gd) as defined in XP CEN/TS 1555-7 and XP CEN/TS 12201-7 with these following size groups :

Size group (Gd)	Nominal diameter dn in mm
Gd1	dn < 75
Gd2	75 ≤ dn < 250
Gd3	250 ≤ dn < 710

with the following rules to the accessories with many dimension (dn) :

- for reducers or reduced tees, the Gd of the fitting is one of the biggest dn,
- for branch saddles (sdd) or tapping tees (pdb), the Gd of the fitting is one of the saddle,
- for the valves with different diameter, the Gd of the valve is one the biggest dn,
- for the RPC, the Gd is one of the saddle.
- the shape of the accessory (coupler, 90° and 45° elbow for each angle and radius of curvature, reducer, tee, single block PDB, dual block PDB, SDD, tapping saddle, collar, etc.)
- the metal alloy
- the resin which must be certified according to NF114 for the application group concerned. This resin must be virgin, without recycling, for the production of PE accessories in order to guarantee the durability of the characteristics and service life of the networks.
- the MRS of the resin (only for the resins PE80, PE100)
- the SDR (dn/thickness ratio)
 - For GAS application, only the SDR 11 and 17; SDR 17 applies to values 17 and 17.6.
 - For the other application, only the SDR 7.4 – 9 – 11 – 13.6 – 17 – 21 – 26 according to the field of the NF114 rules, by application.
- the MOP (maximal operating pressure) for gas application or the PN (nominal pressure) for other applications
- the type of body/stopper for valves
- the type of stack/cutter pour tapping tees
- the type of excess flow valve for PBDI
- the application(s) of use (gas, drinking water, irrigation, industrial process)

An accessory may be obtained based on several technologies:

- machining

- injection
- compression
- socket fusion, butt fusion, etc.
- jointing
- integration of the electric part for electrofusion accessories
- overmoulding
- bending
- combination of previous technologies

1.1.2.2 Range of PE accessories

A range of PE accessories that may be covered by a certificate consists of a set of accessories that meets the following identical characteristics:

- design or technology of the functional parts except for geometric differences due to different sizes,
- family,
- material or resin,
- SDR,
- application group,
- production site

which differs by:

- the dimension (dn),
- the shape,
- the body of the same technology,
- the stack,
- the excess flow valve,
- options with no impact on the certified characteristics.

1.1.2.3 Special case of PE accessories

Some PE accessories, mainly mechanical fittings (D1 family) are combined with other products that meet other certification marks:

- Metal taps equipped with a PE connection: the PE part which constitutes the tap must be certified NF136 then the complete tap must be certified NF078.

- An extension, a butt, an elbow, etc., one end of which is a PE connection brazed directly with another connection with a mechanical connection or via a copper tube or welded in the case of a steel connection or tube: the PE brazed connection or welded must be certified NF136 but the finished product must be certified NF540.

This is sometimes already the case for a mechanical joint connection to be brazed or welded.

However, if these finished products have a PE end and a PLT end, each of the ends must meet the NF136 and ATG-PLT marks respectively, but the finished products must be NF540 certified.

1.2 Who may apply for the NF Mark and why?

These Certification Rules are open to any applicant whose products fall within the above-defined scope and meet the technical requirements described in Part 2 of this document.

Definition of applicants/holders, agents, distributors:

a – Applicant / holder:

A legal entity that provides control and accountability for compliance with all requirements specified in the NF APE Mark Certification Rules.

These requirements cover at least the following steps: manufacture, assembly, quality control, marking, packaging and introduction onto the market, and specify the critical points of each step.

b – Agent:

Legal entity or private individual located in the European Economic Area (EEA) or in the European Free Trade Association (EFTA) which represents the applicant/holder outside the EEA or EFTA and has a written power of attorney from the applicant/holder stating that it can act on its behalf and specifying in what framework (missions and associated responsibilities and financial aspects, claims, certifying body contact, among others) in the NF Mark certification process in accordance with the provisions of the Certification Rules.

The agent may be the distributor or the importer; its various functions are clearly identified.

c – Distributor:

Legal entity distributing the products of the applicant/holder, and which does not alter the product to modify compliance with regard to NF Mark requirements.

The types of distributors can be the following:

- distributors who do not alter the product technically and distribute the product under the holder's trademark,
- distributors who do not alter the product technically and distribute the product with a change of trademark **or packaging** (in this case, it is necessary to maintain the right to use or to apply for the right to use, if the applicant does not wish that explicit reference be made to the applicant/holder).

Note: *the applicant's sites that are guarantors of the compliance with certain requirements of the guidelines are considered as the applicant's subcontractors and may be inspected in accordance with the requirements of the guidelines.*

The applicant/holder agrees notably not to submit counterfeit products for certification.

It is the responsibility of the applicant/holder to ensure that the regulations applicable to its product are effectively met.

1.3 The NF Mark

Created in 1938, the NF Mark is a registered collective certification mark that certifies the conformity of products with the applicable national, European and international standards, which may be completed by additional specifications, under the conditions defined in the certification guidelines. The mark is awarded by AFNOR Certification and its network of partners, which form the NF network.

The NF Mark is a voluntary product certification mark that meets the requirements of the French Consumer Code, in particular by involving the interested parties in the validation of the certification guidelines, by defining the rules applying to product marking and by communicating clearly and transparently on the main certified characteristics. The NF Mark also meets the requirements of NF EN ISO/IEC 17065, which applies to bodies certifying the products, processes and services as part of the assessment of conformity to a guideline.

The right to use the NF Mark is granted on the basis of compliance with one or more standards and more generally with the entire certification guidelines, for a product coming from an applicant and a designated design and/or manufacturing and/or marketing process. Awarding the right to use shall under no circumstances substitute the legal responsibility of the company holding the right to use the NF Mark by the responsibility of CERTIGAZ.

The NF Mark checks the characteristics for the protection of the safety of persons and property, suitability for use and the durability of products, and any other additional characteristics that differentiate the product on the market.

Unanimously recognised by economic players, consumers, public authorities and institutions, the NF Mark has acquired an indisputable reputation that has been rewarded by the very rare status of a well-known trademark in France. This renown is based on:

- compliance with standards, a symbol of the consensus reached between the interested parties,
- the guarantee of high-quality, safe and high-performance products that have been tested and checked,
- the concern to meet the changing needs of the markets,
- confidence in the robustness of the certification process resulting in the award of the mark (thoroughness, transparency and impartiality, command of the processes),
- confidence in the competence and impartiality of the bodies that award the mark.

The operation of the NF Mark relies on a network of mandated certifying bodies, technical secretariats, laboratories, inspection bodies, auditors and recognised regional technical experts that, along with AFNOR Certification, make up the NF Network.

In accordance with the General Rules of the NF Mark, AFNOR Certification has appointed CERTIGAZ, the certifying body, to exercise the various functions necessary to manage the NF APE mark.

CERTIGAZ is answerable to AFNOR Certification for the operations with which it is entrusted, and which are covered by a contract with AFNOR Certification.

For the GAS application, CERTIGAZ and the NF APE mark are recognized under the regulations for PE accessories for gas installations.

Part 2

REQUIREMENTS OF THE GUIDELINES

2.1 Certification guidelines

The guidelines of this application of the NF Mark, under the terms of the French Consumer Code, are made up of:

- the General Rules for the NF Mark setting out the general organisation and terms of use of the mark,
- these Certification Rules, which describe the technical characteristics to be respected, and the procedures used to check the conformity with these characteristics.
- the standards to which these Certification Rules refer, and any additional technical specifications.

These Certification Rules are used to certify products and services, other than foodstuffs specified in the French Consumer Code, which specify the conditions of application of the General Rules of the NF Mark to the products defined in part 1.

The company (applicant/holder) undertakes to comply with the Certification Rules in force as specified in the letters of request in part 7.

2.2 Supplementary standards and specifications

The standards and documentation booklets (NF, XP, FD, etc.) are available at the Sales Department of:

AFNOR – 11 rue Francis de Pressensé – F 93571 LA PLAINE ST-DENIS Cedex

Tel.: +33 (0)1 41 62 80 00 – www.afnor.org

The worksheets (FT), ATG specifications and specifications (CCH) are available at BNG (Gas Standardization Bureau) – Immeuble le Linéa - 1, rue du Général Leclerc - F – 92800 Puteaux

Tel.: +33 (0)1 80 21 07 76 – www.francegaz.fr

The SROB, SAPE, SLAB, and other specifications are available on request from CERTIGAZ and can be downloaded from the website www.certigaz.fr

2.2.1 Applicable standards

The table below shows the different mandatory or informative standards necessary for certification and the implementation of accessories for PE networks. These standards are considered for each part at the latest revision date and any amendments included.

The last column indicates whether the standard (normative document) is applicable (A) or informative (I) and mandatory by law, guide or directive (O).

NF EN 377	Lubricants for applications in appliances and associated controls using combustible gases except those designed for use in industrial processes	A
NF EN 437	Test gases — Test pressures — Device categories	I
NF EN 549	Rubber materials for seals and diaphragms for gas appliances and gas equipment	A
NF EN 681-1	Elastomeric seals. Material requirements for pipe joint seals used in water and drainage applications.	A
-2	Part 1 : vulcanized rubber	
-3	Part 2 : thermoplastic elastomers	
-4	Part 3 : cellular material of vulcanized rubber Part 4 : cast polyurethane sealing elements	
NF EN 682	Elastomeric seals – Material requirements for seals used in pipes and fittings carrying gas and hydrocarbon	A O

NF EN 712 Replaced by NF EN ISO 3501	Thermoplastics piping systems. End load bearing mechanical joints between pressure pipes and fittings. Test method for resistance to pull out under constant longitudinal force	A
NF EN 713 Replaced by NF EN ISO 3503	Plastics piping systems. Mechanical joints between fittings and polyolefin pressure pipes. Test method for leaktightness under internal pressure of assemblies subjected to bending	A
NF EN 715	Thermoplastics piping systems. End load bearing joints between small diameter pressure pipes and fittings. Test method for leaktightness under internal water pressure, including end thrust	A
NF EN 736-1	Valves. Terminology. Part 1: Definition of types of valves	A
NF EN 736-2	Valves. Terminology. Part 2: Definition of components of valves	A
NF EN 736-3	Valves. Terminology. Part 3: Definition of terms	A
NF EN 744	Plastics piping and ducting systems. Thermoplastics pipes. Test method for resistance to external blows by the round-the-clock method	A
NF EN 751-1	Sealing materials for metallic threaded joints in contact with 1st, 2nd and 3rd family gases and hot water - Part 1: Anaerobic jointing compounds	A O
NF EN 751-2	Sealing materials for metallic threaded joints in contact with 1st, 2nd and 3rd family gases and hot water - Part 2: Non-hardening jointing compounds	A O
NF EN ISO 1133-1	Plastics. Determination of the melt mass-flow rate (MFR) and melt volume-flow rate (MVR) of thermoplastics. Part 1: Standard method	A
NF EN ISO 1167-1	Thermoplastics pipes, fittings and assemblies for the conveyance of fluids. Determination of the resistance to internal pressure. Part 1: General method	A
NF EN ISO 1167-2	Thermoplastics pipes, fittings and assemblies for the conveyance of fluids. Determination of the resistance to internal pressure. Part 2: Preparation of pipe test pieces	A
NF EN ISO 1167-3	Thermoplastics pipes, fittings and assemblies for the conveyance of fluids. Determination of the resistance to internal pressure. Part 3: Preparation of components	A
NF EN ISO 1167-4	Thermoplastics pipes, fittings and assemblies for the conveyance of fluids. Determination of the resistance to internal pressure. Part 4: Preparation of assemblies	A
NF EN 1555-1	Plastics piping systems for the supply of gaseous fuels. Polyethylene (PE). Part 1: General	A O
NF EN 1555-2	Plastics piping systems for the supply of gaseous fuels. Polyethylene (PE). Part 2: Pipes	A O
NF EN 1555-3	Plastics piping systems for the supply of gaseous fuels. Polyethylene (PE). Part 3: Fittings	A O
NF EN 1555-4	Plastics piping systems for the supply of gaseous fuels. Polyethylene (PE). Part 4: Valves	A O
NF EN 1555-5	Plastics piping systems for the supply of gaseous fuels. Polyethylene (PE). Part 5: Fitness for purpose of the system	A O
XP CEN/TS 1555-7	Plastics piping systems for the supply of gaseous fuels. Polyethylene (PE). Part 7: Guidance for assessment of conformity	I
NF EN 1594	Gas infrastructure. Pipelines for maximum operating pressure over 16 bar. Functional requirements	I
NF EN 1680	Plastics piping systems. Valves for polyethylene (PE) piping systems. Test method for leaktightness under and after bending applied to the operating mechanism	A
NF EN 1704	Plastics piping systems. Thermoplastics valves. Test method for the integrity of a valve after temperature cycling under bending	A
NF EN 1705	Plastics piping systems. Thermoplastics valves. Test method for the integrity of a valve after an external blow	A

NF EN 1716	Plastics piping systems. Polyethylene (PE) tapping tees. Test method for impact resistance of an assembled tapping tee	A
NF EN 1775	Gas supply. Gas pipework for buildings. Maximum operating pressure less than or equal to 5 bar. Functional recommendations	I
NF EN ISO 3126	Plastics piping systems – Plastics components – Determination of dimensions	A
NF EN ISO 3458	Plastics piping systems - Mechanical joints between fittings and pressure pipes - Test method for leaktightness under internal pressure	A
NF EN ISO 3501	Plastics piping systems - Mechanical joints between fittings and pressure pipes - Test method for resistance to pull-out under constant longitudinal force	A
NF EN ISO 3503	Plastics piping systems - Mechanical joints between fittings and pressure pipes - Test method for leaktightness under internal pressure of assemblies subjected to bending	A
ISO 4059	Polyethylene (PE) pipes. Pressure drop in mechanical fittings. Method of test and requirements	I
ISO 4437-1	Plastics piping systems for the supply of gaseous fuels - Polyethylene (PE) - Part 1 : general	I
ISO 4437-2	Plastics piping systems for the supply of gaseous fuels - Polyethylene (PE) - Part 2 : pipes	I
ISO 4437-3	Plastics piping systems for the supply of gaseous fuels - Polyethylene (PE) - Part 3 : fittings	I
ISO 4437-4	Plastics piping systems for the supply of gaseous fuels - Polyethylene (PE) - Part 4 : valves	A
ISO 4437-5	Plastics piping systems for the supply of gaseous fuels - Polyethylene (PE) - Part 5 : fitness for purpose of the system	I
ISO 4633	Rubber seals - Joint rings for water supply, drainage and sewerage pipelines - Specification for materials	A
NF EN ISO 6509-1	Corrosion of metals and alloys - Determination of dezincification resistance of copper alloys with zinc - Part 1 : test method	A
NF EN ISO 6509-2	Corrosion of metals and alloys - Determination of dezincification resistance of copper alloys with zinc - Part 2 : assessment criteria	A
ISO 6957	Copper alloys. Ammonia test for stress corrosion resistance	I
ISO 6993-1	Buried, high-impact poly(vinyl chloride) (PVC-HI) piping systems for the supply of gaseous fuels - Part 1 : pipes for a maximum operating pressure of 1 bar	A
NF EN ISO 9000	Quality management systems – Fundamentals and vocabulary	A
NF EN ISO 9001(2008)	Quality management systems – Requirements	A
NF EN ISO 9001(2015)	Quality management systems – Requirements	A
NF EN ISO 9080	Plastics piping and ducting systems. Determination of the long-term hydrostatic strength of thermoplastics materials in pipe form by extrapolation	A
ISO 10838-1 Replaced by ISO 17885	Mechanical fittings for polyethylene piping systems for the supply of gaseous fuels. Part 1: Metal fittings for pipes of nominal outside diameter less than or equal to 63 mm	A
ISO 10838-2 Replaced by ISO 17885	Mechanical fittings for polyethylene piping systems for the supply of gaseous fuels. Part 2: Metal fittings for pipes of nominal outside diameter greater than 63 mm	A
ISO 10838-3 Replaced by ISO 17885	Mechanical fittings for polyethylene piping systems for the supply of gaseous fuels. Part 3: Thermoplastic fittings for pipes of nominal outside diameter less than or equal to 63 mm	A
ISO 10933 Replaced by ISO 4437-4	Polythene (PE) valves for gas distribution systems	A
NF EN ISO 11357-6 (replaces NF EN 728)	Plastics. Differential scanning calorimetry (DSC). Part 6: Determination of oxidation induction time (isothermal OIT) and oxidation induction temperature (dynamic OIT)	A

ISO 11413	Plastics pipes and fittings. Preparation of test piece assemblies between a polyethylene (PE) pipe and an electrofusion fitting	A
ISO 11414	Plastics pipes and fittings. Preparation of polyethylene (PE) pipe/pipe or pipe/fitting test piece assemblies by butt fusion	A
NF EN 12007-1	Gas infrastructure. Pipelines for maximum operating pressure up to and including 16 bar. Part 1: General functional recommendations. Gas supply systems	I
NF EN 12007-2	Gas infrastructure. Pipelines for maximum operating pressure up to and including 16 bar. Part 2: Specific functional requirements for polyethylene (MOP up to and including 10 bar)	I
NF EN 12007-3	Gas infrastructure. Pipelines for maximum operating pressure up to and including 16 bar. Part 3: Specific functional requirements for steel	I
NF EN 12007-4	Gas infrastructure. Pipelines for maximum operating pressure up to and including 16 bar. Part 4: Specific functional requirements for renovation - Gas supply systems	I
NF EN 12007-5	Gas infrastructure. Pipelines for maximum operating pressure up to and including 16 bar. Part 5: Service lines. Specific functional requirements	I
NF EN 12100	Plastics piping systems. Polyethylene (PE) valves. Test method for resistance to bending between supports	A
NF EN 12117 Replaced by NF EN ISO 17778	Plastics piping systems. Fittings, valves and ancillaries. Determination of gaseous flow rate/pressure drop relationships	A
NF EN 12119	Plastics piping systems. Polyethylene (PE) valves. Test method for resistance to thermal cycling	A
NF EN ISO 12162	Thermoplastics materials for pipes and fittings for pressure applications. Classification and design. Overall service (design) coefficient	A
ISO 12176-1	Plastics pipes and fittings. Equipment for fusion jointing polyethylene systems. Part 1: Butt fusion	A
ISO 12176-2	Plastics pipes and fittings. Equipment for fusion jointing polyethylene systems. Part 2: Electrofusion	A
ISO 12176-3	Plastics pipes and fittings - Equipment for fusion jointing polyethylene systems - Part 3 : operator's badge	I
ISO 12176-4	Plastics pipes and fittings. Equipment for fusion jointing polyethylene systems. Part 4: Traceability coding	A
ISO 12176-5	Plastics pipes and fittings - Equipment for fusion jointing polyethylene systems - Part 5 : Traceability coding of components data and data exchange shape for PE piping systems	I
NF EN 12201-1	Plastics piping systems for water supply, and for drainage and sewerage under pressure. Polyethylene (PE). Part 1: General	A
NF EN 12201-2	Plastics piping systems for water supply, and for drainage and sewerage under pressure. Polyethylene (PE). Part 2: Pipes	A
NF EN 12201-3	Plastics piping systems for water supply, and for drainage and sewerage under pressure. Polyethylene (PE). Part 3: Fittings	A
NF EN 12201-4	Plastics piping systems for water supply, and for drainage and sewerage under pressure. Polyethylene (PE). Part 4: Valves for water supply systems	A
NF EN 12201-5	Plastics piping systems for water supply, and for drainage and sewerage under pressure. Polyethylene (PE). Part 5: Fitness for purpose of the system	A
XP CEN/TS 12201-7	Plastics piping systems for water supply, and for drainage and sewerage under pressure. Polyethylene (PE). Part 7: Guidance for assessment of conformity	I
NF EN 12327	Gas infrastructure. Pressure testing, commissioning and decommissioning procedures. Functional requirements	I
NF EN 12732	Gas infrastructure. Welding steel pipework. Functional requirements	I

NF EN 13100-1	Non destructive testing of welded joints of thermoplastics semi-finished products - Part 1 : visual examination	I
NF EN 13100-2	Non destructive testing of welded joints of thermoplastics semi-finished products - Part 2 : X-rays radiographic testing	I
NF EN 13100-3	Non destructive testing of welded joints of thermoplastics semi-finished products - Part 3 : ultrasonic testing	I
NF EN 13100-4	Non destructive testing of welded joints of thermoplastics semi-finished products - Part 4 : high voltage testing	I
ISO 13761	Plastics pipes and fittings. Pressure reduction factors for polyethylene pipeline systems for use at temperature above 20°C	I
NF EN ISO 13845	Plastics piping systems - Elastomeric-sealing-ring-type socket joints for use with thermoplastic pressure pipes - Test method for leaktightness under internal pressure and with angular deflection	A
ISO 13924	Plastics pipes and fittings. – Bending/tensile test for PE/steel transition fittings and PE tapping tees	A
NF ISO 13950 (replaces NF T54-975)	Plastics pipes and fittings. Automatic recognition systems for electrofusion joints	A
ISO 13951	Plastics piping systems. Test method for the resistance of plastic pipe/pipe or pipe/fitting assemblies to tensile loading	A
ISO 13953	Polyethelene (PE) pipes and fittings. Determination of the tensile strength and failure mode of test pieces from a butt-fused joint	A
ISO 13954	Plastics pipes and fittings. Peel decohesion test for polyethylene (PE) electrofusion assemblies of nominal outside diameter greater than or equal to 90 mm	A
ISO 13955	Plastics pipes and fittings. Crushing decohesion test for polyethylene (PE) electrofusion assemblies	A
ISO 13956	Plastics pipes and fittings. Decohesion test of polyethylene (PE) saddle fusion joints. Evaluation of ductility of fusion joint interface by tear test	A
ISO 14236 Replaced by ISO 17885	Plastics pipes and fittings. Mechanical joint compression fittings for use with polyethylene pressure pipes in water supply systems	A
NF EN 14728	Imperfections in thermoplastic welds- Classification	I
NF EN 15001-1	Gas infrastructure. Gas installation pipework with an operating pressure greater than 0.5 bar for industrial installations and greater than 5 bar for industrial and non-industrial installations. Part 1: Detailed functional requirements for design, materials, construction, inspection and testing	I
NF EN 15001-2	Gas infrastructure. Gas installation pipework with an operating pressure greater than 0.5 bar for industrial installations and greater than 5 bar for industrial and non-industrial installations. Part 2: Detailed functional requirements for commissioning, operation and maintenance	I
NF EN ISO 15494	Plastics piping systems for industrial applications - Polybutene (PB), polyethylene (PE), polyethylene of raised temperature resistance (PE-RT), crosslinked polythylene (PE-X), polypropylene (PP) - Metric series for specifications for components and the system	A
ISO 16010	Elastomeric seals - Material requirements for seals used in pipes and fittings carrying gaseous fuels and hydrocarbon fluids	A
NF EN 16296	<i>Imperfections in thermoplastics welded joints - Quality levels</i>	I
ISO 16486-1	Plastics piping systems for the supply of gaseous fuels - Unplasticized polyamide (PA-U) piping systems with fusion jointing and mechanical jointing - Part 1 : general	A
ISO 17467-1	Plastics piping systems for the supply of gaseous fuels - Unplasticized polyamide (PA-U) piping systems jointed by solvent cement - Part 1 : general	A
NF EN ISO 17778	Plastics piping systems - Fittings, valves and ancillaries - Determination of gaseous flow rate/pressure drop relationships	A

ISO 17885	Plastics piping systems - Mechanical fittings for pressure piping systems - Specifications	A
NF EN ISO 19011	Guidelines for auditing management systems	A
ISO19899	Plastics piping systems - Polyolefin pipes and mechanical fitting assemblies - Test method for the resistance to end load (AREL test)	A
ISO 21751	Plastics pipes and fittings. Decohesion test of electrofusion assemblies. Strip-bend test.	A
ISO 23711	Elastomeric seals - Requirements for materials for pipe joint seals used in water and drainage applications - Thermoplastic elastomers	A
NF EN 28233	Thermoplastics valves. Torque. Test method	A
NF D 36-136	Dimensional characteristics of the mechanical connections intended to be installed on the piping for gas installations. NOTE: the connections defined in standard NF D 36-136 replace the definitions of the various connections of the standards listed in this paragraph. A transition phase for the application of this standard is defined in the CNPG guide: AMG "Gas appliances and equipment".	A O
NF E 29-135	Gas valves, low pressure – Manually used flat-bottomed valves with spherical and conical plug for building gas installations – MOP 0,5	I O
NF E 29-196 (replace annex 2 of SROB100 06-2020)	Home economics - Ammonia test for resistance to stress corrosion for copper alloys - Specific use for combustible gases	A
NF E 29-532 (replaces XP T54-971)	Detachable fittings with flat gasket for pipes in gas installations	A O
NF E 29-533	Gas installations - Requirements for the choice of flat gaskets used in network supplied gaseous fuels or from cylinders	A O
NF E 29-536	Gas installations - Dismountable connections with sphero-conical junction for pipes gas installations	A O
NF T54-965	Plastics piping systems for the supply of gaseous fuels - Polyethylene (PE) - Specifications for the packaging, the storage, the handling and the transportation of the pipes	I
NF T54-969	Plastics piping systems for the supply of gaseous fuels - Polyethylene (PE) - Electrofusion ancillaries - Safety time of the fusion cycle	A O
NF T54-970	Plastics piping systems for the supply of gaseous fuels - Polyethylene (PE) - Electrofusion tapping tees - Design of tapping tees and leak flow rate for the cutter	A
NF T54-972	Plastics piping systems for the supply of gaseous fuels - Polyethylene (PE) - Valves - Leaktightness angular range and additional dimensional specifications	A O
NF T54-973	Plastics piping systems for the supply of gaseous fuels - Polyethylene (PE) - Valves - Operating extensions and telescopic extensions for valves	A
NF EN ISO 80000-1	Quantities and units - Part 1 : general	A

2.2.2 Applicable (A) or informative (I) specifications

SAPE102-2	Tapping tee and coupler with integrated excess flow valve for polyethylene networks for the supply of gaseous fuels	A
SLAB100	Manufacturer laboratory authorisation	A
SLAB110	Authorisation for laboratory recognized by the mark	A
SROB100-06-2020-annex-2 (see NF E 29-196)	DN ≤ 50 copper alloy valves used upstream of gas meters	I
SROB100 04-2021	DN ≤ 50 copper alloy valves used upstream of gas meters (Particularly for types E1 and E1A equipped with a family D PE junction)	I
SROB104	Characteristics of threaded buffers and rings at pitch of meter according to NF E 29-532	A
SROB105	Characteristics taps clamping flat	A
ATG B.521 (AFG specifications)	Flammable gas installations – Steel pipes and fittings	A O
ATG B.524 (AFG specifications)	Combustible Gas Installations – Copper Tubes and Assemblages	A O
ATG B.527-9 (AFG specifications)	Procedure for qualification of polyethylene (PE) operators	I
ATG B.540-9 (AFG specifications)	Procedure for qualification of welders, brazers and braze-welders	I
RSDG 1 to 17 (21 AFG technical specifications)	Gas distribution network – Technical rules and tests	I

2.3 Regulations

The products subject to these Certification Guidelines shall comply with applicable French regulations concerning them and notably:

Environmental code	Articles L554-5 to 11, R554-40 to 61 Articles L557-1 to 61, R557 sections 1 to 5 and 8
The decree of July 13 th , 2000, amended	relating to safety regulations for the distribution of combustible gas by pipeline
The decree of May 29 th , 1997, amended	relating to the safety of water intended for human consumption.
The decree of June 25 th , 1980, amended	relating to the approval of general provisions of the safety regulation against the risks of fire and panic in establishments open to the public.
The decree of February 23 rd , 2018 (A)	relating to the technical and safety rules applicable to fuel gas installations in individual or collective residential buildings, including common areas.
The decree of March 4 th 2021	relating to the modification of the decree of February 23 rd 2018
The directive DI97/23/CE29/05/1997	relating to the approximation of the regulations of Member States relating to pressure equipment

(A) The decree of February 23rd, 2018, modified by the decree of March 4th, 2021, supplemented by its 5 CNPG guides:

- Guide Interior gas installations (IG)
- Gas Devices and Materials Guide (AMG), **this guide contains the mandatory normative documents**
- Energy Production Site Guide (SPE)
- Guide to Combustion Product Assessment Systems (EVAPDC)
- Welding Aptitude Certification Guide (AAS).

replace the decrees of August 2nd, 1977, March 4th, 1996 and July 16th, 1980 and it is applicable from January 1st, 2020 with transitional periods defined in the CNPG guides.

The applicant/holder shall undertake to adhere to them for products related to the NF APE mark and shall be able to prove it.

Different regulations are available on the website : <https://www.legifrance.gouv.fr>

CNPG guides are available on the website : <https://www.cnpg.fr>

2.4 Quality management requirements

2.4.1 General

The minimum provisions in terms of quality assurance that the applicant/holder shall adopt and set up so that the products covered by the NF APE Mark are produced and/or distributed at all times in accordance with these certification guidelines are defined below.

By making use of the NF Mark, the holder makes a commitment regarding the permanent quality of the certified products that it manufactures and/or supplies to its customers. In the context of the NF Mark, the applicant/holder shall provide proof of the existence and effectiveness of its quality record.

The objective to be achieved by the applicant/holder is process control (as defined in the standard NF EN ISO 9000) and the continued compliance of its products with the models initially accepted.

Achieving this objective requires that the applicant/holder should take its own measures, whose performance is assessed during the admission visit and verified during follow-up visits. The quality requirements of this NF Mark are defined below and are based on the requirements of NF EN ISO 9001 whose scope is limited to the field of application. The table below summarizes these requirements depending on the version of the standard.

Quality requirements	Requirements* § NF EN ISO 9001 (2015)	
General requirements	4.1 - 4.2	Required for the product manufacturing processes.
Documentation requirements	4.4 – 7.5	Required
Management responsibility		
Management commitment	5.1 - 5.2	Required
Responsibility and authority	5.3	Required
Management representative		Required
Management review	9.3	Required
Resource management	7.1 to 7.4	Required
Product development		
Product development planning	8.1	Required
Customer-related processes	8.2	Required for customer complaint management
Purchasing	8.4	Required
Control of service production and preparation	8.5.1	Required
Identification and traceability	8.5.2	Required
Product preservation	8.5.4 - 8.5.5	Required
Control of monitoring and measuring equipment	7.1.5	Required
Measurements, analysis and improvement		
Product monitoring and measurement	8.6 - 9.1	Required
Control of non-conforming product	8.7 - 10.2	Required
Corrective action	10.2	Required

(*) These requirements also apply to subcontractors if any

2.4.2 Minimum requirements for quality organisation

The commitments of the applicant/holder in terms of product quality shall be written and signed by management, adapted, known and implemented at all levels. The applicant/holder shall draw up a functional organisation chart and prepare job descriptions of all those involved in the development of certified products.

The applicant shall formalise in writing a quality record or quality manual, the measures in terms of organisation, documents, material and human resources that it puts in place to guarantee the control of product quality.

The applicant/holder shall describe and have an organisation to record, handle and close complaints from its customers regarding the certified products. Records related to these actions shall be maintained for a relevant period as defined by the applicant/holder.

2.4.3 Certification of the quality system

A manufacturer whose quality system has been certified by a recognised certifying body is supposed to meet the applicable quality management requirements. The certificates recognised by CERTIGAZ are those issued by quality system certification bodies accredited by an accreditation body member of the EA (European Accreditation) or of the IAF (International Accreditation Forum).

The applicable quality management requirements and the production of the product(s) concerned shall be covered by the guidelines and scope of the quality system certification.

In this case, the evaluation by CERTIGAZ is limited:

- resource management, product development, measurements, analysis and improvement of NF EN ISO 9001 standard,
- and to the review of manufacturing controls as defined in paragraph 2.4.4.

However, it may be extended to any requirement of the applicable quality system not covered by the guidelines and/or the scope of the quality system certification or whose effectiveness can be questioned.

2.4.4 Requirements specific to the products

2.4.4.1 General

As part of the quality system, the products are examined and appropriate tests, defined in the applicable standard(s), or equivalent tests, are carried out to verify their compliance.

For this purpose, the manufacturer shall implement a manufacturing control plan at least equivalent to the "Standard Control Plan" set out in paragraph 2.4.4.8.

2.4.4.2 In-process controls

The manufacturer may conduct all or part of the controls mentioned in the "Standard Control Plans" (paragraph 2.4.4.8) during production provided it can ensure that compliance with the relevant requirements will be maintained until the stage of the delivered product.

2.4.4.3 Control of raw materials and components

The manufacturer shall check with its potential supplier(s) the conformity of products delivered with applicable specifications of the reference standard(s), either by ensuring that the supplier's quality management system allows it to obtain a degree of sufficient confidence in the quality of the products purchased, or by performing the appropriate controls by sampling the batches received.

2.4.4.4 Unit controls

The controls identified as 100% in the "Standard Control Plans" shall be performed on every manufactured product at a manufacturing stage to ensure that compliance with the relevant requirements will be maintained until the stage of the delivered product.

2.4.4.5 Sample or statistical controls

These controls are indicated in the "Standard Control Plans".

Unless otherwise indicated in the "Standard Control Plans", the sampling plan is left to the manufacturer's discretion. This plan shall define the sampling method (batch size, conditions and number of samples), the conditions of acceptance or refusal. The sampling plan shall be defined to help ensure compliance of all individual products in a batch; it shall be adapted to the manufacturing processes implemented.

2.4.4.6 Records of controls

All controls shall be described in records and must be accessible to inspectors / auditors.

2.4.4.7 Control procedures

The choice of procedures for the control of raw materials and in-process controls is left to the applicant/holder's discretion provided that the methods used yield significant results under the conditions defined in Article 2.4.4.8.

The control procedures shall comply with the requirements of the standards. However, procedures and apparatuses different from those described in these standards may be used provided that the results are equivalent.

2.4.4.8 Minimum requirements for controls and tests during reception and production

During reception and then during production, the applicant/holder shall perform the following controls and tests at the minimum frequency specified in the "Standard Control Plans" specific to each product family. Samples are distributed so as to be representative of the production in the determined period.

Step	Products, characteristics	Gas-stop	Families A1, A2 B1, B2	Families C1, C2	Family D1	Families D2, D3	Families E1, E2, E3
Reception	PE resin raw materials, metals, seals (essential characteristics, MFR, OIT, chemical analysis, certificate, etc.)	Batch	Batch	Batch	Batch	Batch	Batch
Reception or production	Manual, label or any document accompanying the product	s	s	s	s	s	s
Reception or production	Components (essential characteristics, dimension, appearance, certificate, resistance, etc.)	s	s	NA	s	s	s
Reception or production	Fittings: threads, dimensions failure torque (NF E 29-532 or 536)	NA	s (A2 & B2)	NA	s	s	NA
Production	Excess flow valve and tightness of the excess flow valve under unfavorable pressure, batch no. and serial no.	100%	NA	NA	NA	NA	NA
Production	Electrical resistance (Ω)	NA	100%	NA	NA	s	NA
Production	Leaktightness 1.5xMOP for 30 s	NA	NA	NA	NA	s	100%
Production	Torque at ambient temperature	NA	NA	NA	NA	NA	100%
Production	Marking, appearance, dimensions	s (frequency: every 4 hours. If the process is stable with relevant records to prove it, the frequency can be increased to 8 hours, either by team)					
Production	Marking durability	NA	Annual (marking on label or inkjet on accessory in accordance with §3.3.1)				
Production	Packaging – conditioning	s	s	s	s	s	s

100%: unit control

s: statistical sampling to ensure a good level of confidence

NA: not applicable

Batch: each batch received: supplier certificates and/or internal controls

The definition of a batch is given in Part 8, glossary and in paragraph 3.3.1.

During production, statistical monitoring, identified as "s" in the table above, includes the validation of the start of production of the batch and the first production after a shutdown. In case of multiple cavities or manufacturing stations, statistical monitoring shall apply to each of them.

2.4.5 Control of records

The records on which the results of control tests are recorded may be required by CERTIGAZ and reviewed during audits by the auditors who shall also assess the means of control.

2.4.6 Customer complaints

The applicant/holder shall record and handle all customer complaints concerning NF certified products, within a reasonable timeframe for the complainant and the concerned entities.

The complainant will communicate on CERTIGAZ demand the annual state of the received customer complaints. CERTIGAZ will ask eventually more information for some complaints and their occurrences compared to the considered products sales or products family.

The complainant will quickly pass to CERTIGAZ a received customer complaint which impacts critically the product security.

2.5 Marking

Marking is an integral part of the certification of a product. It enables the identification, enhances and guarantees the traceability of an NF certified product.

Beyond the identification of a certified product and its traceability, marking a product with the NF logo ensures improved user protection and enables holders to defend themselves against misuse and counterfeits.

As a reminder, information relating to certification and certified products is available on the website www.marque-nf.com and the website www.certigaz.fr. For each product category, they include in particular:

- the holders identification;
- the identification of certified products;
- the NF certification rules;
- the list of certified characteristics.

The holder's communication must respect the principles of clarity and sincerity. The holder must take particular care to indicate the product(s) subject to NF certification and comply with all the indications of the graphic charter of the applicable NF mark available from CERTIGAZ, under penalty of sanctions, in accordance with the General Rules of the NF mark.

When the holder uses the NF mark, he agrees to:

- respect the graphic charter of the applicable NF mark;
- respect the applicable regulations (see §2.3);
- use a distinct trade name to avoid any confusion between an NF-certified product and a non-NF-certified product;
- not use the certification of its products in a way that could harm the certifying body, nor make any statement about the certification of its products that the certification body may consider misleading or unauthorized, in particular;
- not to use the NF mark improperly or not in accordance with the certification reference system and the applicable graphic charter ;
- not to use the logo of AFNOR, AFNOR Certification and CERTIGAZ without the prior agreement of these bodies.
- in case of suspension, withdrawal or expiry of the certification, remove any reference to the certification on all means of communication. He also undertakes to inform without delay the organization from which he would have obtained approval and/or authorization and/or consideration of the certification.
- remove from its website any link to sites of the AFNOR Group and that of CERTIGAZ, if requested by the latter.

The reproduction and affixing of the COFRAC logo as well as the reference to CERTIGAZ accreditation, by the holder / applicant and its customers are prohibited by CERTIGAZ.

CERTIGAZ only authorizes the full reproduction of the certificates it has issued.

2.5.1 Reference texts

The French Consumer Code stipulates that:

"When reference is made to certification in advertising, on labelling or the presentation of any product or service, and in commercial documents of any kind relating thereto, the following mandatory information shall be provided to the consumer or user:

- The name or company name of the certifying body or the collective certification mark or the guarantee mark,
- The name of the certification guidelines used,
- The manner in which the certification guidelines can be consulted or obtained."

Moreover, the purpose of indicating the main certified characteristics is to make the technical characteristics to which the NF Mark applies more transparent for consumers and users. It adds value to the certification and its content. A “certified characteristic” is any technical characteristic whose content is checked within the scope of the NF Mark.

The Environment Code (Book V - Title V - Chapter VII "Products and equipment at risk" and see § 2.3 of these rules) stipulates similar requirement.

The purpose of the marking rules given below is to guide the holder in complying with the regulatory requirements and the NF certification requirements. The General Rules of the NF Mark specify the conditions of use, of validity and the sanctions in the event of improper use of the NF Mark.

Without prejudice to the sanctions laid down in the General Rules of the NF Mark, any incorrect announcement of the certified characteristics and any fraudulent use of the NF logo shall expose the holder to lawsuits for fraud and/or misleading advertising.

2.5.2 The NF logo

The NF logo shall assure the identification of all certified products.

The holder agrees to respect the graphic charter of the NF Mark. The NF logo and its graphic charter are available from CERTIGAZ.

The NF certified product shall bear a designation and identification distinct from non-NF certified products.

The holder shall only use the NF logo to distinguish certified products, without risk of any possible confusion with other products, particularly with non-NF certified products.

Holders are advised to submit all documents containing the NF Mark to CERTIGAZ.

2.5.3 Marking procedures

This section describes both the procedures for displaying the NF logo and the marking of essential certified characteristics, with the following aspects:

1. marking of the NF logo on the NF certified product
2. marking of the NF logo on the packaging of the NF certified product
3. marking of the NF logo on documentation and on websites

In order to meet the requirements of the French Consumer Code, the mark shall be produced as follows, whenever this is technically possible:



As indicated in paragraph 2.5.1, it is recommended to inform the consumer about the main reasons and advantages for using a certified product. In the NF certification system, the certified essential characteristics shall appear on at least one of the media (product, packaging or documentation).

The list of certified products distributed by CERTIGAZ and certificates issued to the holder shall mention or guarantee the following certified characteristics, for example:

PRINCIPALES CARACTERISTIQUES CERTIFIEES (*si applicable) / MAIN CERTIFIED CHARACTERISTICS (*if applicable)

- ◆ Matière / Raw material
- ◆ Dimensions / Dimensions
- ◆ Soudabilité * / Welding *
- ◆ Marquage / Marking
- ◆ Résistance mécanique / Mechanical strength
- ◆ Caractéristiques techniques / Technical characteristics
- ◆ Utilisation prévue / Intended use
- ◆ Conformité sanitaire (ACS) * / Sanitary compliance *

Définition des familles d'accessoires / Definition of the accessory families

Nouvelle codification New codification	Famille Family	Désignation Description
Groupe A : Raccords PE à emboîtures électro soudables <i>PE fittings with electro fusion joints</i>	A1	Manchons, coudes, tés, réductions... uniquement en PE <i>Couplers, elbows, tees, reductions... PE only</i>
	A2	Raccords mixtes (polyéthylène/métal) à emboîtures électro soudables <i>Electro socket welding fittings (PE/metal)</i>
Groupe B : Raccords PE avec selle électro soudable <i>PE saddles with electro fusion connection</i>	B1	Prises de branchement (pdb), prises de branchement avec déclencheur intégré (PBDI) et manchette de branchement avec déclencheur intégré (MBDI) <i>Tapping tees (pdb), tapping tees with integrated excess flow valve (PBDI) and coupler with integrated excess flow valve (MBDI)</i>
	B2	Selles de piquage, de ballonnement, de dérivation (sdd), d'obturation et de renfort <i>Derivation saddle</i>
Groupe C : Raccords PE à bouts mâles <i>PE fittings with spigot ends</i>	C1	Pour assemblage par emboîture électro soudable <i>For electro fusion joint</i>
	C2	Pour assemblage par soudage bout à bout <i>For butt fusion joint</i>
Groupe D : Raccords de jonction par assemblage mécanique ou autres types d'assemblage démontables ou non <i>Metallic or plastic mechanical fittings that can be dismantled</i>	D1	Raccords mécaniques métalliques « métal-plastique » et « plastique-plastique » <i>Metallic mechanical connections « metal-plastic » and « plastic-plastic »</i>
	D2	Raccords mécaniques plastiques « métal-plastique » et « plastique-plastique » <i>Plastic mechanical connections « metal-plastic » and « plastic-plastic »</i>
	D3	Pièce de transition (collets, brides, manchons...) avec une partie PE à bout mâle <i>Transition fittings with a PE spigot end</i>
Groupe E : Robinets en polyéthylène <i>PE valves</i>	E1	Robinets PE pour réseaux en PE <i>PE valves for PE piping systems</i>
	E2	Robinets de prise en charge (RPC), alimentation avec une selle électro soudable <i>PE valves with branch saddle</i>
	E3	Robinets de décompression mono ou bi-purges <i>Single or dual-purges valves</i>

Définition des groupes d'application / Definition of the application groups

Les accessoires pour réseaux en polyéthylène appartiennent à l'un ou plusieurs groupes suivants en fonction de leurs applications :

The accessories for PE networks belong to one or more of the following groups, depending on their application.

Groupe 1 / Group 1	Groupe 2 * / Group 2 *	Groupe 3 / Group 3	Groupe 4 / Group 4	Groupe 5 / Group 5
Combustibles gazeux, 1-G Gas, 1-G	Eau potable, 2-W <i>Drinking water, 2-W</i>	Irrigation, 3-W <i>Irrigation, 3-W</i>	Eau de process industriels, eau non potable, et d'assainissement avec pression, 4-W Liquides de process industriels, 4-PI <i>Industrial or non-drinkable water and sewerage under pressure, 4-W</i> <i>Liquids of industrial process, 4-PI</i>	Confinement électrique, 5-ELEC <i>Electrical confinement, 5-ELEC</i>

* pour les accessoires disposant d'une attestation de conformité sanitaire (ACS). *For the accessories with a French attestation for drinking water (ACS)*

Les Règles de Certification et la liste des produits certifiés sont disponibles sur demande auprès de l'organisme certificateur CERTIGAZ ou sur le site internet www.certigaz.fr.

The Certification Rules and the list of certified products are available on demand at the certifying body CERTIGAZ or the web site www.certigaz.fr.

The holder has the option to reproduce the above information in its documentation by itself or refer to certificates or lists distributed by CERTIGAZ. For the French market, this information shall necessarily be given in French.

The certified characteristics may be indicated to the consumer according to the marking procedures in the following example:



- | |
|--|
| <ul style="list-style-type: none"> - certified characteristic 1 - certified characteristic 2 - certified characteristic 3 |
|--|

2.5.3.1 - Marking of NF APE certified product

In accordance with applicable standards, the following certified characteristics are mentioned on the product:

Certified characteristics			example
Name or logo of the manufacturer (0)			XXX
Identification code of the manufacturing site (1)			00
NF logo (can be placed on a label) (2)			See logo § 2.5.3
Indication of the scope	Gas (7)	Group 1	G / GAZ / GAS / EN1555
	Drinking water	Group 2	W / EAU / WATER / EN12201
	Water (irrigation or watering)	Group 3	
	Industrial water, sewerage under pressure	Group 4	W / EAU / WATER / P EN12201 PI / ISO 15494
	Industrial (other liquid than water)		
Electrical confinement	Group 5 (8)	ELEC	
Name of the polyethylene material used (3)			PE100
Nominal outside diameter of the pipe on which the accessory is connected			110
SDR			SDR 11
Batch: Period of manufacture or of last assembly (4)			11/02
Tightening torque on the nut (5)			20 Nm
MOP, Maximal Operating Pressure and/or PMS, Pression Maximale de Service and/or PN (nominal pressure) can be written on a label attached with the product or the individual packaging (6)			PMS 6 bar / MOP 6 bar / PN10

(0) This name and/or this logo are specified in the technical file,

(1) Manufacturing site number assigned by CERTIGAZ during the notification of the right to use the NF Mark,

OR International number declared by the manufacturer during registration on www.traccoding.com managed by BECETEL and to be communicated to CERTIGAZ with the application. This number may be displayed:

- on the product next to the NF logo,
- on the same label used for the NF logo if that is the case,
- on the traceability label with its bar code according to ISO 12176-4 (16 and 17 digits).

(2) The NF logo is defined by a graphic charter available from AFNOR Certification or CERTIGAZ.

If a label is used, the marking of the NF logo must be permanent (see process document §3.3.1)

(3) Not applicable for the accessories of the D1 Family.

(4) Codification by the manufacturer (year/month, year/week, year/batch, etc.) described in the technical file.

(5) Only for accessories of the D1 family where a torque is recommended.

(6)- For any product that MOP is lower than that allowable by the MRS and SDR of the fitting and especially for families B1 and B2, for the tests on welding cycle safety factor and the leak flow rate for the cutter (see Tables 5 and 11), if this is the case.

- For families D1, D2 and D3 according to ISO 17885, product marking (product, label or individual bag) or packaging.

(7) The GAS application marking must be permanent (see process document §3.3.1)

(8) For family A1, the sleeves being standard, the ELEC application marking can be made **permanently** on a label, **preferably on the accessory to keep the marking after installation** or **otherwise** on the single accessory packet.

In addition, for the respective applications, the EN1555, EN12201 and EN ISO15494 standards impose other markings on the product, an associated label or its individual bag, in particular the standard(s) and compatibility with the pipes (PE / SDR).

In case of technical impossibility, the words "APE" and "CERTIFIED BY CERTIGAZ" may not be present. If present, these markings shall be legible.

The minimum allowable marking is as follows:



Note:

Because of the specificity of NF APE certified products, it is allowed to derogate from the requirements defined in the following way:

- the NF logo may be displayed, insofar as possible in blue or black, on a permanent label attached to the accessory.
- the minimum size requirement of the logotype defined in the graphic charter is replaced by the principle of readability.
- for the markings from mould or matrix, these markings will be made compliant at the time of re-tooling.
- in the case where the NF logo marking is impossible to make due to a lack of an adequate area:
 - if the size of the plane surface is too small to contain at least a 5mm height NF logo
 - If the marking can only be made on a cylindrical part whose diameter is the same size or smaller than 12mm, the NF logo can be replaced by the letters "NF".
- depending on the NF logo marking process on the product (for example: micro-impact, laser, forging, founding, injection, knurling, hitting, heat press...), the marking can be made in wired form.



In addition, a QR code can be add in order to access to various information about the product without negating the here-above required marking. A debate will be taking place during the mark Special Committee to consider some simplifications

Approved excess flow valves are certified accessory components and shall not be marked NF. They are identified by the model with a batch number and a serial number.

2.5.3.2 - Marking on the packaging or on the accompanying document of the NF certified product

Displaying the logotype on the packaging and manuals of certified products is a means of promoting NF certified products. Therefore, holders of the NF Mark are strongly advised to also display the NF Mark on the packaging of the NF APE certified products.

In addition to the NF logo defined in paragraph 2.5.3, and at the very least, the reference and trade name of the certified product shall also appear on the packaging.

In addition, the requirements of applicable standards for packaging markings shall be respected, in particular for markings that are not already on the product.

When the customer requires an expiration date for the accessories and/or a period between delivery and implementation, the information is mentioned on the packaging and/or on the document accompanying the product. Compliance with these specifications is verified during CERTIGAZ audits.

Special features:

The packaging of certified excess flow valves shall not be marked NF. They may refer to the SAPE102 specification and are identified by the trademark, the model and a batch number.

The product packaging or an accompanying document shall include the following information unless it appears already on the product or a label:

- for electrofusion fittings, the cooling time necessary, at 23 °C ambient temperature, to reach temperatures of 70 to 110 °C at the interface of the welding zones. These values must be clearly identified to avoid any interpretation during implementation, for example CT110 ° C: 10 min CT70 ° C: 20 min (CT for Cooling Time) as follows:

- CT_{110°C} or CT110: xx min,

- CT_{70°C} or CT70: yy min,

for CT meaning Cooling Time, historically used.

Note: The indications of CT_{70°C} and CT_{110°C} must be grouped together for clear information (no partial information on a product label and additional information on the packaging).

- only one value is acceptable if it is the one that corresponds to 70 ° C and that it is well identified as such.
 - When the cooling time is specified by a digit in the bar code according to standard NF ISO13950, it corresponds traditionally to 110 °C and its value may be slightly different since it is taken from an array with defined values.
- for spigot fittings intended to be joined by butt fusion, the jointing mode: end to end welding and/or with an electrofusion junction.

The certified characteristics specified in paragraph 2.5.3.1 may also appear on the packaging.

In case of technical impossibility, the words "CERTIFIE PAR CERTIGAZ" may not be present. If present, this marking shall be perfectly legible.

The minimum allowable marking is as follows:



2.5.3.3 - Marking on documentation (technical and sales documents, labels, posters, advertisements, websites, etc.)

References to the NF Mark in the documentation shall be made in such a manner that there is no risk of confusion between certified products and other products.

The NF Mark shall be reproduced in the documentation and advertising materials in accordance with the conditions defined in paragraph 2.5.3.

Reproduction of the NF Mark, as defined in 2.5.3, on the holder's letterhead is prohibited, unless the holder has been granted the NF Mark for all of its production.

The certified characteristics specified in paragraph 2.5.3 may also appear on the documentation.

In case of technical impossibility, and in particular in catalogues, the words "CERTIFIED BY CERTIGAZ" may not be present. If present, this marking shall be perfectly legible.

The minimum allowable marking is as follows:



The documentation on approved excess flow valves shall not mention NF certification but possibly an approval according to the SAPE102 specification in accordance with the NF136 rules.

As the excess flow valve does not have the NF Mark, it cannot refer to it directly.

Communication on the products that it markets may be done only under the holder's responsibility.

For a proper interpretation of this chapter, holders are advised to submit all documents containing the NF Mark to CERTIGAZ.

A manual that accompanies a product must comply with the information required by the regulations: it must be in French and mention the instructions and safety information required as well as the contact details of the holder.

Part 3

OBTAINING THE CERTIFICATION

The purpose of this part is to give the applicant of the right to use the NF APE mark all information necessary to compile its file.

Types of applications

An application for the right to use can be:

- ☞ An initial admission application
- ☞ An admission application
- ☞ An extension application for product modification, or a new product derived from a product already certified by the NF APE mark.
- ☞ A maintenance application.

An **initial admission application** is made by a manufacturer who has never obtained the right to use the NF APE Mark (initial admission application). It corresponds to a product from a specific manufacturing unit, defined by a trademark, a trade reference specific to the product submitted and technical characteristics.

An **admission application** is made by a manufacturer that has obtained the right to use the NF APE mark for other products and which wishes to obtain the right to use the NF APE Mark for a new product or a new manufacturing site. It corresponds to a product from a specific manufacturing unit, defined by a trademark, a trade reference specific to the product submitted and technical characteristics.

An **extension application** is made by a holder and concerns a product already certified by the NF APE Mark and which has been modified or a new product derived from a product already certified by the NF APE mark. This kind of application can generate a new certificate in accordance with § 1.1.2.2. criteria.

A **maintenance application** is made by a holder and concerns an NF certified product to be marketed under another trademark and/or with a specific reference to the product without modifying the certified characteristics.

In case of maintenance, the manufacturer and the subcontractor are each responsible in respect of the right to use the NF Mark relating to the product in question and undertake to implement the measures stemming from the sanctions made in accordance with the Guidelines.

A manufacturer subject to a suspension of the right to use may not therefore subcontract products to another holder of as part of this maintenance procedure.

Similarly, the subcontractor shall inform its principal of sanctions challenging its right to use.

Several cases can be considered according to the responsibilities/actions/markings of the initial holder and/or the distributor with the following modalities:

CASE	Holder : T 		Distributor : D 	Certification management methods			Identification of the manufacturer on the packaging or the instructions (3)
	Product marking (1)	Trademark packaging (1)		NF mark maintenance ?	Management methods	Trademark on NF mark list	
n°1	T marking	Packaging by T Trademark T	No modification of the packaging by D	NO	- Management of a basic certification by the holder T: no maintenance	YES	Holder T
n°2	T marking	Packaging by T Trademark D	No modification of the packaging by D	NO (2)	- Indication on the packaging of one of the following two pieces of information: - "Product T – Ref. trademark XXXX or registered trademark" (the ref. or trademark is that of the holder T) - "Product T – CERTIGAZ certificate/file base number" - Management of notices and packaging by the holder T - Examination of the management of notices during the admission or monitoring audit of the holder T by CERTIGAZ	NO	Holder T
n°3				YES (2)	- Request for maintenance by the holder T or the distributor D - Management of notices and packaging by the holder T - Examination of the management of notices during the admission audit, then monitoring of the holder T by CERTIGAZ	YES	Distributor D
n°4	T marking	Packaging by T Trademark T	Modification of packaging by D Trademark D	YES	- Request for maintenance by distributor D - Management of manuals and packaging by distributor D - Examination of the management of notices during the admission audit, then monitoring of distributor D by CERTIGAZ	YES	Distributor D
n°5	T marking	No packaging by T	Packaging by D trademark D	YES		YES	Distributor D
n°6	D marking	Packaging by T Trademark D	No modification of the packaging by D	YES		YES	Distributor D
n°7	D marking	No packaging by T	Packaging by D trademark D	YES		YES	Distributor D

(1) : for the same holder, the marking and the trademark may be different

(2) : to comply with the requirements relating to the regulations (marking, manufacturer identification, etc.), the holder and the distributor organize themselves to choose between cases n°2 and n°3

(3) : compliance with paragraph R557-2-5 of the environment code. The notion of manufacturer and distributor is clarified in article L557-3 of the same code.

3.1 Filing an application for certification

Before making the application, the applicant shall be sure to meet, at the time of the application, the conditions defined in these Certification Rules, especially those in Part 2, concerning its product and the sites concerned. It is the responsibility of the applicant/holder to ensure that the regulations applicable to its product are effectively met.

By making an application, the applicant or holder agrees to reserve the trade name of its manufacture submitted for admission only to the certified products and to facilitate auditors in their operations incumbent upon them under these Guidelines.

It shall undertake to meet the same conditions during the whole duration of the use of the NF Mark.

If the applicant/holder fails to obey these rules, then the examination of their application may be interrupted or suspended. In particular, it is strictly forbidden to make any references to the NF Mark before obtaining the right to use it, or to submit counterfeit products for certification.

The application shall be submitted in accordance with the conditions and models given in Part 7.

The application for the right to use the NF Mark shall be sent to the attention of CERTIGAZ according to the models defined in Part 7.

It shall be accompanied by a general information sheet concerning the applicant and the product sheet along with the technical file.

If the product comes from a manufacturing plant located outside the European Economic Area (EEA) or in the European Free Trade Association (EFTA), the applicant shall appoint a European agent who shall co-sign the application and the terms of reference (see Part 7).

Upon receipt of the application, the following process is initiated:

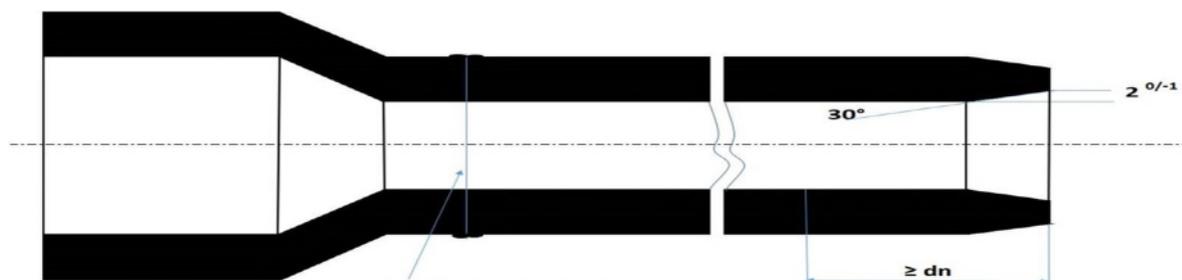
- Examination/admissibility of the file,
- Implementation of checks and inspections,
- Assessment and decision

For the electric confinement application, 2 accessories families are concerned, families A1 for sleeves only and D2 for interlocking plastic junctions.

For family D2, the finished junctions are composed of 2 elements :

- A straight NF114 certified tube, group 5, by the LNE.
- An interlocking junction which is a semi-finished junction.

Those 2 elements are prepared and welded from beginning to end at the production site. The tube other end holds a tracking for visual control of the binding deepness and a bevel on the internal diameter.



Internally leveled weather-strip.

Specifications :

- The bevel on internal diameter is at 30° on 2^{0/-1} mm thickness.
- The bevel on external diameter is made at the manufacturer discretion to fit the female junction.
- The interlocking length is the same or superior to the tube nominal diameter.
- The alignment tolerance between the tube and the welded junction on this very same tube, and the internal weather strip tire is inferior to 10% of the tube thickness.
- The using of a PE100-RT tube (PE100 with better high temperatures resistance, named RT for « Raised Temperature ») necessarily implies a PE100-RT junction.
- The set is delivered with protection caps in the interlock and the tube other end.

A NF136 certification application can apply to :

- Semi-finished junctions. Those are only made for finished junctions manufacturers.
- Finished junctions that meet the market requirements. Those junctions can take advantage of NF114 tubes selling, semi-finished junctions but the responsibility of the applicant is fully implied for his production sites or those of his sub-contractors.

== > Consider interlocking PE sleeves, family D2.

3.2 Examination of the application/Admissibility

During the examination of the application, CERTIGAZ checks that:

- the application is admissible,
- all the required documents are enclosed with the application,
- the documents in the technical file meet the requirements of these Certification Rules.

The application is only admissible if:

- the products that are the subject of the application are covered by the normative documents cited in these Rules
- the letter of application to use the NF Mark has been sent to CERTIGAZ (model letter 001, 002A or 002B).

Once the application is deemed admissible, CERTIGAZ examines the application and:

- verifies the presence and conformity of the required documents (see Part 7)
- if necessary, requests for the missing items, additional information or corrections of items in the application file (drawings, application letter or document, etc.)
- informs the applicant of the organisational procedures (auditor, audit duration, sites to be audited, laboratories, products to be sampled, etc.) and organises the inspections.

During the examination of the application, CERTIGAZ ensures that:

- the applicant controls and takes responsibility for the following steps: manufacture, assembly, quality control, marking, packaging as well as placement on the market;
- the inspections and tests of the products covered by the application, as specified in the technical documents of these Certification Rules, are in place;

3.3 Verification procedures

The inspections carried out for the NF Mark are of different types:

- tests on the products,
- audits.

3.3.1 - Tests

All the examinations and tests shall be performed in accordance with the standards and additional specifications defined in Part 2.

The test plans are consistent with Tables 1 to 3 by production family and application. Special specifications and sampling, by trade reference, are specified in Tables 4 to 8.

An application for group 2 implies a field that covers all WATER applications of groups 2, 3 and 4.

Type tests (TT) shall be conducted either:

- by one of the laboratories recognised by CERTIGAZ, designated in Part 5 of these Rules and appointed Mark laboratory. In this case, the Mark laboratory shall send its test report(s) to CERTIGAZ and to the applicant/holder.
- by the manufacturer's laboratory NF-certified by CERTIGAZ (see § 3.3.1.1 and 3.3.1.2), with verification tests if the laboratory is not accredited (see § 3.3.1.1).
- by a combination of the above 2 options depending on the means and the scope of the NF certification of the manufacturer's laboratory.
- By the manufacturer or under his responsibility, in his laboratory or any laboratory of his choice, after CERTIGAZ's agreement, only for gas applications in Gd3 or water whatever the Gd and in the context of the sampling of the plans of tests defined in these rules (see §3.3.1.3).

In the case of a modification of an already certified product or a transfer of production to a site already concerned by the NF136 mark, a scaled-down test plan is possible. The applicant may then submit a proposed test plan when filing its application.

However, the test plan is determined by CERTIGAZ on the basis of its expertise, Tables 9, if necessary, with the help of the Mark laboratory and in agreement with the applicant. In case of difficulty, the Committee may be consulted.

The tests are performed on samples taken by the applicant or by CERTIGAZ from a representative routine mass production called batch.

Details on the batch: The batch, consistent with the definition in Part 8, shown on the accessory in accordance with § 2.5.3.1, corresponds to a production order for a trade reference, for a defined quantity with the same design and manufacturing characteristics, with the same composition (batch of – resin or metal – material or unchanged forging).

The duration of the batch is not fixed provided that manufacturing conditions remain unchanged without any shutdown affecting these conditions. Given that some monitoring tests are carried out on a weekly basis, it is recommended not to exceed one month.

The manufacturer shall, by the process, define, document and record the shutdowns that may or may not generate a batch change since the manufacturing conditions are modified. Moreover, a shutdown without batch change may lead to specific restart verifications which shall be defined, documented and recorded by the manufacturer.

In the case of a fine resin batch in an incompletely emptied before filling silo by another batch of the same resin, it is accepted that the majority batch is associated with the product provided that:

- the minor portion is less than 20%,
- to keep the traceability of the products concerned,
- to define the provisions in the quality documentation.

For every accessory from a jointing, the batch corresponds at least to the combinations of the batches of the main jointed accessories:

- Families A1 and A2: batch PE body
- Family B1: batches saddle and stack for a dual block PDB, for example
- Family B2: batch of saddle
- Families C1 and C2: batch PE body
- Family D1: batch mechanical fitting body
- Family D2: batches body and plug
- Family D3: batches PE and metal body
- Family E1: batches valve and coupler body
- Family E2: batches valve, coupler and saddle body
- Family E3: batches valve, coupler and purge body

The manufacturer may have a finer traceability, depending on other components of the accessories (wires, connectors, cutters, spheres, pins, saddles, seals, etc.), so as to facilitate analysis during a possible failure.

Details for markings durability evaluation

In the tests tables (TT, PVT, AT or §2.4.4.8) the marking is verified along with required durability for label marking.

The process that allow an in relief or counter-relief marking guarantee this durability.

In the case of a NF and/or GAS marking on a label or by ink-jet on the accessory, as well as traceability and welding bar-codes or QR code if used, the durability is verified by using a preparation detergent for electrofusion assemblages (TANGIT type for example, allowed for using by GRDF). 10ml of the product are poured on the marking and wiped with a soft cloth. The marking must remain legible by the operator and the code-reading machines. In case of process modification, tests are required.

Details on the preparation of test pieces:

- In addition to the testing standards, for gas application, the pipes used shall comply with the standard NF EN 1555-2. The NF certification of PE pipes (NF114) is not required but recommended. Otherwise, it is recommended to use common industrially produced pipes made with a resin certified by the NF114 Mark. The names, characteristics, marks and resin as well as the delivery condition of the pipes used (straight pipe or coiled pipe - reel or ring-) shall be documented in the test reports.

- For all applications, whatever the tests, except those referring to the ISO 11413 standard, the electrical resistance measurement shall be carried out with equipment whose minimum characteristics are specified below, according to the nominal value of resistance.

Resistance to measure (Ω)	Resolution (m Ω)	Accuracy
0 à 1	1	0,30% of the value read
1 à 10	10	0,30% of the value read
10 à 100	100	0,30% of the value read

Note: a connection with 4 wires is recommended and required to lower resistance or equal to 1 Ω .

Details of the measured values (rounding rule) :

For all measurements and whatever the physical quantity, the rounding rule adopted by the NF136 rules, to declare conformity, is the rule B of the standard NF EN ISO 80000-1 (rounded by excess for the interval of rounding required).

Examples :

nominal	tolerance	measure	round	conformity
5,8	0/+0,3	5,74	5,7	no
5,8	0/+0,3	5,78	5,8	yes
5,8	0/+0,3	5,84	5,8	yes
5,8	0/-0,4	5,85	5,9	no
5,8	0/-0,4	5,81	5,8	yes
5,80	0/+0,3	5,78	5,78	no
5,80	0/+0,3	5,786	5,79	no
5,80	0/+0,3	5,794	5,79	no
5,80	0/+0,3	5,795	5,80	yes
5,80	0/+0,3	5,84	5,84	yes
5,80	0/+0,3	5,849	5,85	yes
5,80	0/-0,4	5,850	5,85	no
5,80	0/-0,4	5,795	5,80	yes
5,80	0/-0,4	5,805	5,81	no
5,80	0/-0,4	5,804	5,80	yes

The test report may indicate values with more digits than the required rounding interval and propose conformity to this "raw" value. CERTIGAZ will apply the rounding rule to pronounce conformity or not.

For spigot junctions:

- If the maximum tolerance is exceeded in diameter or thickness, on partial zones compared to required ones and without exceeding 0.5 mm,
- If the minimum tolerance is exceeded for thickness, on partial zones without exceeding 0.1 mm, those non-conformities are tolerable if they don't generate any non-conformity during mechanical tests.

Note : Conformity can be pronounced on the tested samples but corrective actions can be taken by the manufacturer or requested by CERTIGAZ to ensure the conformity of the batch or the next batches to take into account the statistical distribution of the value on all production.

Details on the appearance of fittings:

A- In addition to § 5 on product standards, the appearance of spigot ends produced from a machining process shall have a surface condition, for the part intended for scraping before welding with an electrofusion fitting, that shall not degrade the ease of scraping. The roughness index (Ra) shall be less than 12.5 μm .

B- Accessories whose tooling requires the tightness on an area thereof, must have a compatible surface finish on the required area. This area is specified in the technical file as well as compatible tools.

C- The fittings with a steel end, family A2 or D3, must be protected against oxidation of the steel, up to the point of use.

The steel-PE junction produced in the factory by assembly must be covered with a protective sheath (heat-shrinkable...).

The steel ends must be covered with a peelable product: varnish, paint or other coating that does not present hazardous vapours during welding work. Only the outer part should be protected.

The protection is of such quality that:

- The end to be welded is peelable,
- Its colour is not confusing as to the application group of the accessory
- After 6 months of storage, without special precautions, in an unheated room, there is no trace of oxidation,
- The future attachment of a covering with an anti-corrosion strip is satisfactory.

Details of hydrostatic pressure tests (in addition to §10.3 of ISO1167-1) :

The test report shall record the failure (s) and the required test time is counted after subtracting the total time of failures. One or more failures may be acceptable depending on the required duration of the test, without exceeding the following values :

Required test time (Te)	Maximum time of failure	Maximum cumulated time of failures
Te < 500 h	4 h	4 h
500 h ≤ Te < 1000 h	24 h	24 h
Te ≥ 1000 h	72 h	72 h

A failure may be a failure of the test equipment, an electrical break, the period during which the tolerances of the pressure and/or temperature stresses are not respected...

Note: The hydrostatic pressure tests 1000 h specified in the NF136 rules correspond to the case $Te \geq 1000$ h.

Details on test reports: In addition to the requirements set out in the testing standards, the final test report shall be written primarily in French. It may be in English. Other languages may be accepted only with the consent of CERTIGAZ and possibly after consulting the Committee. The final test report shall specify:

- the version of the technical file of the accessory,
- the batch of the accessory,
- the reference of the pipes used for producing the test pieces,
- any special requirements specified in the NF136 Rules.

A test report which concerns several types of tests and/or several products, must include a summary. This summary can be a separate document that refers to the different report numbers concerned.

Any test report shall not predate the certification application filed with CERTIGAZ by more than 2 years. Beyond this time period, this would entail:

- consultation of the Committee to rule on the admissibility or otherwise of the application,
- The supply of annual monitoring reports (PVT) where the products were manufactured,
- If the products were not manufactured or unrealized PVT, the PVT must be made on the first batch of these products after certification. These tests are in addition to the planning of PVT.

The type tests are admissible only if they were performed in a Mark laboratory or an NF-authorized manufacturer's laboratory, according to the requirements, for a valid period or testing scope.

Details on the expiration date of the samples:

The storage period of the samples after the test report shall be under the applicant/holder's responsibility. No storage period is imposed. In case of doubt, during the analysis of TT (type test) reports, if samples are no longer available to conduct further analysis, CERTIGAZ may ask for the affected tests to be repeated.

3.3.1.1 – Type tests carried out by an NF-authorized manufacturer's laboratory, with verification tests

A manufacturer may carry out all or part of the tests in its laboratory provided that it has obtained the authorisation of CERTIGAZ based on specifications SLAB100 "Specifications for manufacturer laboratory authorisation" (available on the website www.certigaz.fr). The term "NF-authorized manufacturer's laboratory" is used in the rest of the document.

When the NF-authorized manufacturer's laboratory does not have the necessary resources, the corresponding tests shall be conducted by a Mark laboratory.

The NF-authorized manufacturer's laboratory shall send its report(s) to CERTIGAZ which shall examine them. A copy may be sent to the Mark laboratory for its opinion.

Verification tests shall then be performed in the facilities of the Mark laboratory or in those of the NF-authorized manufacturer's laboratory depending on availability and the choice of the applicant.

These verification tests are defined in Tables 4 to 8 but may be supplemented with all tests for which uncertainty may appear following the analysis of the initial tests.

Verification tests in the NF-authorized manufacturer's laboratory shall be carried out under the supervision of a representative of the Mark laboratory or of CERTIGAZ.

Any verification test performed in the NF-authorized manufacturer's laboratory without the constant presence of the representative of the Mark laboratory or of CERTIGAZ shall be recorded continuously (for example, some endurance or fatigue tests). Otherwise, the tests shall be carried out by a Mark laboratory.

The Mark laboratory shall send its test reports and its opinion on the manufacturer's test report if necessary to CERTIGAZ and to the applicant/holder.

3.3.1.2 – Type tests carried out by an NF-authorized accredited manufacturer's laboratory

A manufacturer may carry out all or part of the tests in its accredited laboratory or in a laboratory accredited according to ISO 17025 with which it has links (management, group, shareholder, etc.) provided that it has obtained the authorisation of CERTIGAZ based on specifications SLAB100 "Specifications for manufacturer laboratory authorisation" (available on the website www.certigaz.fr). The term "NF-authorized accredited manufacturer's laboratory" is used in the rest of the document.

When the NF-authorized accredited manufacturer's laboratory does not have the necessary resources, the corresponding tests shall be conducted by a Mark laboratory.

The NF-authorized manufacturer's laboratory shall send its report(s) to CERTIGAZ which shall examine them.

CERTIGAZ shall examine the type test results of the NF-authorized manufacturer's laboratory and if deemed necessary, may ask a Mark laboratory, in its facilities or in the facilities of the NF-authorized accredited manufacturer's laboratory depending on availability and the applicant's choice, to carry out cross-check tests deemed necessary by CERTIGAZ.

The Mark laboratory shall send its cross-check test report(s) to CERTIGAZ and to the applicant/holder.

3.3.1.3 – Type tests carried out by a manufacturer's laboratory with type tests under CERTIGAZ's control

A manufacturer may carry out all or part of the tests in his laboratory for gas application in Gd3 or water application regardless of the Gd, according to the test plans defined in these rules, families A, B and C, tables 4, 5 and 6, after CERTIGAZ's agreement.

This agreement is acquired when the manufacturer's laboratory is NF authorized according to one of the 2 previous cases or if the manufacturer uses a laboratory that has an accreditation according to ISO 17025, including:

- the scope covers EN 1555 and EN 12201 standards.
- test reports meet the requirements of the NF136 rules.

The NF authorization of the manufacturer's laboratory is therefore recommended but if it is not authorized by NF, CERTIGAZ ensures during the admission and/or production monitoring audits that the laboratory's resources and instructions meet the NF136 requirements for issuing admissible test reports. The audit time can be adapted to allow this analysis.

The test reports with a synthesis are sent to CERTIGAZ for analysis and are supplemented by type tests under CERTIGAZ's control for sampling defined in tables 4, 5 and 6.

These type tests under CERTIGAZ's control are carried out in a laboratory of the mark selected by CERTIGAZ.

In this context, type tests of the gas application can be used for water applications, when the sampling concerns a couple, Gd and a type of fitting, provided that they are less than 2 years old.

TABLE 1: Summary of tests required by application group for the family group A, B and C

family						Tests	reference	application group		
A1	A2	B1	B2	C1	C2			1: Gas G	2: Drinking water W	3: Irrigation I 4: Industrial processes PI / Sewerage P 5 : Electrical confinement ELEC (family A1)
X	X	X	X	X	X	Marking, appearance, dimensions	NF EN ISO 3126 – NF136 technical file - NF EN ISO 15494 NF EN 1555-3 - NF EN 12201-3	required	required	required
X	X	X	X			Electrical resistance	technical file NF EN 1555-3 - NF EN 12201-3	required	required	required
X	X	X	X	X	X	Fluidity index (MFR)	NF EN ISO 1133-1 +/-20%/resin batch	required	required	required
X	X	X	X	X	X	Oxidation stability (OIT)	NF EN ISO 11357-6 OIT (200 °C) > 20 min	required	required	required
X	X	X	X			Safety time of the fusion cycle (T: -10, 23 and 45 °C) Under MOP for the family B	NF T 54-969 § 3.6 & 4	required	no	no
X	X	X	X	X	X	Hydrostatic strength 20 °C - 100 h	NF EN ISO 1167	required	required	required
					X	Hydrostatic strength 80 °C - 165 h (admission with misalignment, -5 and +40 °C) for dn≥90	NF EN ISO 1167 ISO 11414	required	required	required
X	X	X	X	X	X	Hydrostatic strength 80 °C - 1,000 h	NF EN ISO 1167	required	required	required
X	X					Decohesion strength (variation °C, clearance, energy and PE pipe)	ISO 13955 (Gd1 and Gd2) ISO 13954 (Gd2 and Gd3) ISO 11413	required	required	required
		X	X			Decohesion strength (variation °C, energy and PE pipe)	ISO 13956 - ISO 21751 ISO 11413	required	required	required
		X	X			Impact resistance	NF EN 1716 0 °C, 2 m, 2.5 kg	required	required	required
		X				Leak flow rate for the cutter (by cutter)	NF T54-970 Leak < 200 l/h at MOP	required	no	no
		X				Pressure drop	NF EN ISO 17778	required	no	no
		X	X			Bending-tensile cycle tests (10,000 cycles) dn ≤ 63	ISO 13924	required	no	no
					X	Tensile strength for dn≥90 (identical and different MRS, -5 and +40 °C)	ISO 13953 ISO 11414	required	required	required
		X				integrated excess flow valve (PBDI & MBDI)	SAPE102	required	no	no
	X					Leaktightness after ammonia crack resistance	NF E 29-196	required	required	required
X	X	X	X	X	X	French health compliance certificate (ACS)	Decree of 29 May 1997 amended	no	required	no

TABLE 2: Summary of tests required by application group for the family group D

family			Tests	reference	application group		
D1	D2	D3			1: Gas G	2: Drinking water W	3: Irrigation I 4: Industrial processes PI / Sewerage P 5 : Electrical confinement ELEC (family D2)
X	X	X	Marking, appearance, dimensions	NF EN ISO 3126 technical file– NF136 NF EN 1555-3 - NF EN 12201-3 ISO 17885	required	required	required
	X		Resistance to gas constituents if the body is not in PE	ISO 17885 §8.4.2 + annex E	required	no	no
	X	X	Fluidity index (MFR)	NF EN ISO 1133-1 +/-20%/resin batch	required	required	required
	X	X	Oxidation stability (OIT)	NF EN ISO 11357-6 OIT (200 °C) > 20 min	required	required	required
X	X	X	Hydrostatic strength 80 °C - 1,000 h	ISO 17885 § 9.3.3.2 ISO 3458 NF EN ISO1167-1/-4	required	required	required
X	X	X	Pressure drop	ISO 17885 § 9.3.3.11 NF EN ISO 17778	required	no	no
X	X	X	Leaktightness	ISO 17885 § 9.3.3.1 ISO3458	required	required	required
X	X	X	Leaktightness after tensile testing, 23 °C	ISO 17885 §9.3.3.3 ISO13951	required	required	required
X	X	X	Leaktightness after tensile testing, 80 °C– 500 h, dn ≤ 63	ISO 17885 §9.3.3.5 ISO 19899	required	required	required
X	X	X	Leaktightness after temperature cycling	ISO 17885 §9.3.3.6 ISO 3458 (-20/+60°C, 3h step)	required	required	required
X		X	Leaktightness after ammonia crack resistance	NF E 29-196	required	required	required
X			Bending-tensile cycle tests (10,000 cycles) dn ≤ 63 with ageing	ISO 13924 – NF EN ISO 1167	required	no	no
X			Leaktightness under internal pressure when subjected to bending, dn ≤ 63 (1)	ISO 17885 §9.3.3.7 ISO 3503	required	required	required
X			Normalized mechanical junction conformity (dimension, leaktightness, mechanical and ammonia crack resistance)	NF D 36-136 NF E 29-532 – NF E 29-536	required	no	no
X	X	X	French health compliance certificate (ACS)	Decree of 29 May 1997 amended	no	required	no

(1) If the certification request is only for gas application, compliance testing according to the ISO 13924 is sufficient.

TABLE 3: Summary of tests required by application group for the family group E

family			Tests	reference	application group		
E1	E2	E3			1: Gas G	2: Drinking water W	3: Irrigation I 4: Industrial processes PI / Sewerage P
X	X	X	Marking, appearance, dimensions	NF EN ISO 3126 – NF T 54-972 technical file – NF136 NF EN 1555-4 – NF EN 12201-4	required	required	required
	X		Electrical resistance	technical file – NF136	required	required	required
X	X	X	Fluidity index (MFR)	NF EN ISO 1133-1 +/-20%/resin batch	required	required	required
X	X	X	Oxidation stability (OIT)	NF EN ISO 11357-6 OIT (200 °C) > 20 min	required	required	required
X	X	X	Hydrostatic strength 20 °C - 100 h	NF EN ISO 1167	required	required	required
X	X	X	Hydrostatic strength 80 °C - 165 h (admission dn≥90)	NF EN ISO 1167 – ISO11414	required	required	required
X	X	X	Hydrostatic strength 80 °C - 1,000 h	NF EN ISO 1167	required	required	required
X	X	X	Impact resistance	NF EN 1705 -20 °C, 2 m, 2.5 kg	required	required	required
X	X	X	Pressure drop	NF EN ISO 17778	required	no	no
X	X	X	Leaktightness angular range	NF T 54-972 Angle 7° at 200 mbar	required	required	required
X	X	X	Operating extensions and telescopic extensions	NF T54-973	required	required	required
X	X	X	Leaktightness of seat and packing	NF EN 1555 Annex A 1.5 MOP 30 s and 25 mbar 1 h	required	required	required
X	X	X	Operating torque	NF EN 28233	required	required	required
X	X	X	Stop resistance	NF EN 28233	required	required	required
X	X	X	Actuation mechanism resistance	NF EN 28233	required	required	required
X	X	X	Resistance to bending between supports (63<dn≤315)	NF EN 12100	required	required	required
X	X	X	thermal cycling (63<dn≤225)	NF EN 12119	required	required	required
X	X	X	Leaktightness under bending with thermal cycling (dn≤63)	NF EN 1704	required	required	required
X	X	X	Leaktightness under tensile load	ISO 4437-4 + NF136	required	required	required
X	X	X	Leaktightness (bending on actuation)	NF EN 1680	required	required	required
X	X	X	Multiple test	NF EN ISO 1167 (PE80 16 bar/PE100 20 bar) NF EN1555 NF EN28233 NF EN1705	required	required	required
		X	Test on purge part depending on configuration (impact, tensile, decohesion)	EN 1716 EN 13951 ISO 13956	required	no	no
	X		Saddle/valve tensile tests	EN 13951	required	required	required
X	X	X	French health compliance certificate (ACS)	Decree of 29 May 1997 amended	no	required	no

TABLE 4: Families A1 and A2 (electrofusion socket fittings)

Admission tests	Number of samples for gas application Gd1 and Gd2		Number of samples for Gd3 gas application XP CEN/TS 1555-7		Number of samples for other application XP CEN/TS 12201-7		Procedure Requirements	Observations
	Type Tests (TT)	Verification tests	TT by manufacturer sent to CERTIGAZ	TT under CERTIGAZ's control	TT by manufacturer sent to CERTIGAZ	TT under CERTIGAZ's control (1)		
Marking, appearance, color, dimensions, electrical resistance	8 (*)	2	5 1 mini/cavity	5/Gd/shape	5 1 mini/cavity	5/Gd/ shape	NF EN ISO 3126 - NF EN 1555-3 Technical file Machined spigot ends shall have a roughness of Ra < 12.5	Samples usable for the other tests Check the consistency of bar codes (welding/traceability) with data in the technical file during one of the following tests
MFR 190 °C - 5 kg	3 /Gd/shape	1 /Gd/shape	1 /Gd/shape	1 /Gd/shape	1 /Gd/shape	1 /Gd/shape	NF EN ISO 1133-1 ± 20% of the value of the batch used	One measurement/sample
OIT 200 °C 210 °C if correlated with results at 200 °C	3 /Gd/shape	1 /Gd/shape	1 /Gd/shape	1 /Gd/shape	1 /Gd/shape	1 /Gd/shape	NF EN ISO 11357-6 OIT > 20 min	One measurement/sample
Safety time of the fusion cycle Welding at -10 °C, +23 °C & +45 °C	3 for each temperature	1 for each temperature	No required	No required	No required	No required	NF T54-969 § 3.6 & 4	
Hydrostatic strength 20 °C - 100 h	3 (*)	NA	1/cavity	1/Gd/ shape	Gd1 & 2 : 3 1 mini/cavity Gd3: 1/cavity	Gd1 & 2 : 3/Gd/shape Gd3: 1/shape	NF EN ISO 1167 PE 80: $\sigma = 10$ MPa PE100: $\sigma = 12$ MPa	Pressure is calculated according to the formula: $P = 20 \sigma / (SDR-1)$ where SDR is that of the fitting
80 °C - 1,000 h PE100 pipe & minimum SDR	3 (*)	1	1/cavity	1/Gd/ shape	Gd1 & 2 : 3 1 mini/cavity Gd3 :1/cavity	Gd1 & 2 : 3/Gd/shape Gd3: 1/shape	PE 80: $\sigma = 4$ MPa PE100: $\sigma = 5$ MPa	The samples can be mounted in series or in parallel No rupture of sample during all the test

(*) With at least 1 / cavity

(1) TT of the gas application can serve as a TT under CERTIGAZ's control for water applications whose sampling concerns a Gd

.../...

TABLE 4 – continued –: Families A1 and A2 (electrofusion socket fittings)

Admission tests	Number of samples for gas application Gd1 and Gd2		Number of samples for Gd3 gas application XP CEN/TS 1555-7		Number of samples for other application XP CEN/TS 12201-7		Procedure Requirements	Observations
	Type Tests (TT)	Verification tests	TT by manufacturer sent to CERTIGAZ	TT under CERTIGAZ's control	TT by manufacturer sent to CERTIGAZ	TT under CERTIGAZ's control (1)		
Decohesion strength								
23 °C -usual clearance -nominal energy (condition 1 of Annex C of ISO 11413)	(*) 2	2	NA	NA	NA	NA	<p>Before rev20 : ISO 13955 (d_n ≤ 225 mm) or ISO 13954 (d_n > 225 mm)</p> <p>Since rev20 : ISO 13955 (d_n ≤ 225 mm) or ISO 13954 (d_n ≥ 90 mm)</p> <p>Rupture initiation length ≤ L₂/3 with brittle fracture</p>	
23 °C -usual clearance -nominal energy - PE100 pipe & minimum SDR (2) (condition 1, Annex C of ISO 11413)	1	NA	1/cavity	1/Gd/shape	1/cavity	1/Gd/shape		
23 °C -usual clearance -nominal energy - PE80 pipe & maximum SDR (2) (condition 1, Annex C of ISO 11413)	1	NA	1/cavity	1/Gd/shape	1/cavity	1/Gd/shape		
-10 °C - maxi clearance – mini energy - PE100 pipe & minimum SDR (2) (condition 2.2, Annex C of ISO 11413)	2	1	1/cavity	1/Gd/shape	1/cavity	1/Gd/shape		
45 °C - usual clearance - maximum energy - PE100 pipe & mini SDR (2) (condition 3.2, Annex C of ISO 11413)	2	1	1/cavity	1/Gd/shape	1/cavity	1/Gd/shape		
Leaktightness after ammonia crack resistance							<p>NF E 29-196</p> <p>No leak, no failure</p> <p>pH appliances and master solutions are recorded in the report</p>	<p>Test performed on fittings containing external brass parts of family A2 for d_n ≤ 63 mm</p> <p>Samples preparation half at -5°C & +40°C</p> <p>The test is performed under pressure with recording, which makes it possible to know the moment of a possible failure</p>
At 1.5 x MOP after test	2	NA	NA	NA	NA	2		

(*) Using all the cavities distributed in the different conditions. If there are more than 8 cavities, these are tested at 23°C, usual clearance, nominal energy, PE100 pipe and identical SDR

(1) TT of the gas application can serve as a TT under CERTIGAZ control for water applications whose sampling concerns a Gd

(2) Recommended choice of SDR; in the absence of PE100, use PE80 pipes or inversely

TABLE 5: Family B1 (tapping tees) and family B2 (branch saddles)

Admission tests	Number of samples for gas application Gd1 and Gd2		Number of samples for Gd3 gas application XP CEN/TS 1555-7		Number of samples for other application XP CEN/TS 12201-7		Procedure Requirements	Observations
	Type Tests (TT)	Verification tests	TT by manufacturer sent to CERTIGAZ	TT under CERTIGAZ's control	TT by manufacturer sent to CERTIGAZ	TT under CERTIGAZ's control (1)		
Marking, appearance, color, dimensions, electrical resistance	8 (*)	2	5 1 mini/cavity	5/Gd/shape	5 1 mini/cavity	5/Gd/ shape	NF EN ISO 3126 - EN1555-3 NF T 54-970 - Technical file Machined spigot ends shall have a roughness of Ra < 12.5	Samples usable for the other tests Check the consistency of bar codes (welding/traceability) with data in the technical file during one of the following tests
MFR 190 °C - 5 kg	3 /Gd/shape	1 /Gd/shape	1 /Gd/shape	1 /Gd/shape	1 /Gd/shape	1 /Gd/shape	NF EN ISO 1133-1 ± 20% of the value of the batch used	One measurement/sample
OIT 200 °C 210 °C if correlated with results at 200 °C	3 /Gd/shape	1 /Gd/shape	1 /Gd/shape	1 /Gd/shape	1 /Gd/shape	1 /Gd/shape	NF EN ISO 11357-6 OIT > 20 min	One measurement/sample
Safety time of the fusion cycle at -10 °C, +23 °C and +45 °C	3 /dn saddle and for each temperature	1 /dn saddle and for each temperature	No required	No required	No required	No required	NF T54-969 § 3.6 & 4 MOPmax = 20 MRS/(c(SDR-1))	The pipe is at the permissible MOP for the type depending on the MRS and SDR with c=2 (2) The report shall set out these details.
Hydrostatic strength 20 °C - 100 h 80 °C - 1,000 h	3 (*) 3 (*)	NA 1	1/cavity 1/cavity	1/Gd/shape 1/Gd/shape	Gd1 & 2 : 3 1 mini/cavity Gd3: 1/cavity Gd1 & 2 : 3 1 mini/cavity Gd3 :1/cavity	Gd1 & 2 : 3/Gd/shape Gd3: 1/shape Gd1 & 2 : 3/Gd/shape Gd3: 1/shape	NF EN ISO 1167 PE 80: σ = 10 MPa PE100: σ = 12 MPa PE 80: σ = 4 MPa PE100: σ = 5 MPa	Pressure is calculated according to the formula: P = 20 σ/(SDR-1) where SDR is that of the fitting The samples can be mounted in series or in parallel No rupture of sample during all the test
Impact resistance 0 °C - 2 m - 2.5 kg	1	NA	1	1/Gd/shape	1	1/Gd/shape	NF EN 1716 No fracture or leakage at 25 mbar and permissible MOP for 1 hour	1 test for each stack dimension For family B2, the impacts are made 15 mm from the end of the branches
Bending-tensile cycle test 10,000 cycles	1	NA	NA	NA	NA	NA	ISO 13924 No leakage, no fracture	family B1: per type of stack/derivation family B2 (3) : per derivation < 75 mm

(*) With at least 1 / cavity (1) TT of the gas application can serve as a TT under CERTIGAZ control for water applications whose sampling concerns a Gd

(2) If the test of safety time of the fusion cycle is performed at a lower MOP, declared by the manufacturer, the marking shall specify this. See § 2.5.3.1

(3) No tests on saddles for reinforcement, plugging and branching saddles or balloon shut-off saddles on plugged ends which are not subjected to this type of force generated by ground movements .../...

TABLE 5 – continued –: Family B1 (tapping tees) and family B2 (branch saddles)

Admission tests	Number of samples for gas application Gd1 and Gd2		Number of samples for Gd3 gas application XP CEN/TS 1555-7		Number of samples for other application XP CEN/TS 12201-7		Procedure Requirements	Observations
	Type Tests (TT)	Verification tests	TT by manufacturer sent to CERTIGAZ	TT under CERTIGAZ's control	TT by manufacturer sent to CERTIGAZ	TT under CERTIGAZ's control (1)		
Decohesion strength	(*)							
23 °C - nominal energy (condition 1, Annex C of ISO 11413)	2	2	NA	NA	NA	NA	Gd1 & Gd2 : ISO 13956 Ld ≤ 50 % and Ad ≤ 25 % If the pipe is pulled out, the test according to ISO 21751 is required, but this does not call into question the conclusions according to ISO 13956 Gd3 : ISO21751 Ld ≤ 33 %	Test performed once by main Ø If several heating elements, tests on all the elements Photos are attached to the test report according to the 2 standards. The method used according to the ISO13956 standard is recorded in the report. In case of doubt or dispute, method A1 is used for any saddle dn
23 °C - nominal energy - PE100 pipe & minimum SDR (2) (condition 1, Annex C of ISO 11413)	1	NA	1/cavity	1/Gd/shape	1/cavity	1/Gd/shape		
23 °C - nominal energy - PE80 pipe & maximum SDR (2) (condition 1, Annex C of ISO 11413)	1	NA	1/cavity	1/Gd/shape	1/cavity	1/Gd/shape		
-10 °C - minimum energy - PE100 pipe & minimum SDR (1) (condition 2.2, Annex C ISO 11413)	2	1	1/cavity	1/Gd/shape	1/cavity	1/Gd/shape		
45 °C - maximum energy - PE100 pipe & minimum SDR (1) (condition 3.2, Annex C ISO 11413)	2	1	1/cavity	1/Gd/shape	1/cavity	1/Gd/shape		
Leak flow rate for the cutter under MOP (3) (Family B1 only)	1	1	1/cutter	NA	NA	NA	NF T54-970 Leakage ≤ 200 l/h MOP max =20 MRS/(c(SDR-1))	1 test for each cutter type. The pipe is at the permissible MOP for the type depending on the MRS and SDR with c=2 (3) The report shall set out these details
Pressure drop (see EN 1555-3) (Family B1 only)	1	NA	1	NA	NA	NA	NF EN ISO 17778	
Integrated excess flow valve (Family B1 only) dn saddle = 63	7/ dn of derivation	NA	NA	NA	NA	NA	See Table 5a below SAPE102 specifications	Type tests are performed only in a laboratory of the NF136 mark

(*) Using all the cavities distributed in the different conditions. If there are more than 8 cavities, these are tested at 23°C, nominal energy, PE100 pipe and identical SDR

(1) TT of the gas application can serve as a TT under CERTIGAZ control for water applications whose sampling concerns a Gd

(2) Recommended choice of SDR; in the absence of PE100, use PE80 pipes or inversely (3) If the test is performed at a lower MOP declared by the manufacturer, the marking shall specify this. See § 2.5.3.1

TABLE 5a: Family B1 (PBDI & MBDI - Tapping tees or coupler with Integrated excess flow valve)

For MBDIs and in addition to the tests in Table 2 for PBDI, the excess flow valve shall be approved by CERTIGAZ and the tests according to the SAPE102 specifications shall be performed on PBDI and MBDI assemblies for the main dn of 63 but also for each branch dn and flow pair (dn20/D25 et dn32/D100).

Note: other main **PBDI** dn could be tested in the future (dn 40 to 125) **depending on the range requested for certification.**

The MBDI kit is made up of fittings with the NF136 mark and a section of PE pipe with the NF114 mark.

Admission tests	Number of samples		Procedure Requirements	Observations
	Type Tests (TT)	Verification tests		
Primary characteristics (trip and reset tests, pressure drop, non-tripping at abrupt opening, response time at closing and leaktightness at closing) before and after accelerated ageing (climate cycles and hydrostatic strength 1,000 h)	5	NA	SAPE102 specifications	Including 2 reserve samples

TABLE 5b: Families B1 (Approval of excess flow valves)

Excess flow valve approval tests are performed for the main dn of 63 but also for each branch dn and flow pair on a reference assembly of the laboratory for each dn/flow pair.

Admission tests	Number of samples		Procedure Requirements	Observations
	Type Tests (TT)	Verification tests		
Primary characteristics (trip and reset tests, pressure drop, non-tripping at abrupt opening, response time at closing and leaktightness at closing) before and after accelerated ageing (tilting of the assembly, influence of gas direction, endurance for 1,000 cycles, climatic cycles, hydrostatic strength 1,000 h and dust)	7	NA	SAPE102 specifications	Including 2 reserve samples

TABLE 6: Families C1 and C2 (spigot fittings according to the types of assembly)

Admission tests	Number of samples for gas application Gd1 and Gd2		Number of samples for Gd3 gas application XP CEN/TS 1555-7		Number of samples for other application XP CEN/TS 12201-7		Procedure Requirements	Observations
	Type Tests (TT)	Verification tests	TT by manufacturer sent to CERTIGAZ	TT under CERTIGAZ's control	TT by manufacturer sent to CERTIGAZ	TT under CERTIGAZ's control (1)		
Marking, appearance, color dimensions	8 (*)	2	5 1 mini/cavity	5/Gd/shape	5 1 mini/cavity	5/Gd/ shape	NF EN ISO 3126 - EN1555-3 NF T 54-970 - Technical file Machined spigot ends → Ra < 12.5	Samples usable for other tests
MFR 190 °C - 5 kg	3 /Gd/shape	1 /Gd/shape	1 /Gd/shape	1 /Gd/shape	1 /Gd/shape	1 /Gd/shape	NF EN ISO 1133-1 ± 20% of the value of the batch used	One measurement/sample
OIT 200 °C 210 °C if correlated with results at 200 °C	3 /Gd/shape	1 /Gd/shape	1 /Gd/shape	1 /Gd/shape	1 /Gd/shape	1 /Gd/shape	NF EN ISO 11357-6 OIT > 20 min	One measurement/sample
Hydrostatic strength 20 °C - 100 h	3 (*)	NA	1/cavity	1/Gd/shape	Gd1 & 2 : 3 1 mini/cavity Gd3: 1/cavity	Gd1 & 2 : 3 3/Gd/shape Gd3: 1/shape	NF EN ISO 1167 PE80: σ=10MPa / PE100: σ=12MPa Family C2, welding by butt fusion PE 80: σ=4MPa / PE100: σ=5MPa	Pressure is calculated according to the formula: $P = 20 \sigma / (SDR-1)$ where SDR is that of the fitting The samples can be mounted in series or in parallel No rupture of sample during all the test
80 °C - 1,000 h	3 (*)	1	1/cavity	1/Gd/shape	Gd1 & 2 : 3 1 mini/cavity Gd3 : 1/cavity	Gd1 & 2 : 3 3/Gd/shape Gd3: 1/shape		
80°C - 165 h (see EN 1555-5)	1/Gd/shape	1/Gd/shape	1/Gd/shape	NA	1/Gd/shape	NA	PE 80, σ =4.5 MPa PE100, σ =5.4 MPa	Butt fusion, same MRS, same SDR for family C2, dn≥90
- with misalignment ISO 11414 §7a	1/Gd/shape	NA	1/Gd/shape	NA	1/Gd/shape	NA		
- minimum conditions (-5 °C) ISO 11414 §7a and Annex B - maximum conditions (+40 °C) ISO 11414 §7a and Annex B	1/Gd/shape	NA	1/Gd/shape	NA	1/Gd/shape	NA		
Tensile strength ○ 23 °C, butt fusion, same MRS, same SDR ○ 23 °C, butt fusion, same SDR and PE100/80 or PE80/100 ○ with misalignment and minimum conditions ISO11414 §7a Annex B ○ with misalignment and maximum conditions ISO11414 §7a Annex B	1 1/Gd/shape 1/Gd/shape 1/Gd/shape	1 NA NA NA	1/Gd/shape 1/Gd/shape 1/Gd/shape 1/Gd/shape	NA NA NA NA	1/Gd/shape 1/Gd/shape 1/Gd/shape 1/Gd/shape	NA NA NA NA	ISO 13953 Ductile fracture	for family C2, dn≥90

(*) With at least 1 / cavity

(1) TT of the gas application can serve as a TT under CERTIGAZ control for water applications whose sampling concerns a Gd

TABLE 7a: Family D1 (metal mechanical fittings for polyethylene networks)

During implementations, the pipe normally held by hand shall not rotate when tightening the compression fittings and this information is recorded in the report.

Admission tests	Number of samples		Procedure Requirements	Observations
	Type Tests (TT)	Verification tests		
Marking, appearance, dimensions	5/dn	2/dn	NF EN ISO 3126 - ISO 17885 - technical file	Samples usable for the other tests
Leaktightness at 20+/-5 °C - 25 mbar/1 h then at 1.5xMOP (6 bar min)/1 h	2/dn	NA	ISO 17885 §9.3.3.1 + ISO 3458 No leakage	Preparation of samples half at -5 °C and +40 °C The ISO 3458 standard specifies that during the testing phase, the temperature must be maintained at +/- 2 °C; a lower level may be needed to avoid biasing the measure.
Resistance to temperature variations 10 cycles at 6 bar Leaktightness before and after the test	2/dn	2/Gd	ISO 17885 §9.3.3.6 + ISO 3458 -20 ±2 °C /+60 ±2 °C, step of 3 h No leakage after TT leaktightness test	Preparation of samples half at -5 °C and +40 °C
Leaktightness after a tensile test at 23°C At constant load , constraint σ for 1 h At constant speed , speed = 25 mm/min	2/dn	2/dn	ISO 17885 §9.3.3.3 + ISO 13951 F = 2s σ under pressure of 50 mbar PE80 : $\sigma=5.7\text{MPa}$ PE100 : $\sigma=6.6\text{MPa}$ s : the pipe wall section with nominal diameter and average thickness - No permanent deformation or fail of the joint - No uncoupling - No leakage after TT leaktightness test	$d_n \leq 63 \text{ mm}$ and $d_n > 63 \text{ mm}$ Preparation of samples half at -5 °C and +40 °C
Leaktightness after a tensile test at constant load at 80 °C during 500 h	2/dn	2/dn	ISO 17885 §9.3.3.5 + ISO 19889 No leakage after TT leaktightness test	Test performed on $d_n \leq 63 \text{ mm}$ Preparation of samples half at -5 °C and +40 °C

.../...

TABLE 7a – continued –: Family D1 (metal mechanical fittings for polyethylene networks)

Admission tests	Number of samples		Procedure Requirements	Observations
	Type Tests (TT)	Verification tests		
Hydrostatic strength 80 °C - 1,000 h	6/dn	2/dn	ISO 17885 §9.3.3.2 ISO 3458 ISO 1167-1 /-4 PE 80: $\sigma = 4$ MPa PE100: $\sigma = 5$ MPa	Pressure is calculated according to the formula: $P = 20 \frac{\sigma}{(SDR-1)}$ where SDR is that of the fitting The samples can be mounted in series or in parallel Preparation of samples half at -5 °C and +40 °C No rupture of sample during all the test
Pressure drop dn ≤ 63 - Air at 25 mbar - $\Delta P = 0.5$ mbar dn > 63 - Air at 25 mbar - $\Delta P = 0.1$ mbar	1/dn	NA	ISO 17885 §9.3.3.11 ISO 17778	Flow measured ≥ 0.9 x nominal flow (stated by the manufacturer)
Leaktightness after ammonia crack resistance test	2/dn	NA	NF E 29-196 No leak (TT tightness), no failure <i>pH appliances and master solutions are recorded in the report</i>	Test performed on fittings containing external brass parts for dn ≤ 63 mm Samples preparation half at -5°C & +40°C The test is performed under pressure with recording, which makes it possible to know the moment of a possible failure
Bending-tensile cycle test 10,000 cycles Only for family D1 and Gd1	2/dn (new sample) 2/dn (sample after ageing test of hydrostatic strength)	NA	ISO 13924 No leakage after TT leaktightness test no fracture After the tests, the cavity of the pipe connected to the coupling system shall not have caused the start of a fracture.	Performed with a new sample and after the hydrostatic strength test (HS), but it is possible to use the test pieces of the HS test prepared at -5 and +40 °C If the temperature of 80 °C HS can alter the performance of seals, the HS test may be performed at 60 °C, 1,000 h with $\sigma = 5.3$ MPa for PE80 or $\sigma = 6.7$ MPa for PE100
Leaktightness under internal pressure when subjected to bending, dn ≤ 63 (1)	2/dn	NA	ISO 17885 §9.3.3.7 ISO 3503	Preparation of samples half at -5 °C and +40 °C Pressure testing for gas under 25 mbar and 1.5 x MOP (declared and marked on the accessory by the manufacturer) MOP Maximum is 10 bar and the radius of curvature R = 15 x dn
Normalized mechanical junction conformity (dimension, leaktightness, mechanical and ammonia crack resistance) (2)	Depending on respective standards by normalized DN	NA	NF D 36-136 NF E 29-532 – NF E 29-536	GAS Application only

(1) If the certification request is only for gas application, compliance testing according to the ISO 13924 is sufficient.

(2) If the applicant has a NF540 certification for normalized DN that have the same characteristics and derived from the same process, the tests are not made a second time.

TABLE 7b: Family D2 (plastic mechanical fittings for polyethylene networks)

During implementations, the pipe normally held by hand shall not rotate when tightening the compression fittings and this information is recorded in the report.

Admission tests	Number of samples		Procedure Requirements	Observations
	Type Tests (TT)	Verification tests		
Marking, appearance, color, dimensions	5/dn	2/dn	NF EN ISO 3126 - ISO 17885 - technical file	Samples usable for the other tests For the ELEC application, if the accessory is obtained with butt welding, the bead is leveled in the factory to guarantee the internal passage diameter
Resistance to gas constituents			ISO 17885 §8.4.2 + annex E	if the body is not in PE
MFR 190 °C - 5 kg	3/Gd	1/Gd	NF EN ISO 1133-1 ± 20% of the value of the batch used	One measurement/sample
OIT 200 °C (210 °C if correlated with results at 200 °C)	3/Gd	1/Gd	NF EN ISO 11357-6 OIT > 20 min	One measurement/sample
Leaktightness at 20+/-5 °C - 25 mbar/1 h then at 1.5xMOP (6 bar min)/1 h	2/dn	NA	ISO 17885 §9.3.3.1 + ISO 3458 No leakage	Preparation of samples half at -5 °C and +40 °C The ISO 3458 standard specifies that during the testing phase, the temperature must be maintained at +/- 2 °C; a lower level may be needed to avoid biasing the measure.
Resistance to temperature variations 10 cycles at 6 bar Leaktightness before and after the test	2/dn	2/Gd	ISO 17885 §9.3.3.6 + ISO 3458 -20 ±2 °C /+60 ±2 °C, step of 3 h No leakage after TT leaktightness test	Preparation of samples half at -5 °C and +40 °C

.../...

TABLE 7a – continued –: Family D2 (plastic mechanical fittings for polyethylene networks)

Admission tests	Number of samples		Procedure Requirements	Observations
	Type Tests (TT)	Verification tests		
Leaktightness after a tensile test at 23°C At constant load , constraint σ for 1 h At constant speed , speed = 25 mm/min	2/dn	2/dn	ISO 17885 §9.3.3.3 + ISO 13951 $F = 2s\sigma$ under pressure of 50 mbar PE80 : $\sigma=5.7\text{MPa}$ PE100 : $\sigma=6.6\text{MPa}$ s : the pipe wall section with nominal diameter and average thickness - No permanent deformation or fail of the joint - No uncoupling - No leakage after TT leaktightness test	$d_n \leq 63 \text{ mm}$ and $d_n > 63 \text{ mm}$ Preparation of samples half at -5 °C and +40 °C
Leaktightness after a tensile test at constant load at 80 °C during 500 h Leaktightness after the test	2/dn	2/dn	ISO 17885 §9.3.3.5 + ISO 19889 No leakage after TT leaktightness test	Test performed on $d_n \leq 63 \text{ mm}$ Preparation of samples half at -5 °C and +40 °C
Hydrostatic strength 80 °C - 1,000 h	6/dn	2/dn	ISO 17885 §9.3.3.2 ISO 3458 ISO 1167-1 /-4 PE 80: $\sigma = 4 \text{ MPa}$ PE100: $\sigma = 5 \text{ MPa}$	Pressure is calculated according to the formula: $P = 20 \sigma / (\text{SDR}-1)$ where SDR is that of the fitting The samples can be mounted in series or in parallel Preparation of samples half at -5 °C and +40 °C No rupture of sample during all the test
Pressure drop $d_n \leq 63$ - Air at 25 mbar - $\Delta P = 0.5 \text{ mbar}$ $d_n > 63$ - Air at 25 mbar - $\Delta P = 0.1 \text{ mbar}$	1/dn	NA	ISO 17885 §9.3.3.11 ISO 17778	Flow measured $\geq 0.9 \times$ nominal flow (stated by the manufacturer)
Leaktightness under internal pressure when subjected to bending , $d_n \leq 63$	2/dn	NA	ISO 17885 §9.3.3.7 ISO 3503	Preparation of samples half at -5 °C and +40 °C Pressure testing for gas under 25 mbar and 1.5 x MOP (declared and marked on the accessory by the manufacturer) MOP Maximum is 10 bar and the radius of curvature $R = 15 \times d_n$

TABLE 7c: Family D3 (transition fittings for polyethylene networks)

Admission tests	Number of samples		Procedure Requirements	Observations
	Type Tests (TT)	Verification tests		
Marking, appearance, color, dimensions	5/dn	2/dn	NF EN ISO 3126 - ISO 17885 - technical file Machined spigot ends shall have a roughness of Ra<12.5	Samples usable for the other tests When the fittings are made from PE pipe, the acceptable ovality is the one defined in NF EN 1555-2
MFR 190 °C - 5 kg	3/Gd	1/Gd	NF EN ISO 1133-1 ± 20% of the value of the batch used	One measurement/sample Test not performed if the PE part is made from a pipe certified by the NF114 Mark (PE pipes) The resin of the pipe must be certified according to NF114 Mark
OIT 200 °C (210 °C if correlated with results at 200 °C)	3/Gd	1/Gd	NF EN ISO 11357-6 OIT > 20 min	
Leaktightness at 20+/-5 °C - 25 mbar/1 h then at 1.5xMOP (6 bar min)/1 h	1/dn	NA	ISO 17885 §9.3.3.1 + ISO 3458 No leakage	The ISO 3458 standard specifies that during the testing phase, the temperature must be maintained at +/- 2 °C; a lower level may be needed to avoid biasing the measure.
Resistance to temperature variations 10 cycles at 6 bar Leaktightness before and after the test	1/dn	1/Gd	ISO 17885 §9.3.3.6 + ISO 3458 -20 ±2 °C /+60 ±2 °C, step of 3 h No leakage after TT leaktightness test	

.../...

TABLE 7c – continued –: Family D3 (transition fittings for polyethylene networks)

Admission tests	Number of samples		Procedure Requirements	Observations
	Type Tests (TT)	Verification tests		
Leaktightness after a tensile test at 23°C At constant load , constraint σ for 1 h At constant speed , speed = 25 mm/min	2/dn	2/dn	ISO 17885 §9.3.3.3 + ISO 13951 $F = 2s\sigma$ under pressure of 50 mbar PE80 : $\sigma=5.7\text{MPa}$ PE100 : $\sigma=6.6\text{MPa}$ s : the pipe wall section with nominal diameter and average thickness - No permanent deformation or fail of the joint - No uncoupling - No leakage after TT leaktightness test	$d_n \leq 63$ mm and $d_n > 63$ mm
Leaktightness after a tensile test at constant load at 80 °C during 500 h Leaktightness after the test	1/dn	1/dn	ISO 17885 §9.3.3.5 + ISO 19889 No leakage after TT leaktightness test	Test performed on $d_n \leq 63$ mm
Hydrostatic strength 80 °C - 1,000 h	3/dn	1/dn	ISO 17885 §9.3.3.2 ISO 3458 ISO 1167-1 /-4 PE 80: $\sigma = 4$ MPa PE100: $\sigma = 5$ MPa	Pressure is calculated according to the formula: $P = 20 \sigma / (\text{SDR}-1)$ where SDR is that of the fitting The samples can be mounted in series or in parallel No rupture of sample during all the test
Pressure drop $d_n \leq 63$ - Air at 25 mbar - $\Delta P = 0.5$ mbar $d_n > 63$ - Air at 25 mbar - $\Delta P = 0.1$ mbar	1/dn	NA	ISO 17885 §9.3.3.11 ISO 17778	Flow measured ≥ 0.9 x nominal flow (stated by the manufacturer)
Leaktightness after ammonia crack resistance test	2/dn	NA	NF E 29-196 No leak (TT tightness), no failure pH appliances and master solutions are recorded in the report	Test performed on fittings containing external brass parts for $d_n \leq 63$ mm The test is performed under pressure with recording, which makes it possible to know the moment of a possible failure
Leaktightness under internal pressure when subjected to bending , $d_n \leq 63$	2/dn	NA	ISO 17885 §9.3.3.7 ISO 3503	Preparation of samples half at -5 °C and +40 °C Pressure testing for gas under 25 mbar and 1.5 x MOP (declared and marked on the accessory by the manufacturer) MOP Maximum is 10 bar and the radius of curvature $R = 15 \times d_n$

TABLE 8: Family E1 (valves)

Admission tests	Number of samples		Procedure Requirements	Observations
	Type Tests (TT)	Verification tests		
Marking, appearance, color, dimensions	8	2	NF EN ISO 3126 - NF T 54-972 - technical file Machined spigot ends shall have a roughness of Ra < 12.5	Samples usable for the other tests
MFR 190 °C – 5 kg	3/Gd	1/Gd	NF EN ISO 1133-1 ± 20% of the value of the batch used	One measurement/sample
OIT 200 °C (210 °C if correlated with results at 200 °C)	3/Gd	1/Gd	NF EN ISO 11357-6 OIT > 20 min	One measurement/sample
Leaktightness of seat and packing at 23 °C – 25 mbar – 1 h at 23 °C – 1.5xMOP – 30 s	1/body type	1/body type	NF EN 1555-4 Annex A No leakage	Initial test at 1.5 x MOP (limitation to 6 bar, applicable only for the other tests)
Leaktightness angular range at 23 °C	1/body type	NA	NF T 54-972 Angle ≥ 7° at 200 mbar	Careful about clearance compensation
Operating extensions and telescopic extensions of valves Extension: C = 150 Nm/15 s	3	NA	NF T54-973	In both directions (opening and closing) No permanent deformation or fracture
Hydrostatic strength • 20 °C – 100 h • 80 °C – 165 h (see EN 1555-5) Butt fusion, same MRS & SDR - with misalignment (see ISO 11414 § 7 a) - minimum conditions (see ISO 11414 § 7 a and Annex B) - maximum conditions (see ISO 11414 § 7 a and Annex B) • 80 °C – 1,000 h	3 1 1 1 3	- - - - 1	NF EN ISO 1167 PE 80 : σ = 10 Mpa PE100 : σ = 12 Mpa PE 80 : σ = 4.5 Mpa PE100 : σ = 5.4 Mpa PE 80 : σ = 4 Mpa PE100 : σ = 5 Mpa	Pressure is calculated according to the formula: $P = 20 \sigma / (SDR-1)$ where SDR is that of the valve The samples can be mounted in series or in parallel No rupture of sample during all the test If the valve is intended for butt fusion (manufacturer's instructions) for dn≥90

.../...

TABLE 8 – continued –: Family E1 (valves)

Admission tests	Number of samples		Procedure Requirements	Observations
	Type Tests (TT)	Verification tests		
Pressure drop Air - 25 mbar - $d_n \leq 63$ $\Delta P = 0.5$ mbar - $d_n > 63$ $\Delta P = 0.1$ mbar	1	NA	NF EN ISO 17778 Flow measured ≥ 0.9 x nominal flow (stated by the manufacturer)	
Operating torque at -20 °C, 23 °C and 40 °C	1/body type	NA	NF EN 28233 $d_n \leq 63$: $5 < C \leq 35$ Nm $63 < d_n \leq 125$: $10 < C \leq 70$ Nm $125 < d_n$: $10 < C \leq 150$ Nm	One measurement for each operating direction after at least 6 hours of conditioning
Stop resistance $2 \times C_{\max \text{ measured}}$ for 15 s with a minimum of 150 Nm at -20 °C and 40 °C	1/body type	NA	NF EN 28233 No fracture No leakage of seat and packing	In both directions: opening and closing
Actuation mechanism resistance at 6 bar - $1.5 \times C_{\max \text{ measured}}$, at 23 °C	1/body type	NA	NF EN 28233 No fracture	
Resistance to bending between supports $63 < d_n \leq 125$: load = 3.0 kN $125 < d_n \leq 315$: load = 6.0 kN	1	NA	NF EN 12100 No leakage $C \leq 70$ Nm $C \leq 150$ Nm	Verification of leaktightness at 25 mbar before applying the load then at the end of testing, before releasing the load
Resistance to thermal cycling 6 bar - 10 cycles -20 °C / +60 °C $63 < d_n \leq 125$ $125 < d_n \leq 225$	1 /body type if identical dimensions	NA	NF EN 12119 No leakage $C \leq 70$ Nm $C \leq 150$ Nm	

.../...

TABLE 8 – continued –: Family E1 (valves)

Admission tests	Number of samples		Procedure Requirements	Observations
	Type Tests (TT)	Verification tests		
Leaktightness under bending and thermal cycling $d_n \leq 63$ 10 cycles $-20\text{ °C}/+40\text{ °C}$ with test piece at 6 bar	1/body type but on the largest d_n that causes the max loads	NA	NF EN 1704 No leakage	According to NF EN 1555-4 50 cycles without pressure To facilitate the test, 2 samples may be used for bending in each axis
Leaktightness under tensile load at 23°C At constant load, $\sigma = 12\text{ MPa}$ /1 h and $F = \sigma s$ At constant speed, speed = 25 mm/min	1	NA	ISO 4437-4 No failure and no leakage $d_n \leq 63$: $C \leq 35\text{ Nm}$ $63 < d_n \leq 125$: $C \leq 70\text{ Nm}$ $125 < d_n$: $C \leq 150\text{ Nm}$ No leakage after TT leaktightness test	After the application of stress for 1 h, the test is continued at constant speed until the creep tube without breaking assembly (see note below this table)
Leaktightness under and after bending applied to actuation mechanism at 25 mbar and 1.5 x MOP (or 6 bar) - $M = 55\text{ Nm}$	1	NA	NF EN 1680 No leakage	
Impact resistance -20 °C - 2 m - 2.5 kg	1/body type	NA	NF EN 1705 No leakage $d_n \leq 63$: $C \leq 35\text{ Nm}$ $63 < d_n \leq 125$: $C \leq 70\text{ Nm}$ $125 < d_n$: $C \leq 150\text{ Nm}$	The impact takes place on the square key in the vertical axis
Multiple test - Resistance to a long-term internal pressure load 20 °C - 1,000 h - Leaktightness of seat and packing - Operating torque - Impact resistance	1/body type	NA	NF EN ISO 1167 PE 80: $\sigma = 8\text{ MPa}$ /PE100: $\sigma = 10\text{ MPa}$ NF EN 1555 Annex A (see above) NF EN 28233 (see above) NF EN 1705 (see above)	Pressure is calculated according to the formula: $P = 20\sigma / (\text{SDR}-1)$ where SDR is that of the valve No rupture of sample during all the test

Note: § B.4.3 of Annex B of the standard ISO4437-4 is replaced as follows to maintain the method of the obsolete standard ISO10933 (1997):

Maintain this force for the specified time, t , then perform elongation at the specified speed until the creep point of the sample and close the inlet pressure and check the tightness for 30 seconds.

Family E2 - Electrofusion saddles equipped with a tapping valve (RPC: connection valve for gas application)

These accessories shall meet the requirements:

- a branch saddle, family B2 (see Table 5)
- a valve, family E1 (see Table 8)

In the particular case where the RPC assembly is made by jointing of already certified accessories, without modification (branch saddles and/or valves), the tests may be reduced based on the initial results.

In all cases, the jointing shall be tested for the following tests.

TABLE 8 A: Family E2 (RPC)

Admission tests	Number of samples		Procedure Requirements	Observations
	Type Tests (TT)	Verification tests		
<p>Hydrostatic strength</p> <p>80 °C - 1,000 h</p>	3	1	<p>NF EN ISO 1167</p> <p>PE 80: $\sigma = 4$ MPa</p> <p>PE100: $\sigma = 5$ MPa</p>	<p>Pressure is calculated according to the formula:</p> $P = 20 \sigma / (SDR-1)$ <p>where SDR is that of the valve</p> <p>No rupture of sample during all the test</p> <p>The samples shall be prepared and drilled with the drilling device recommended by the manufacturer.</p>
<p>Tensile test at 23 °C</p> <p>At constant load, $\sigma = 6$ MPa /1 h</p> <p>At constant speed, speed = 25 mm/min</p>	1/dn of joint	NA	<p>ISO 13951</p> <p>No deterioration under the loads until creep of the pipe with the same MRS than the out of RPC</p> <p>PE 80: $\sigma > 18$ MPa</p> <p>PE100: $\sigma > 21$ MPa</p>	<p>If the out of valve and the saddle do not have the same dn, perform the test with a pipe welding at the end of valve and with the smallest dn</p>

Family E3 – Purge valves for gas application

Purge valves can be single or dual-purge. Decompression outlets shall allow rapid draining of the network; therefore the internal purge diameter shall be as big as possible. A reduction in the internal diameter of the purge, carried out for a reinforcement for example, cannot reduce this internal diameter more significantly than the passage diameter of the ball of the valve at the end of the purge.

The purge length, the end purge valves, as well as other specifications for the purge kit are defined by customers operating the networks. It should be noted that a length of one metre for dn32 and the use of accessories, fittings and valves, with the NF Mark are often recommended.

The distance between the purge and the valve control spindle is specified in the technical file, as are the trade references of any accessories used in the manufacture of the various configurations below. The assemblies necessary to obtain these configurations and the purge length shall be made at the plant, not on the installation site and shall meet the customer's requirements.

These purge valves shall meet the requirements of valves in the family E1 and those in Table 8b. The accessories shall have the NF Mark.

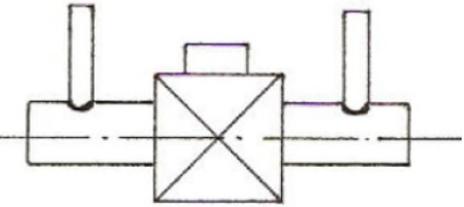
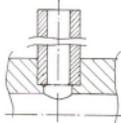
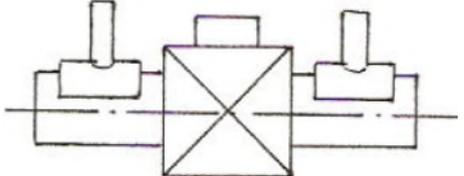
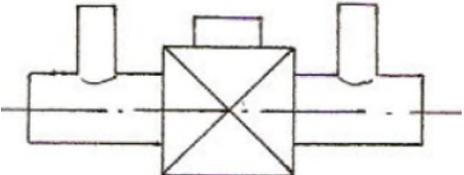
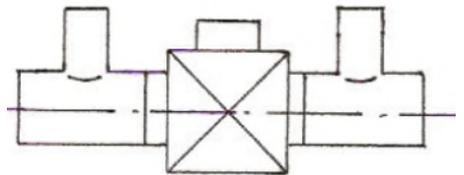
<p>A</p>		<p>Machining of spigot ends of a "standard" valve then welding PE pipe to the required length or a purge. The spigot ends for connection to the network shall comply with the NF136 Rules.</p> <p style="text-align: right;">Example </p>
<p>B</p>		<p>Welding on the spigot ends of a "standard" valve of an electrofusion branch saddle with or without counter-saddles not represented and drilling of couplers. The total purge length is by obtained butt fusion or by socket union of a PE pipe or with an electrofusion fitting with NF Mark.</p>
<p>C</p>		<p>Variant of a "standard" valve for which spigot ends are in T-shape. The smooth length for connection to the network shall comply with the NF136 Rules. The total purge length is obtained by butt fusion or by socket union of a PE pipe or with an electrofusion fitting with NF Mark.</p>
<p>D</p>		<p>Variant of a "standard" valve for which couplers are shorter and tees are butt-fused. The smooth length for connection to the network shall comply with the NF136 Rules. The total purge length is obtained by butt fusion or by socket union of a PE pipe or with an electrofusion fitting with NF Mark.</p>

TABLE 8b: Family E3 (purge valves)

Configuration	Impact	Tensile load on purge	Tensile load on valve spindle	Decohesion	Hydrostatic pressure (1)
A	Yes	Yes (2)	No	No	Yes (2)
B	Yes	No	No	Yes	Yes
C	Yes	No	No	No	Yes
D	Yes	No	Yes	No	Yes

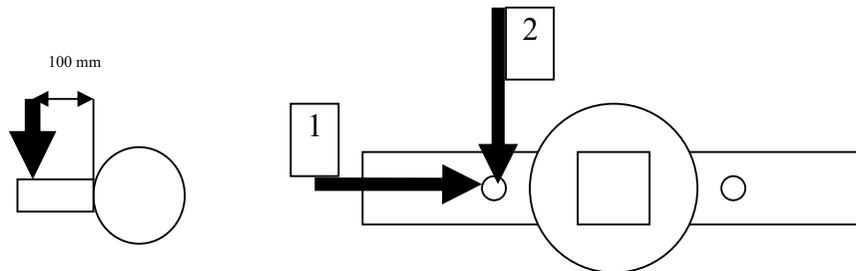
(1) Only hydrostatic pressure tests are subjected to verification tests according to Table 8.

(2) For technology A, the purge length can be reduced.

Special specifications for impact test

- According to EN 1716

- The impact points shall be in the 100 mm area from the outside of the coupler. If the purge is shorter and does not allow an impact in this area, it will be extended for the testing and the report shall indicate how the extension was made. The directions of successive impacts are those indicated in the diagrams below:



- The conditioning and testing temperatures and times are in accordance with EN 1716 (0 °C, 4 hours minimum in air, impact within 30 s, reconditioning between the 2 impacts) and the valve is immobilised.
- After 12 hours at 23 ° C the leaktightness test is performed at 25 mbar for 1 hour and at 6 bar for 1 hour.
- The type test is performed on 3 assemblies spigot ends/purge.
- No fracture or leakage during the leak test.

Special specifications for tensile test on the purge

- According to ISO 13951 for the fitting of the purge on the coupler with a load of 12 MPa for 1 h.
- Tensile in the axis of the purge with a free part, of the purge or of the pipe welded on the purge, between the coupler and the jaw clamp of the tensile test bench, at least 3 times the dn of the purge.
- In the event of necking of the pipe, the leaktightness test is performed at 50 mbar for 1 hour and at 6 bar for 1 hour
- The type test is performed on 3 samples (spigot end/purge jointing).
- No fracture of the joint, no uncoupling, no leakage during leaktightness tests.

Special specifications for the tensile test in the valve spindle

- Butt fusion from the plant process shall be aligned and consistent with standards ISO 11414 and 12176-1.
- - This test is performed according to standard ISO 13951 on 1 valve with a minimum load of 6 MPa during 1 hour, and after at constant speed until the creep of the pipe of the same MRS, without deterioration of the assembly.

Special specifications for hydrostatic pressure test

- 80 °C, 1,000 h, load depending on the PE according to ISO 1167 on 3 purge valves (same as Table 8).
- The hydrostatic pressure test is repeated on full purge valves whose valve part is already certified.

Decohesion test

- Same as B2 family according to NF136 Rules only for 3 samples (coupler/saddle) at 23 °C and nominal energy (Table 5).
- Electrofusion from the plant process is controlled in terms of positioning, application of the saddle, temperature and welding energy.
- The drill hole shall be clean (surface appearance, burrs, chips, etc.) and shall not damage the saddle.

TABLE 9 – Families A1, A2, B1, B2, C1, C2 – Guide to tests to be performed during a change on an accessory already certified by the mark or during an extension of the range (non exhaustive list)

Type of fittings	Change	Direction of change	Dimensions Appearance of fittings and jointing	Electrical resistance	MFR	OIT	Welding cycle safety factor	Hydrostatic strength	Decohesion	Tensile strength (C2)	Pressure drop (B1)	Leak flow rate for the cutter (B1)	Integrated excess flow valve (B1)	Bending-tensile cycle test	Impact	
Fittings with sockets electrofusion Families A1, A2	PE composition	< or >	O	O	O	O	O	O	O	NA	NA	NA	NA	NA	NA	
	nominal diameter	Same Gd	O	O			O	O	O	NA	NA	NA	NA	NA	NA	
		Different Gd	O	O	O	O	O	O	O	NA	NA	NA	NA	NA	NA	
	electrical part – welding zone	< or >	O	O			O	O	O	NA	NA	NA	NA	NA	NA	
	Connectors	< or >	O	O						NA	NA	NA	NA	NA	NA	
	Thickness	Increase	O	O							NA	NA	NA	NA	NA	NA
		Decrease	O	O			O	O			NA	NA	NA	NA	NA	NA
	Clearance	Increase	O	O			O	O	O	O	NA	NA	NA	NA	NA	NA
		Decrease	O	O			O			O	NA	NA	NA	NA	NA	NA
	Marking	< or >	O								NA	NA	NA	NA	NA	NA
Saddles electrofusion Families B1, B2	PE composition	< or >	O	O	O	O	O	O	O	NA			1	O	O	
	electrical part – welding zone	< or >	O	O			O	O	O	NA					O	
	Connectors	< or >	O	O						NA						
	Stack geometry	< or >	O					O		NA	O	O	2	O	O	
	Outlet geometry	< or >	O					O		NA	O		1	O		
	Saddle geometry	< or >	O	O			O	O	O	NA	O					
	Attachment mode/pipe	< or >	O				O	O	O	NA						
	Cutter material	< or >	O							NA						
	Cutting principle	< or >	O							NA	O	O				
	Leaktightness means for the cutter	< or >	O						O		NA	O				
PBD plug	< or >	O						O		NA						
Integrated excess flow valve	< or >	O								NA		O				
Marking	< or >	O								NA						
Fittings spigot Families C1, C2	PE composition	< or >	O	NA	O	O	NA	O	NA	O	NA	NA	NA	NA	NA	
	nominal diameter	Same Gd	O	NA			NA	O	NA	O	NA	NA	NA	NA	NA	
		Different Gd	O	NA	O	O	NA	O	NA	O	NA	NA	NA	NA	NA	
	Spigot length	Increase	O	NA			NA	O	NA		NA	NA	NA	NA	NA	
		Decrease	O	NA			NA	O	NA		NA	NA	NA	NA	NA	
	Spigot thickness	Increase	O	NA			NA		NA	O	NA	NA	NA	NA	NA	
		Decrease	O	NA			NA	O	NA	O	NA	NA	NA	NA	NA	
Marking	< or >	O	NA			NA		NA		NA	NA	NA	NA	NA		

< or >: Any direction of change NA: Accessory not relevant to this test O: The test must be performed Gd: dimension group

1: testing of primary, climatic characteristics and ageing 1,000 hours

2: testing of primary characteristics

TABLE 9 – Families D1, D2, D3 – Guide to tests to be performed during a change on an accessory already certified by the mark or during an extension of the range (non exhaustive list)

Family	Change	Direction of change	Dimensions Appearance of fittings and jointing	Resistance to gas constituents	MFR	OIT	Hydrostatic strength	Pressure drop	Leaktightness	tensile	Temperature cycling	Ammonia cracking resistance	Bending-tensile cycle test	Leaktightness under bending dn ≤63		
D1	Insert inside diameter	< or >	O	NA	NA	NA		O					O			
	Insert length	Decrease	O	NA	NA	NA	O		O	O				O		
	Insert geometry	< or >	O	NA	NA	NA	O		O	O			O	O		
	Seal material	< or >	O	NA	NA	NA	O		O		O			O		
	Seal shape	< or >	O	NA	NA	NA	O		O		O			O		
	fastening device	< or >	O	NA	NA	NA	O			O			O	O		
	Modification of body (material/process/thickness)	Decrease	O	NA	NA	NA						O				
Marking	< or >	O	NA	NA	NA											
D2	Insert inside diameter	< or >	O					O				NA	NA	O		
	Seal material	< or >	O				O		O		O	NA	NA			
	Seal shape	< or >	O				O		O		O	NA	NA	O		
	fastening device	< or >	O				O		O		O	NA	NA	O		
	Body composition ≠ PE	< or >	O	O			O		O	O	O	NA	NA	O		
	PE composition to molding	< or >	O			O	O		O	O	O	NA	NA			
	Dimension, thickness of body	Decrease	O			O	O		O	O	O	NA	NA	O		
Marking	< or >	O									NA	NA				
D3	PE composition PE (injection)	< or >	O	NA		O	O		O	O	O	O	NA			
	NF PE pipe jointed by press	same MRS and SDR	same resin	< or >	O	NA								NA		
			different manufacturer	< or >	O	NA				O	O	O		NA		
		different resin same manufacturer	MRS different	< or >	O	NA			O		O	O	O		NA	O
			SDR different	< or >	O	NA			O	O	O	O	O		NA	O
	NF PE pipe jointed by electrufusion resin or/and manufacturer are different	< or >	O	NA									NA			
	PE pipe without NF	< or >	O	NA	O	O	O		O	O	O		NA			
	Modification assembling same passage area	< or >	O	NA	O	O	O		O	O	O		NA	O		
	Modification assembling Different passage area	Decrease	O	NA	O	O	O		O	O	O		NA	O		
	Different copper alloy	< or >	O	NA								O	NA			
Material of stell	< or >	O	NA									NA				
Marking	< or >	O	NA									NA				

< or >: Any direction of change NA: Accessory not relevant to this test O: The test must be performed

TABLE 9 – Families E1, E2, E3 – Guide to tests to be performed during a change on an accessory already certified by the mark or during an extension of the range (non exhaustive list)

Change		Direction of change	Dimensions and Appearance	MFR	OIT	Hydrostatic strength	Impact	Pressure drop	Angular range	Leaktightness of seat and packing	Operating torque	Stop resistance	Actuation mechanism	Bending between supports	Thermal cycling	Bending with thermal cycling	Tensile	Bending on actuation	Operating extensions and telescopic extension
Material	Body	< or >	O	O	O	O						O		O	O	O	O	O	
	Spigot ends (with or without purge)	< or >	O	O	O	O								O	O	O	O	O	
	Stopper	< or >	O			O				O	O		O						
	Branch saddle (family E2)	< or >	O			O											O		
	Purge (PE pipe)	< or >	O			O	O												
	Seals	< or >	O			O	O			O	O				O	O	O	O	
	Actuation spindle	< or >	O			O	O			O	O		O					O	
	Square operating key	< or >	O				O					O	O						
Extension	< or >	O																	O
Dimensional	Body	< or >	O			O													
	Spigot ends	< or >	O			O													
	Stopper	< or >	O																
	Passage area	Increase	O						O	O	O			O	O	O	O		
	Seals	< or >	O			O													
	Actuation spindle	< or >	O																
	Square operating key	< or >	O																
Extension marking	< or >	O																	O

< or >: Any direction of change O: The test must be performed |: The test is performed for major changes that affect the characteristics of the valve

3.3.2 - Audit

When examining an admission application for the right to use the NF Mark, CERTIGAZ shall conduct at least a one-day audit on the site. The duration of the audit shall be defined by CERTIGAZ taking into account the complexity of the products and of the range submitted. For the approval of excess flow valves, the audit may be reduced to one half-day for a specific manufacturing site. An additional fee of 0.5 day is add for the audit plan planification, preparation and redaction, the report redaction and the monitoring of the eventual non-conformities.

The audit shall be carried out taking into account the requirements of paragraph 2.4.3.

In the case of an extension application, CERTIGAZ may decide to conduct, if it deems it necessary, an audit to verify that the new measures implemented by the manufacturer meet the requirements of these guidelines. In this case, the audit may only cover elements specific to the manufacture of the product that is covered by the application.

In the case of a transfer of production between two sites audited already as part of the NF136 application, CERTIGAZ may decide to conduct, if it deems it necessary, an audit to verify that the measures implemented by the manufacturer meet the requirements of these guidelines for transferred accessories. In this case, the audit may only cover elements specific to the manufacture of the product that is covered by the application.

The purpose of this audit is to ensure that the measures defined and implemented by the applicant in the design and/or manufacturing and/or marketing process audited, meet the requirements of Part 2 of these Certification Guidelines.

This audit shall be conducted by adopting the general principles defined in the NF EN ISO 19011 for carrying out a quality audit. The audit scope and details of its conduct shall be set out in an audit plan sent in advance to the company.

In the case of an application wherein an annexe workshop is involved in a significant part of the process, a joint or separate audit shall be organised. In this last case, it is considered as a multisite audit and the redactional fee is of 0.75 day.

In the case of an appliance for maintenance, an audit is carried out at the distributor who ensures the control of the packaging and their marking as well as the instructions. The duration of the on-site audit, 0.5 or 1 day, is defined by CERTIGAZ taking into account the complexity of the products and the range presented for maintenance.

If the entity subcontracts a part of its business, CERTIGAZ reserves the right to audit the premises of the subcontractor(s) based on the same guidelines.

The auditor shall be provided with all the resources necessary (premises, facilities, equipment) to perform the assignment, including competent people to carry it out.

With the applicant's agreement, the inspectors/auditors may make a copy of any document they consider necessary.

By special dispensation, the SQUAL100 procedure applies if the audit cannot be physically carried out due to sanitarian issues. However, this disposition is not applicable for critical products who are subjected to 100% tests.

In the case of deviations observed during the audit, the applicant must send back to the auditor the deviation forms completed with the set up of the corrective actions and their period of application.

To monitor its auditors or as part of its certification, CERTIGAZ may appoint an observer during an audit. The auditee shall be informed beforehand for agreement to avoid any conflict of interest and the costs for the observer shall be borne by CERTIGAZ.

At the end of the audit, a closing report signed by those present in the closing meeting shall show the number of non-conformities. An audit report shall then be prepared and sent to the applicant with the different observations:

- Major non-conformity
- Minor non-conformity
- Sensitive point
- Improvement point
- Strong point

In the case of non-conformities found during the audit, the applicant shall return to the auditor the non-conformity sheets completed with the corrective actions implemented and their implementation deadline.

The auditor analyses the corrective actions and their implementation time, then decides on their relevance.

A major non-conformity must be raised, the verification of the effective implementation of the corrective actions must be carried out by the auditor. A major non-conformity that has not been lifted blocks the certification process.

A minor non-conformity must be raised based on the action plan proposed by the applicant:

- Minor non-compliance can be lifted depending on the action plan and the elements provided
- Minor non-compliance can be lifted during the next audit when it is necessary to verify the effective implementation and the effectiveness of corrective actions

An unresolved minor non-conformity does not block the certification process.

When a non-conformity (major or minor) cannot be lifted on the basis of a plan of action and the provided elements, it may be necessary to carry out an additional audit. This audit goal is to check on site the efficiency of the set of corrective actions. The RSC lets the customer know about this need by explaining the reasons of this decision and indicates the duration (0.5 or 1 day) of this audit. This contingency is indicated by the auditor during the closure meeting and the non-conformities presentation.

The sensitive points must be checked during the next audit.

3.3.3 Auditors/Inspectors

Audits and inspections are carried out by qualified auditors and inspectors, authorized and mandated by CERTIGAZ.

3.4 Evaluation and decision

CERTIGAZ shall evaluate:

- The audit report and the auditor's transmission sheet shall analyse the relevance of the applicant's responses, for the corrective actions and their implementation time;
- The manufacturer's application and related documents;
- The technical files;
- The test reports.

If the results are disputed, CERTIGAZ may commission an additional inspection to verify the implementation of corrective actions (audit and/or complete or partial test(s)).

If CERTIGAZ has difficulty in arriving at a decision, the Special Committee of the NF APE mark may be asked to give an opinion.

Depending on the results of all the inspections, CERTIGAZ shall take one of the following decisions:

- ▶ Grant the certification
- ▶ Refuse the certification

In case of a positive certification decision, AFNOR Certification shall grant, through CERTIGAZ, the right to use the NF Mark, and CERTIGAZ shall send the applicant, who becomes the holder, the NF certificate and the letter notifying the decision.

For the approval of an excess flow valve, an approval is issued certificate and there is no right to use the NF Mark for this component which is not NF-marked.

The certificate shall have a 3 years validity period, reduced at the end of the previous month, starting in 2022. This certificate may be reproduced only in its entirety.

When they are event of serious infringements of safety obligations, CERTIGAZ may, as a conservatory measure, apply the requisite decision to refuse the certification with immediate effect.

Awarding the right to use shall under no circumstances substitute the legal responsibility of the company holding the right to use the NF Mark by the responsibility of CERTIGAZ.

The procedures for communicating about certification are defined in Part 2.5 of these Certification Rules.

If the certification is refused, the applicant may challenge the decision taken by submitting a request in accordance with the General Rules of the NF Mark.

3.5 Codification

When a PE accessory group is admitted, the coding of the certificate is APE 000-00. 000 is the root code of the certificate. This root code is incremented for each type of request according to the criteria: manufacturer, production site, family, design, resin, SDR.

If extensions, partial withdrawals or modifications are requested during this 3-year period, at each revision, the coding changes as follows APE 000-00 rev1, then rev2, rev3, etc. The root code does not evolve.

Before the end of the 3 years, CERTIGAZ ensures that nothing is blocking during the monitoring during the 3-year cycle and renews the certificate with APE code 000-R1, regardless of the number of revisions during these 3 years.

If it is the 2nd 3-years cycle, the coding is APE 000-R2 and so on in 3-year cycles.

If there are revisions during each 3-year cycle, the coding is APE 000-R1 rev1, then rev2, rev3, rev4 as in the first 3-year cycle.

Renewals must always be pronounced before the end of validity, otherwise the certification will be canceled. The renewed certificate therefore has a validity period slightly longer than 3 years (maxi 2 month) to respect the original anniversary date.

For approvals, the principle is similar but simplified. Upon admission the code is APE H000-00. The root code is H000 and it is only assigned to a stop gas. For any change (modification or renewal after 3 years), the index evolves successively 01, 02, 03, etc.

In order to improve the management of renewals, from 2022, when admitting or renewing a certificate or approval, the validity date will be harmonized at the end of the month preceding the expiry of the 3 years. This provision will be fully implemented by the end of 2024.

3.6 Confidentiality

All parties involved in the management of the brand, including the staff of subcontractors and the members of the Committee, guarantee the confidentiality of the information to which they have access and the protection of the documents entrusted to them.

Any information collected as part of certification activities is only disclosed to third parties with the written consent of the applicant or holder.

Part 4

MAINTAINING THE CERTIFICATION: the monitoring procedures

During the entire certification, the holder (manufacturer or distributor) shall:

- ⇒ comply with the requirements defined and the conditions of marking described in part 2
- ⇒ keep its certification file up to date as specified in Part 7
- ⇒ systematically inform CERTIGAZ of changes of any characteristics of the certified product, and/or of its organisation likely to have any consequence on the certification.

Moreover, CERTIGAZ reserves the right to proceed with any inspections (audits, tests, verifications, etc.) that it deems to be necessary further to:

- ⇒ A change to the certified product or the quality organisation of the production entities (production plant, production workshops, subcontractors' plants, etc.);
- ⇒ Complaints, claims, litigation, etc. regarding the use of the NF Mark or the approval that came to its notice.

The certified products are monitored every year by CERTIGAZ after the right to use the NF Mark or the approval has been granted.

Generally, during any visit and in all places, regardless of the main purpose of his assignment, the NF inspector/auditor shall gather information about the use made of the NF Mark and about all issues relating to the application of the General Rules of the NF Mark and these Certification Rules.

4.1 Monitoring procedures

The monitoring of NF certified products shall include tests on products and audits of the manufacturing site(s).

It also covers the monitoring of the use of the mark and logo on products, packaging and any communication materials of the holder (manufacturer or distributor).

The monitoring procedures are defined below but may be based on:

- ⇒ decisions made with reference to the previous controls.
- ⇒ any complaints

4.1.1 - Tests on the NF certified product

Compliance tests on the certified product shall be conducted in accordance with the specifications defined in Tables 10 to 16. The specifications of admission tests set out in § 3.3.1 are applicable unless otherwise indicated.

The storage period of the samples after the tests shall be under the manufacturer's responsibility. In case of doubt, during the analysis of reports, if samples are no longer available, CERTIGAZ may ask for the necessary tests to be repeated.

These tests are not the responsibility of the distributors but following the AT, if a non-conformity implies a suspension, the latter automatically impacts the products certified by maintenance. A root cause analysis could narrow the scope of suspension if the non-compliance is limited to well-defined lots.

Monitoring tests are of 3 types:

BRT (Batch release test):

Test carried out on a batch of accessories, as defined in Part 8 and § 3.3.1, which shall be completed satisfactorily before the batch can be released. These tests are performed by the manufacturer.

When tests are required on a weekly basis, it shall be a 7 days rolling period.

PVT (Process verification test):

Test on accessories at specific intervals, to confirm that the manufacturing process remains capable of manufacturing the accessories compliant with the applicable requirements.

PVT tests shall be annual. They shall be performed by the manufacturer and the complete or summary results shall be communicated to CERTIGAZ before year n+1 end of February for year n PVT.

When summary results are sent, the report shall be accompanied by a test sample and shall specify the general requirements and minimum records for each test according to the respective standards and NF136 Rules. In all cases, a synthesis list shall indicate the certified accessories and those who have undergone tests to ensure a rotation of the references tested in the entire range.

This synthesis also indicates whether one or more references have not been made for the year.

Example of the summary file columns to identify the sampling criteria and each type of test.

Ref.	dn	Designation (shape)	APE certificate (resin/SDR)	family	Gd (1)	Type of body (valve)	Type of stack/cutter (pdb)	Test 1	Test 2	Test 3	Etc.	Made ? Yes/No

(1) according to definition Gd, see §1.1.2.1

For families A, B, C, **D and E**, depending on the certified range and sampling criteria according to Tables 10 to 12, PVT apply on Accessories groups (from 1 to many tens of references).

The control plan implemented by the holder must ensure that all accessories must be tested over a period of 5 years. However, for groups of 1 or **3** references, it is possible to have only 2 PVT for the same reference but judiciously/**regularly** distributed over the period of 5 years. **The monitoring frequency is thus substantially the same per reference.**

Whatever the product, the provisions of XP CEN / TS 1555-7 apply when non-compliance is detected:
 1- If the product does not meet the requirements for any of the characteristics listed in Tables 10 to 16, as applicable, the procedure against-test described in the manufacturer's quality plan must be implemented and CERTIGAZ must be immediately informed.

2- If the procedure against-test does not confirm the compliance of the product with the requirements, the manufacturing process must be reviewed and adjusted according to the procedures described in the manufacturer's quality plan, and to verify the characteristics given in Tables 10 to 16, as appropriate. CERTIGAZ is informed of the treatment of non-compliance, until the validation of corrective action.

AT (Audit test):

“Third party” test conducted in order to confirm that the accessories remain compliant with the applicable requirements. Samples are collected during audits or on a sales platform by CERTIGAZ. The AT test plan shall be prepared every 2 years, but this plan may be broken down to carry out annual sampling.

Samples are generally taken during audits. A picking report is drawn up and the manufacturer must send the samples to the laboratory **with a copy of the sampling report**, within a maximum of **30 days** and shall inform CERTIGAZ.

Upon receipt of the samples, the laboratory checks the adequacy of the accessories received with the sampling report and informs CERTIGAZ.

To comply with the sampling for the tests in Tables 10 to 16, the minimum quantities of sample for a reference are as follows depending on the families and the dimension groups (see definitions § 1.1.2.1):

family	Gd1	Gd2	Gd3	comment
A1	7	6	5	
A2	7 or 9	6	5	9 if brass component for cracking under load
B1	9	8	7	
B1 (PBDI-MBDI)	3			PBDI DDDx20 or 32 with DDD from 40 to 125
B2	8 or 10	7	6	10 if brass component for cracking under load
C1, C2	4	4	4	
D1, D2	8 or 10	6	6	10 if brass component for cracking under load
D3	4 or 6	4	4	6 if brass component for cracking under load
E1, E2, E3	9	9	9	

AT for PBDI and MBDI shall be annual and are defined in Table 11a. As the tested references, in particular the dn of the saddle, are defined by CERTIGAZ, the samples shall be taken by the holder, who shall send them to the Mark laboratory and inform CERTIGAZ thereof.

AT defined for several accessories (by dimension group or valve body, for example) shall be performed successively with different references in each period to ensure a comprehensive examination of the range within the shortest period possible.

The NF136 mark laboratory designated on the sampling sheet carries out the tests and draws up a test report which is distributed to the holder / manufacturer and to CERTIGAZ. This report specifies at least the following information :

- The traceability of the samples and the date of their reception
- The test plan
- The specifications required in the test standards or the NF136 rules
- A summary of the test results
- The report of the sampling is attached to the tests report

In the event of a problem during a test, the laboratory informs the holder / manufacturer and CERTIGAZ, before the end of the other tests and the writing of the report. Additional tests may be requested by CERTIGAZ.

For these different monitoring tests (BRT, PVT and AT), the accuracy of the electrical resistance measurement is that indicated in § 3.3.1 except for the BRT whose values are derived from the monitoring in production. For these measurements in production, the accuracy is less but must be adapted to the tolerance range of the monitored resistance.

TABLE 10: Families A1 and A2 (electrofusion socket fittings)

Monitoring tests	BRT: By batch	PVT: annual	AT: bi-annual by production site, resin and SDR	Procedure Requirements	Observations
Marking, appearance, color, dimensions Electrical resistance	1/cavity at the start of production of the batch and see § 2.4.4.8	1/shape/Gd/cavity/resin It is possible to use the BRT measurements	Gas Gd1 & Gd2 : 4/Gd Other : 3/Gd	NF EN ISO 3126 - technical file Machined spigot ends → Ra < 12.5	Samples usable for the other tests Check the consistency of bar codes (welding/traceability) with data in the technical file during one of the following tests; Warning for BRT if the labels are glued after the picking
MFR 190 °C – 5 kg	NA	1/shape/Gd/resin	NA	NF EN ISO 1133-1	± 20% of the value of the batch used
OIT 200 °C 210 °C if correlated with results at 200 °C	NA	1/shape/Gd/resin	NA	NF EN ISO 11357-6	OIT > 20 min
Safety time of the fusion cycle Welding at –10 °C, +23 °C & +45 °C	NA	1/shape/Gd/resin for each temperature	1/Gd for –10 °C & +45 °C	NF T54-969 § 3.6 & 4	Only for gas application Gd1 & Gd2
Hydrostatic strength 80 °C – 165 h 80 °C – 1,000 h PE100 pipe & minimum SDR	1/batch/cavity /week NA	NA Gd1: 3/shape/resin Gd2: 2/shape/resin Gd3: 1/shape/resin with at least 1 sample/cavity	NA Gd1: 3 Gd2: 2 Gd3: 1	NF EN ISO 1167 PE 80: $\sigma = 4.5$ MPa PE100: $\sigma = 5.4$ MPa PE 80: $\sigma = 4$ MPa PE100: $\sigma = 5$ MPa	Pressure is calculated according to the formula: $P = 20 \sigma / (SDR-1)$ where SDR is that of the fitting The samples can be mounted in series or in parallel No rupture of sample during all the test
Decohesion strength 23 °C usual clearance & nominal energy (condition 1 of Annex C of ISO 11413) -10 °C maximum clearance, nominal energy, PE100 pipe & minimum SDR (1) (condition 2.1 of Annex C of ISO 11413) 45 °C usual clearance, nominal energy, PE100 pipe & minimum SDR (1) (condition 3.1 of Annex C of ISO 11413)	NA NA NA	1/shape/Gd/cavity/resin 1/shape/Gd/cavity/resin 1/shape/Gd/cavity/resin	NA 1/Gd 1/Gd	Before rev20 : ISO 13955 ($d_n \leq 225$ mm) or ISO 13954 ($d_n > 225$ mm) After rev20 : ISO 13955 ($d_n \leq 225$ mm) or ISO 13954 ($d_n \geq 90$ mm) Rupture initiation length $\leq L_2/3$ with brittle fracture	

(1) Recommended choice of SDR; in the absence of PE100, use PE80 pipes

TABLE 10 – continued –: Family A2 (electrofusion socket fittings)

Monitoring tests	BRT: By batch	PVT: annual	AT: bi-annual by production site, resin and SDR	Procedure Requirements	Observations
<p>Leaktightness after ammonia crack resistance</p> <p>Leaktightness after the test</p>	<p>NA</p>	<p>NA</p>	<p>2/family/Gd</p>	<p>NF E 29-196</p> <p>No leak, no failure</p> <p>pH appliances and master solutions are recorded in the report</p>	<p>Test performed on fittings containing external brass parts of family A2 for $d_n \leq 63$ mm</p> <p>Preparation of samples half at -5 °C and +40 °C</p> <p>The test is performed under pressure with recording, which makes it possible to know the moment of a possible failure</p>

TABLE 11: Family B1 (tapping tees) and family B2 (branch saddles)

Monitoring tests	BRT: By batch	PVT: annual	AT: bi-annual by production site, resin and SDR	Procedure Requirements	Observations
Marking, appearance, color, dimensions Electrical resistance	1/ cavity at the start of production of the batch and see § 2.4.4.8	1/family /saddle Gd/cavity/resin It is possible to use the BRT measurements	Gas Gd1 & Gd2 : 4/family /saddle Gd Other : 3/Gd	NF EN ISO 3126 - technical file Machined spigot ends → Ra < 12.5	Samples usable for the other tests Check the consistency of bar codes (welding/traceability) with data in the technical file during one of the following tests; Warning for BRT if the labels are glued after the picking
MFR 190 °C – 5 kg	NA	1/family/saddle Gd/resin	NA	NF EN ISO 1133-1	± 20% of the value of the batch used
OIT 200 °C 210 °C if correlated with results at 200 °C	NA	1/family/saddle Gd/resin	NA	NF EN ISO 11357-6	OIT > 20 min
Safety time of the fusion cycle Welding at –10 °C, +23 °C & +45 °C	NA	1/family/saddle Gd/resin for each temperature	1/family/saddle Gd for –10 °C & +45 °C	NF T54-969 § 3.6 & 4 MOP max =20 MRS/(c(SDR-1))	The pipe is at the permissible MOP for the type depending on the MRS and SDR with c=2 (1) The report shall set out these details Only for gas application Gd1 & Gd2
Hydrostatic strength 80 °C – 165 h 80 °C – 1,000 h PE100 pipe & minimum SDR	1/batch/cavity /week NA	NA Gd1: 3/family/resin Gd2: 2/family/resin Gd3: 1/family/resin with at least 1 sample/cavity	NA Gd1: 3/family Gd2: 2/family Gd3: 1/family	NF EN ISO 1167 PE 80: $\sigma = 4.5$ MPa PE100: $\sigma = 5.4$ MPa PE 80: $\sigma = 4$ MPa PE100: $\sigma = 5$ MPa	Pressure is calculated according to the formula: $P = 20 \sigma / (SDR-1)$ where SDR is that of the fitting The samples can be mounted in series or in parallel No rupture of sample during all the test
Impact resistance 0 °C - 2 m - 2.5 kg	NA	1/family/saddle Gd/cavity/resin By mixing the stack or branch every year	1/saddle Gd By mixing the stack or branch upon each AT	NF EN 1716 No fracture or leakage at 25 mbar and permissible MOP for 1 hour	For family B2, the impacts are made 15 mm from the end of the branches
Leak flow rate for the cutter under MOP Only for family B1 of gas application	NA	1/saddle Gd/resin By mixing the cutter every year	1/saddle Gd By mixing the cutter every 2 years	NF T54-970 Leakage ≤ 200 l/h MOP max =20 MRS/(c(SDR-1))	The pipe is at the permissible MOP for the type depending on the MRS and SDR with c=2; The report shall set out these details
Integrated excess flow valve Only for family B1 of gas application	NA	NA	3/ dn branch for dn 63 saddle	See Table 11a below SAPE102 specifications	Once a year

(1) If the test is performed at a lower MOP, declared by the manufacturer, the marking shall specify this. See § 2.5.3.1

TABLE 11 – continued –: Family B1 (tapping tees) and family B2 (branch saddles)

Monitoring tests	BRT: By batch	PVT: annual	AT: bi-annual by production site, resin and SDR	Procedure Requirements	Observations
Decohesion strength 23 °C nominal energy (condition 1 of Annex C of ISO 11413)	(a)	1/family/saddle Gd/cavity/resin	NA	Gd1 & Gd2 : ISO 13956 Ld ≤ 50 % and Ad ≤ 25 %	If several heating elements, tests on all the elements Photos are included in the report The method used according to the ISO13956 standard is recorded in the report. In case of doubt or dispute, method A1 is used for any saddle dn
-10 °C nominal energy, PE100 pipe & minimum SDR (b) (condition 2.1 of Annex C of ISO 11413)	NA	1/family/saddle Gd/cavity/resin	1/family/saddle Gd	If the pipe is pulled out, the test according to ISO 21751 is required, but this does not call into question the conclusions according to ISO 13956	
45 °C nominal energy, PE100 pipe & minimum SDR (b) (condition 3.1 of Annex C of ISO 11413)	NA	1/family/saddle Gd/cavity/resin	1/family/saddle Gd	Gd3 : ISO21751 Ld ≤ 33 %	

(a) Sampling plan per cavity in the same mould

(b) Recommended choice of SDR; in the absence of PE100, use PE80 pipes.

Batch size	at start of production	regularly during production	at end of production
1 to 1500	1	-	1
1501 to 5000	1	1	1
5001 to 10000	1	2	1
10001 to 17500	2	2	1
17501 to 30000	2	2	2

TABLE 11a: Families B1 (PBDI and MBDI - Tapping tees and Couplers with Integrated excess flow valve)

PBDI and MBDI are subjected every year to AT according to the SAPE102 specifications for the main dn and branch/flow rate D25 and D100.

Monitoring tests	No. of samples	Procedure - Requirements	Observations
- Primary characteristics (trip and reset tests, pressure drop, non-tripping at abrupt opening, response time at closing and leaktightness at closing) before and after accelerated ageing (endurance for 1,000 cycles and climatic cycles))	3	SAPE102 specifications	Including 1 reserve sample The saddle dn is determined by CERTIGAZ The test bench admits the dn 40, 63, 90, 110 and 125

TABLE 12: Family C1 (Spigot fittings – Jointing with electrofusion fitting) and Family C2 (Spigot fittings- Jointing by butt fusion)

Monitoring tests	<i>BRT: By batch</i>	<i>PVT: annual</i>	<i>AT: bi-annual by production site, resin and SDR</i>	Procedure Requirements	Observations
Marking, appearance, color, dimensions	1/ cavity at the start of production of the batch and see § 2.4.4.8	1/family/shape/Gd/cavity/resin It is possible to use the BRT measurements	Gas Gd1 & Gd2 : 4/Gd Other : 3/Gd	NF EN ISO 3126 - technical file Machined spigot ends → Ra < 12.5	Samples usable for the other tests Check the consistency of bar codes (welding/traceability) with data in the technical file during one of the following tests; Warning for BRT if the labels are glued after the picking
MFR 190 °C – 5 kg	NA	1/family/shape/Gd/resin	NA	NF EN ISO 1133-1	± 20% of the value of the batch used
OIT 200 °C (210 °C if correlated with results at 200 °C)	NA	1/family/shape/Gd/resin	NA	NF EN ISO 11357-6	OIT > 20 min
Hydrostatic strength 80 °C – 165 h 80 °C – 1,000 h	1/batch/cavity /week NA	NA Gd1: 3/family/shape/resin Gd2: 2/family/shape/resin Gd3: 1/family/shape/resin with at least 1 sample/cavity	NA Gd1: 3/family Gd2: 2/family Gd3: 1/family	NF EN ISO1167 PE 80: $\sigma = 4.5$ MPa PE100: $\sigma = 5.4$ MPa PE 80: $\sigma = 4$ MPa PE100: $\sigma = 5$ MPa	Pressure is calculated according to the formula: $P = 20 \sigma / (SDR-1)$ where SDR is that of the fitting The samples can be mounted in series or in parallel with or without pipe between fittings For family C2, butt fusion is relevant for only $dn \geq 90$ for fittings with the same MRS and SDR as well as normal welding conditions No rupture of sample during all the test
Tensile strength at 23 °C Family C2, $dn \geq 90$	NA	1/shape/Gd/cavity/resin	1/Gd	ISO 13953 Ductile fracture	For family C2, butt fusion is relevant for only $dn \geq 90$ for fittings with the same MRS and SDR as well as normal welding conditions

TABLE 13a: Family D1 (metal mechanical fittings for polyethylene networks)

During implementations, the pipe normally held by hand shall not rotate when tightening the compression fittings and this information is recorded in the report.

Monitoring tests	<i>BRT: By batch</i>	<i>PVT: annual</i>	<i>AT: bi-annual by production site, resin and SDR</i>	Procedure Requirements	Observations
Marking, appearance, dimensions	1/ cavity at the start of production of the batch and see § 2.4.4.8	1/family/dn/resin/technique	4/family/Gd	NF EN ISO 3126 – ISO 17885 technical file	Samples usable for the other tests
Leaktightness at 23 °C - 25 mbar/1 h then at 1.5xMOP (6 bar min)/1 h	NA	2/family/dn/resin/technique	2/family/Gd	ISO17885 §9.3.3.1 ISO 3458	Preparation of samples half at -5 °C and +40 °C No leakage
Resistance to temperature variations 10 cycles at 6 bar Leaktightness before and after the test	NA	2/family/Gd/resin/technique	2/family/Gd	ISO 17885 §9.3.3.6 – ISO3458 -20 ±2 °C/+60 ±2 °C, step of 3 h No leakage after TT leaktightness test	Preparation of samples half at -5 °C and +40 °C
Leaktightness after a tensile test at 23°C At constant load, constraint σ for 1 h At constant speed, speed = 25 mm/min	NA	2/family/Gd/resin/technique	2/family/Gd	ISO 17885 §9.3.3.3 + ISO 13951 F = 2s σ under pressure of 50 mbar PE80: σ =5.7MPa PE100: σ =6.6MPa s : the pipe wall section with nominal diameter and average thickness - No permanent deformation or fail of the joint - No uncoupling - No leakage after TT leaktightness test	Preparation of samples half at -5 °C and +40 °C dn≤63 mm et dn >63 mm

.../...

TABLE 13a – continued –: Family D1 (metal mechanical fittings for polyethylene networks)

Monitoring tests	<i>BRT: By batch</i>	<i>PVT: annual</i>	<i>AT: bi-annual by production site, resin and SDR</i>	Procedure Requirements	Observations
<p>Hydrostatic strength</p> <p>80 °C – 165 h</p> <p>80 °C - 1,000 h</p>	<p>NA</p> <p>NA</p>	<p>NA</p> <p>2/family/Gd/resin/technique</p>	<p>NA</p> <p>2/family/Gd</p>	<p>ISO 17885 §9.3.3.2 ISO 3458 ISO1167-1/ -4</p> <p>PE 80: $\sigma = 4.5$ MPa PE100: $\sigma = 5.4$ MPa</p> <p>PE 80: $\sigma = 4$ MPa PE100: $\sigma = 5$ MPa</p>	<p>Pressure is calculated according to the formula: $P = 20 \sigma / (SDR-1)$ where SDR is that of the fitting The samples can be mounted in series or in parallel No rupture of sample during all the test</p> <p>Preparation of samples half at -5 °C and +40 °C</p>
<p>Leaktightness after ammonia cracking resistance</p> <p>Leaktightness after the test</p>	<p>NA</p>	<p>NA</p>	<p>2/family/Gd</p>	<p>NF E 29-196</p> <p>No leak, no failure</p> <p>pH appliances and master solutions are recorded in the report</p>	<p>Test performed on fittings containing external brass parts for $d_n \leq 63$ mm</p> <p>Preparation of samples half at -5 °C and +40 °C</p> <p>The test is performed under pressure with recording, which makes it possible to know the moment of a possible failure</p>
<p>Leaktightness after a tensile test under constant load at</p> <p>80 °C - 500 h for $d_n \leq 63$ mm</p> <p>Leaktightness after the test</p>	<p>NA</p>	<p>NA</p>	<p>2/family/Gd</p>	<p>ISO 17885 §9.3.3.5 + ISO 19899</p> <p>No leakage after TT leaktightness test</p>	<p>Preparation of samples half at -5 °C and +40 °C</p> <p>Test performed on $d_n \leq 63$ mm</p>
<p>Compliance of the normalized mechanical fitting (spinning nut mechanical resistance)</p>	<p>In compliance with respective norm 1 per batch</p>	<p>NA</p>	<p>Annual</p> <p>4 for 1 normalized DN among JPG/JPC/JSC</p>	<p>NF E 29-532 §7 & NFE29-536 §6 (BRT)</p> <p>NF E 29-532 §7&8 & NF E 29-536 §6&7 (AT)</p>	<p>GAS application only</p>

TABLE 13b: Family D2 (plastic mechanical fittings for polyethylene networks)

During implementations, the pipe normally held by hand shall not rotate when tightening the compression fittings and this information is recorded in the report.

Monitoring tests	<i>BRT: By batch</i>	<i>PVT: annual</i>	<i>AT: bi-annual by production site, resin and SDR</i>	Procedure Requirements	Observations
Marking, appearance, color, dimensions	1/ cavity at the start of production of the batch and see § 2.4.4.8	1/family/dn/resin/technique	4/family/Gd	NF EN ISO 3126 – ISO 17885 technical file	Samples usable for the other tests
MFR 190 °C – 5 kg	NA	1/family/Gd/resin/technique	NA	<i>NF EN ISO 1133-1</i> ± 20% of the value of the batch used	
OIT 200 °C (210 °C if correlated with results at 200 °C)	NA	1/family/Gd/resin/technique	NA	<i>NF EN ISO 11357-6</i> OIT > 20 min	
Leaktightness at 23 °C - 25 mbar/1 h then at 1.5xMOP (6 bar min)/1 h	1/ cavity at the start of production of the batch and see § 2.4.4.8 Under 1,5xMOP	2/family/dn/resin/technique	2/family/Gd	<i>ISO17885 §9.3.3.1</i> <i>ISO 3458</i>	Preparation of samples half at -5 °C and +40 °C No leakage
Resistance to temperature variations 10 cycles at 6 bar Leaktightness before and after the test	NA	2/family/Gd/resin/technique	2/family/Gd	<i>ISO 17885 §9.3.3.6 – ISO3458</i> -20 ±2 °C/+60 ±2 °C, step of 3 h No leakage after TT leaktightness test	Preparation of samples half at -5 °C and +40 °C
Leaktightness after a tensile test at 23°C At constant load, constraint σ for 1 h At constant speed, speed = 25 mm/min	NA	2/family/Gd/resin/technique	2/family/Gd	ISO 17885 §9.3.3.3 + ISO 13951 F = 2s σ under pressure of 50 mbar PE80: σ =5.7MPa PE100: σ =6.6MPa s : the pipe wall section with nominal diameter and average thickness - No permanent deformation or fail of the joint - No uncoupling - No leakage after TT leaktightness test	Preparation of samples half at -5 °C and +40 °C dn≤63 mm et dn >63 mm

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TABLE 13b – continued –: Family D2 (plastic mechanical fittings for polyethylene networks)

Monitoring tests	<i>BRT: By batch</i>	<i>PVT: annual</i>	<i>AT: bi-annual by production site, resin and SDR</i>	Procedure Requirements	Observations
<p>Hydrostatic strength</p> <p>80 °C – 165 h</p> <p>80 °C - 1,000 h</p>	<p>1/batch/cavity/ week</p> <p>NA</p>	<p>NA</p> <p>2/family/Gd/resin/technique</p>	<p>NA</p> <p>2/family/Gd</p>	<p>ISO 17885 §9.3.3.2 ISO 3458 ISO1167-1/ -4</p> <p>PE 80: $\sigma = 4.5$ MPa PE100: $\sigma = 5.4$ MPa</p> <p>PE 80: $\sigma = 4$ MPa PE100: $\sigma = 5$ MPa</p>	<p>Pressure is calculated according to the formula: $P = 20 \sigma / (SDR-1)$ where SDR is that of the fitting The samples can be mounted in series or in parallel No rupture of sample during all the test</p> <p>Preparation of samples half at -5 °C and +40 °C</p>
<p>Leaktightness after a tensile test under constant load at 80 °C - 500 h for $d_n \leq 63$ mm</p> <p>Leaktightness after the test</p>	<p>NA</p>	<p>NA</p>	<p>2/family/Gd</p>	<p>ISO 17885 §9.3.3.5 + ISO 19899</p> <p>No leakage after TT leaktightness test</p>	<p>Preparation of samples half at -5 °C and +40 °C</p> <p>Test performed on $d_n \leq 63$ mm</p>

TABLE 13c: Family D3 (transition fittings for polyethylene networks)

Monitoring tests	<i>BRT: By batch</i>	<i>PVT: annual</i>	<i>AT: bi-annual by production site, resin and SDR</i>	Procedure Requirements	Observations
Marking, appearance, color, dimensions	1/ cavity at the start of production of the batch and see § 2.4.4.8	1/family/dn/resin/technique	4/family/Gd	NF EN ISO 3126 – ISO 17885 technical file Machined spigot ends shall have a roughness of Ra<12.5	Samples usable for the other tests When the fittings are made from PE pipe, the acceptable ovality is the one defined in NF EN 1555-2
<i>MFR 190 °C – 5 kg</i>	NA	1/family/Gd/resin/technique	NA	<i>NF EN ISO 1133-1</i> ± 20% of the value of the batch used	Test not performed if the PE part is made from a pipe certified by the PE Pipe NF Mark
OIT 200 °C <i>(210 °C if correlated with results at 200 °C)</i>	NA	1/family/Gd/resin/technique	NA	<i>NF EN ISO 11357-6</i> OIT > 20 min	In all cases, the pipe resin shall be certified by the NF114 mark
Leaktightness at 23 °C - 25 mbar/1 h then at 1.5xMOP (6 bar min)/1 h	1/ cavity at the start of production of the batch and see § 2.4.4.8 Under 1,5xMOP	2/family/dn/resin/technique	1/family/Gd	<i>ISO17885 §9.3.3.1</i> <i>ISO 3458</i>	Preparation of samples half at -5 °C and +40 °C No leakage
Resistance to temperature variations 10 cycles at 6 bar Leaktightness before and after the test	NA	2/family/Gd/resin/technique	1/family/Gd	<i>ISO 17885 §9.3.3.6 – ISO3458</i> -20 ±2 °C/+60 ±2 °C, step of 3 h No leakage after TT leaktightness test	Preparation of samples half at -5 °C and +40 °C
Leaktightness after a tensile test at 23°C At constant load, constraint σ for 1 h At constant speed, speed = 25 mm/min	NA	2/family/Gd/resin/technique	1/family/Gd	<i>ISO 17885 §9.3.3.3 + ISO 13951</i> F = 2s σ under pressure of 50 mbar PE80: σ =5.7MPa PE100: σ =6.6MPa s : the pipe wall section with nominal diameter and average thickness - No permanent deformation or fail of the joint - No uncoupling - No leakage after TT leaktightness test	Preparation of samples half at -5 °C and +40 °C dn≤63 mm et dn >63 mm

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TABLE 13c – continued –: Family D3 (transition fittings for polyethylene networks)

Monitoring tests	<i>BRT: By batch</i>	<i>PVT: annual</i>	<i>AT: bi-annual by production site, resin and SDR</i>	Procedure Requirements	Observations
Hydrostatic strength 80 °C – 165 h (1) 80 °C - 1,000 h	1/batch/cavity/week NA	NA 2/family/Gd/resin/technique	NA 1/family/Gd	ISO 17885 §9.3.3.2 ISO 3458 ISO1167-1/ -4 PE80: $\sigma=4.5\text{MPa}$ PE100: $\sigma=5.4\text{MPa}$ PE80: $\sigma=4\text{MPa}$ PE100: $\sigma=5\text{MPa}$	Pressure is calculated according to the formula: $P = 20 \sigma / (\text{SDR}-1)$ where SDR is that of the fitting The samples can be mounted in series or in parallel No rupture of sample during all the test
Leaktightness after ammonia crack resistance Leaktightness after the test	NA	NA	1/family/Gd	NF E 29-196 No leak, no failure pH appliances and master solutions are recorded in the report	Test performed on fittings containing external brass parts for $d_n \leq 63\text{ mm}$ The test is performed under pressure with recording, which makes it possible to know the moment of a possible failure
Leaktightness after a tensile test under constant load at 80 °C - 500 h for $d_n \leq 63\text{ mm}$ Leaktightness after the test	NA	NA	1/family/Gd	ISO 17885 §9.3.3.5 + ISO 19899 No leakage after TT leaktightness test	Test performed on $d_n \leq 63\text{ mm}$

(1) For the D3 family when the transition fittings are obtained with a PE pipe and steel pipe, the BRT are made only by pair of batches whatever the number of manufacturing order or production time. However, be careful to the expiration date of the PE pipe, sometimes imposed by customers.

TABLE 14: Families E1, E2 and E3 (Valves, RPC and valves with purge)

Monitoring tests	<i>BRT: By batch</i>	<i>PVT: annual</i>	<i>AT: bi-annual by production site, resin and SDR</i>	Procedure Requirements	Observations
Marking, appearance, dimensions	1 /cavity at the start of production of the batch and see § 2.4.4.8	1 /body type/resin	4/Gd	NF EN ISO 3126 - technical file Machined spigot ends shall have a Ra < 12.5	Samples usable for the other tests
MFR 190 °C – 5 kg	NA	1/body type/resin	NA	NF EN ISO 1133-1	± 20% of the value of the batch used
OIT 200 °C (210 °C if correlated with results at 200 °C)	NA	1/body type/resin	NA	NF EN ISO 11357-6	OIT > 20 min
Leaktightness angular range and additional dimensional specifications 23 °C	NA	1/body type/resin	NA	NF T 54-972 Angle ≥ 7°	
Hydrostatic strength 80 °C - 165 h 80 °C - 1,000 h	1/batch NA	NA Gd1: 3/body type/resin Gd2: 2/body type/resin Gd3: 1/body type/resin	NA 3/ Gd	NF EN ISO 1167 PE 80: $\sigma = 4.5$ MPa PE100: $\sigma = 5.4$ MPa PE 80: $\sigma = 4$ MPa PE100: $\sigma = 5$ MPa	Pressure is calculated according to the formula: $P = 20 \sigma / (SDR-1)$ where SDR is that of the valve The samples can be mounted in series or in parallel No rupture of sample during all the test
Leaktightness of seat and packing at 23 °C - 25 mbar - 1 h at 23 °C - 1.5xMOP - 30 s	1/batch/week at 25 mbar	1/body type/resin	NA	NF EN 1555 Annex A No leakage	Initial test at 1.5 x MOP (limitation to 6 bar, applicable only for the other tests)
Operating torque at - 20 °C, 23 °C and 40 °C	NA See § 2.4.4.8	1/body type/resin	1/Gd	NF EN 28233 $d_n \leq 63$: $5 < C \leq 35$ Nm $63 < d_n \leq 125$: $10 < C \leq 70$ Nm $125 < d_n$: $10 < C \leq 150$ Nm	One measurement for each operating direction Minimum conditioning time: 6 hours
Stop resistance 2 x C_{max} measured for 15 s with a minimum of 150 Nm at -20 °C and 40 °C	NA	1/body type/resin	1/Gd	NF EN 28233	In both directions: opening and closing, no fracture or leakage of seat and packing

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TABLE 14 – continued –: Families E1, E2 and E3 (Valves, RPC and valves with purge)

Monitoring tests	BRT: By batch	PVT: annual	AT: bi-annual by production site, resin and SDR	Procedure Requirements	Observations
Actuation mechanism resistance at 6 bar - 1.5 x C _{max} measured	NA	1/body type/resin	1/Gd	NF EN 28233	No fracture
Resistance to bending between supports 63 < d _n ≤ 125 load 3 kN 125 < d _n ≤ 315 load 6 kN	NA	1/body type/resin	1/Gd	NF EN 12100 C ≤ 70 Nm C ≤ 150 Nm	For Gd 2 only. No leakage at 25 mbar before applying the load then at the end of testing, before releasing the load
Resistance to thermal cycling 63 < d _n ≤ 125 125 < d _n ≤ 225	NA	NA	1/Gd	NF EN 12119 C ≤ 70 Nm C ≤ 150 Nm	For Gd 2 only. No leakage at 6 bar for 10 cycles between -20 °C and +60 °C
Leaktightness under bending with thermal cycling d _n ≤ 63 10 cycles -20 °C/+40 °C under pressure of 6 bar	NA	NA	1/Gd	NF EN 1704 No leakage	For Gd1 only. To facilitate the test, 2 samples may be used for bending in each axis
Leaktightness under tensile load at 23°C At constant load, σ = 12 MPa /1 h and F = σ s At constant speed, speed = 25 mm/min	NA	1/body type/resin	1/Gd	ISO 4437-4 No failure & no leakage d _n ≤ 63: C ≤ 35 Nm 63 < d _n ≤ 125: C ≤ 70 Nm 125 < d _n : C ≤ 150 Nm TT leaktightness test	After the application of stress for 1 h, the test is continued at constant speed until the creep tube without breaking assembly (see table 8 and note page 48)
Leaktightness under and after bending applied to actuation mechanism	NA	NA	1/Gd	NF EN 1680	No leakage at 25 mbar and 1.5 x MOP (or 6 bar) M = 55 Nm
Impact resistance -20 °C - 2 m - 2.5 kg	NA	1/body type/resin	1/Gd	NF EN 1705 d _n ≤ 63: C ≤ 35 Nm 63 < d _n ≤ 125: C ≤ 70 Nm 125 < d _n : C ≤ 150 Nm	The impact takes place on the square key in the vertical axis No leakage

Family E2 - Electrofusion saddles equipped with a tapping valve (RPC: connection valve)

These accessories shall meet the requirements:

- a branch saddle, family B2 (see Table 11)
- a valve, family E1 (see Table 14)

In the particular case where the RPC assembly is made by jointing of already certified and monitored accessories, without modification (branch saddles and/or valves), the additional tests may be reduced based on the initial results.

In all cases, the jointing shall be tested for the following tests.

TABLE 15: Family E2 (RPC)

Monitoring tests	<i>BRT: By batch</i>	<i>PVT: annual</i>	<i>AT: bi-annual by production site, resin and SDR</i>	Procedure Requirements	Observations
<p><i>Hydrostatic strength</i></p> <p>80 °C - 1,000 h</p>	NA	<p>Gd1: 3 Gd2: 2 Gd3: 1</p>	3/Gd	<p>NF EN ISO 1167 PE 80: $\sigma = 4$ MPa PE100: $\sigma = 5$ MPa</p>	<p>Pressure is calculated according to the formula: $P = 20 \sigma / (SDR-1)$ where SDR is that of the valve No rupture of sample during all the test The samples shall be prepared and drilled with the drilling device recommended by the manufacturer.</p>
<p>Tensile test at 23°C</p> <p>At constant load, 6 MPa /1 h</p> <p>At constant speed, speed = 25 mm/min</p>	NA	1/Gd	1/Gd	<p>ISO 13951 No deterioration under the loads until creep of the pipe with the same MRS than the out of RPC PE 80: $\sigma > 18$ MPa PE100: $\sigma > 21$ MPa</p>	<p>If the out of valve and the saddle do not have the same dn, perform the test with a pipe welding at the end of valve and with the smallest dn</p>

Family E3 – Valves with purge for gas application

The valves in this family are subjected to the same tests as family E1 with the addition of the following tests according to the specifications defined during admission:

TABLE 16: Family E3 (valves with purge)

Monitoring tests	<i>BRT: By batch</i>	<i>PVT: annual</i>	<i>AT: bi-annual by production site, resin and SDR</i>	Procedure Requirements	Observations
Impact test on purge	NA	1/dn purge /Gd coupler	NA	EN 1716 Same as admission	All configurations
Decohesion	Table 11 23 °C	NA	NA	ISO 13956	Configuration B
Tensile test on purge	NA	1/dn purge /Gd coupler	NA	ISO 13951 Same as admission	Configuration A
Tensile test at 23°C At constant load, 6 MPa /1 h At constant speed, speed = 25 mm/min	NA	1/dn coupler	NA	ISO 13951 Same as admission	Configuration D No deterioration under the loads until creep of the pipe with the same MRS

4.1.2 - Audit of the manufacturing site

This audit is conducted annually to ensure compliance with the conditions specified in § 2.4.

The implementation conditions are the same as the initial audit, regular or multisite. The duration of the audit is usually one day but may be reduced or increased depending on the product and the range.

To monitor the assembly and control site of excess flow valves, the normal frequency of the audit is extended to 2 years.

To monitor a distributor in case of a maintenance, CERTIGAZ carries out a control audit every 2 years.

If the holder manufactures products in several NF applications mandated to CERTIGAZ, the monitoring audit may be combined for several marks; in this case, the duration of the audit shall be adjusted and a team of auditors may be appointed. This practice is also possible but less common in the initial audit.

By special dispensation, the SQUAL100 procedure applies if the audit can not be physically carried out due to sanitarian issues.

To monitor its auditors or as part of its certification, CERTIGAZ may appoint an observer during an audit. The auditee shall be informed beforehand for agreement to avoid any conflict of interest and the costs for the observer shall be borne by CERTIGAZ.

The management of audit findings is identical to that of the admission or extension audit (see § 3.3.2).

Major or minor non-compliance must be resolved based on the action plan proposed by the claimant. It can be lifted:

- depending on the action plan and the elements provided.
- at the following audit when it is necessary to verify the effective implementation and the effectiveness of the corrective actions.

4.2 Evaluation and decision

The evaluation procedures are similar to those described for admission in Part 3.

Depending on the results of all inspections, CERTIGAZ may decide:

- to confirm the certification,
- to confirm the certification with observation,
- to confirm the certification with warning and with or without additional inspections,
- to declare the suspension of certification or the withdrawal of certification,
- to carry out additional inspections or verifications before deciding.

Confirmation:

After receipt of the results of monitoring tests and the results of the audit(s). CERTIGAZ sends a letter of the certification confirmation recording the monitoring carried out.

When CERTIGAZ decided to confirm the certification by mail, AFNOR Certification shall confirm the right to use the NF Mark.

Renewal:

Before the expiry date of the certificate, CERTIGAZ assesses the results of the monitoring (audits and tests) and any sanctions imposed, then decides on the renewal of the certification.

Suspension:

When they are event of serious infringements of safety obligations and in the absence of specified requirements, CERTIGAZ may, as a conservatory measure, apply the requisite decision to temporarily suspend or withdraw the certification with immediate effect.

In the event of the suspension or withdrawal of certification, AFNOR Certification shall suspend or withdraw the right to use the NF Mark.

A suspension or withdrawal may relate to one or more certificates or approvals for one, more or all the references of these certificates or approvals.

The suspension decision:

- specifies the terms of its lifting. The lifting procedures may be specified or reviewed by CERTIGAZ depending on the expertise, cause analysis and corrective actions presented by the holder,

- is pronounced for a period of 6 months, renewable under conditions; the total duration of a suspension may not exceed 2 years. After this period, a withdrawal decision will be pronounced by CERTIGAZ.

If a suspension concerns a complete certificate, the renewal which should take place before the lifting of the suspension is not carried out.

If a suspension only partially concerns a certificate, the renewal which should take place before the lifting of the suspension is only carried out for the non-suspended references.

The suspension can be lifted before the expiry date indicated in the CERTIGAZ decision letter if the terms of its lifting are respected.

The sanction is enforceable from the date of receipt of its notification.

The costs of additional verification caused by the sanctions are borne by the holder.

The holders shall be responsible for the right to use the NF Mark for the product in question and shall undertake to implement the measures arising from the suspension or withdrawal of the right of use, taken in accordance with these Certification Rules.

Any suspension or withdrawal of the right to use the NF Mark entails the prohibition of using the NF Mark and of referring to it for any new production (see paragraph 4.4). For productions prior to the suspension or withdrawal of the right of use, CERTIGAZ may take special measures on a case-by-case basis (example: authorisation to dispose of the stocks, destruction of the stock, product recalls, etc.)

The applicant may challenge the decision taken by submitting a request in accordance with the General Rules of the NF Mark.

4.3 Declaration of modifications

This section stipulates the information to be provided and the procedures in the event of changes affecting:

- The holder (manufacturer and distributor)
- The production unit(s)
- The quality organisation of the design and/or manufacturing and/or marketing process
- The product

The holder shall notify in writing of any changes to the conditions under which the NF Mark was obtained.

If CERTIGAZ observes that this obligation has not been honoured, the right to use the NF Mark may be suspended or even withdrawn.

For other cases that are not covered by parts 4.3.1 to 4.3.5, CERTIGAZ shall determine whether the modifications could call into question the certification and whether an additional inspection is necessary.

Depending on the examination results, CERTIGAZ shall take the appropriate decision.

4.3.1 - Modification concerning the holder

The holder shall report in writing to CERTIGAZ any legal modification of the company or any change in the company's name.

In case of merger, bankruptcy or takeover of the holder, the right to use the NF Mark that the holder may enjoy shall cease automatically.

A new application may be submitted and its examination reduced depending on the modifications.

4.3.2 - Modification concerning the production unit(s)

Any transfer (total or partial) of the production unit(s) of an NF certified product to a different production site shall bring about an immediate cessation of NF Marking by the holder on the transferred products in any form whatsoever.

The holder shall declare this transfer in writing to CERTIGAZ, which shall organise an audit of the new production site and, as the case may be, have tests carried out.

CERTIGAZ shall determine if this is an application for extension, admission or maintenance of the certification.

The procedures for evaluation and for the decision to renew the certification are identical to those for admission described in Part 3.

4.3.3 - Modification concerning the quality organisation of the design and/or manufacturing and/or marketing process

The holder shall declare in writing to CERTIGAZ any change regarding its quality organisation likely to have an impact on the compliance of the design and/or manufacturing and/or marketing with regard to the requirements of these Certification Rules (changes to the facilities, quality plans, agent, etc.).

If CERTIGAZ believes that the modifications are significant, the holder shall send an application to CERTIGAZ. Depending on the modification declared, CERTIGAZ shall determine if this is an application for extension, admission or maintenance of the certification.

On the other hand, any temporary cessation in the internal control for an NF certified product shall entail an immediate cessation of the NF Marking of this product by the holder in any form whatsoever. The holder shall inform CERTIGAZ.

The procedures for evaluation and for the decision to renew the certification are identical to those for admission described in Part 3.

4.3.4 - Modification concerning the NF certified product

CERTIGAZ shall be informed by written statement of any modification of the NF certified product with respect to the application file, the certified model, the Rules defined in the certification guidelines liable to affect the conformity of the product with the requirements of these certification guidelines or any change of trademark.

Depending on the modification declared, CERTIGAZ shall determine if this is an application for extension, admission or maintenance of the certification.

4.3.5 - Temporary or permanent cessation of control or production

CERTIGAZ shall be informed by written statement of any permanent or temporary cessation of control or production of an NF certified product or any relinquishment of the right to use the NF Mark, specifying the period of time required to sell off the stock of NF marked products.

Upon receipt of the holder's letter, CERTIGAZ shall notify the holder of the suspension of the right to use the NF Mark. The maximum date for selling off the stock shall be defined by CERTIGAZ depending on the application of the holder and the market for the product.

The withdrawal of the right to use the NF Mark shall be notified upon the expiration of the deadline for selling off the stocks indicated by the holder, which has been approved previously by CERTIGAZ; the product shall then be removed from the list of certified products.

During the disposal of the stock, the annual management and the right to use the NF Mark shall be paid.

4.4 Conditions for the termination of marking or demarking in the event of suspension, withdrawal, relinquishment

Any suspension or withdrawal of the right to use the NF APE mark, on a voluntary basis or following a sanction, shall entail the prohibition of using this mark and of referring to it. Similarly, accidentally non-compliant products shall be demarked.

Therefore, in such cases, the NF Mark shall no longer appear on products, their packaging, documentation, advertising or any other of the manufacturer's materials, especially on websites.

Part 5

PARTICIPANTS

The bodies involved in the procedure to grant the right to use the NF Mark and to monitor the NF certified products are specified below.

5.1. AFNOR Certification

AFNOR owns the NF Mark and has granted AFNOR Certification exclusive licensing rights.

AFNOR Certification manages and coordinates the NF certification system, which particularly defines the NF Mark governance rules and procedures.

AFNOR Certification 11, rue Francis de Pressensé F-93571 LA PLAINE SAINT-DENIS CEDEX	Telephone: +33 (0)1 41 62 80 00 Marque-nf@afnor.org www.marque-nf.com
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5.2 CERTIGAZ

In accordance with the General Rules of the NF Mark, AFNOR Certification has entrusted the management of the NF APE mark to the body below, called the mandated body:

CERTIGAZ 1, rue du Général Leclerc – F - 92800 Puteaux Immeuble Le Linéa	Telephone: +33 (0)1 80 21 07 50 infocertigaz@certigaz.fr www.certigaz.fr
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CERTIGAZ is answerable to AFNOR Certification for the operations with which it is entrusted and which are covered by a contract.

5.3 Inspection and audit body

The functions of auditing the manufacturing unit, and possibly on the places of use, are carried out by CERTIGAZ

In some cases, audit and inspection operations may be performed by a subcontractor qualified **and mandated** by CERTIGAZ.

Auditors shall have the right of scrutiny at the premises of any applicant or holder within the framework of their mission.

5.4 Laboratories

When the inspections involve product tests, these tests are performed, at CERTIGAZ's request, by the laboratory(ies), called the Mark laboratory(ies).

Testing laboratories wishing to perform tests as a laboratory independent of the mark shall submit an application to CERTIGAZ. They shall be appointed on a proposal from CERTIGAZ after consultation with the Special Committee. Such laboratories shall meet the criteria defined by NF EN ISO/IEC 17025.

These applications shall be processed according to SLAB110 specifications and CERTIGAZ's agreement shall be materialised by:

- The establishment of a contract between the laboratory and CERTIGAZ
- an authorisation of the laboratory, issued by CERTIGAZ, specifying its scope of intervention for the NF136 mark.

Laboratories	Contact	Scope of tests
BECETEL Gontrode Heirweg, 130 B-9090 MELLE – Belgium	Tel.: +32 (0)9 272 50 70 Fax: +32 (0)9 272 50 72 www.becetel.be	All tests except those specific to PBDI/MBDI
TGM Wexstraße 19-23 A-1200 VIENNE - Austria	Tel. +43 1 33 126 – 474 Fax +43 1 33 126 – 678 www.tgm.ac.at	Tests on families A, B and C except those specific to PBDI/MBDI and according to ISO 13924
TTR Institute Via Baden Powell 3/ter I-21052 Busto Arsizio (VA) - Italy	Tel. +39 0331 342533 Fax +39 0331 342534 www.ttrinstitute.eu	Tests on families A, B, C and D except those specific to PBDI/MBDI
GRTgaz - RICE 1, chemin de Villeneuve F-94140 ALFORTVILLE - France	Tel.: + 33 (0)1 45 18 85 72 Fax: + 33 (0)1 45 18 85 85	Tests specific to excess flow valves and PBDI/MBDI

5.5 Links with other bodies

The PE accessories that are made with PE shall be made with a resin appropriate for the application group, NF114 certified. LNE is the NF mandated body for the management of this application. The certificates of the holders are available on the website: : <https://www.lne.fr/recherche-certificats/>

After selecting "NF114" in the certification systems, type one of the following keywords to obtain the list of certificates concerned **or make a general search, by holder or certificate number:**

POLYETHYLENE → all NF114 certificates then sort by "certified products" to group by type

GR1 → gas tube certificates

GR2 → drinking water tube certificates

GR4 → non-potable water tubes, irrigation, sewerage certificates

GR5 → electrical containment tube certificates

BAND → PE resin certificates (base and bands)

In the case of PE accessories for drinking water application, a French health compliance certificate (ACS) is required in accordance with the Decree of 29 May 1997 amended. It appears in the technical file and its validity and / or renewal are checked during site audits. The list of laboratories authorised to issue these ACSs is available on the website:

<https://solidarites-sante.gouv.fr/sante-et-environnement/eaux/article/attestation-de-conformite-sanitaire-acs>

The lists of ACS of materials (MAT) are also available on this website for resins, PE pipes, PE fittings, seals and grease.

5.6 Special Committee

5.6.1 - Role and tasks of the Special Committee

An advisory body called the Special Committee shall be set up, whose secretariat shall be managed by CERTIGAZ.

The Special Committee shall meet yearly or when needed. The missions of this Committee are:

- participate in the system of safeguarding impartiality (§ 5.2 of the NF EN ISO / CEI 17065)

- approve the minutes of the meetings of the Special Committees
- give an opinion on:
 - all questions concerning the certification of PE accessories on request from CERTIGAZ
 - changes in the Certification Rules (widening the scope, technical changes, etc.)
The Committee evaluates the impact of changes and proposes a transition period if necessary.
 - the certification files on request from CERTIGAZ (including dispute resolutions, sanctions, etc.)

The draft documents and proposed changes for these Certification Rules are subject to the opinion of the Special Committee before their approval by AFNOR Certification. The consultation is conducted by CERTIGAZ, which processes the different views of the stakeholders and provides them with feedback. CERTIGAZ prepares the final text, taking into account the opinion of each and tending to reconcile divergent opinions.

The Special Committee is an advisory body which issues opinions that serve as a basis for decision. Consensus is systematically sought.

In accordance with the standard EN ISO / IEC 17065:

- CERTIGAZ may exceptionally decide not to follow the opinion of the Special Committee, for example if it is contrary to the accreditation obligations. In this type of decision, if consensus was not possible, the decision and the reasons for this decision should be recorded.
- Following a decision by CERTIGAZ which appears to be unjustified, a committee member identifies a conflict of interest or lack of impartiality in decision making, it has the ability to alert the COFRAC or the Ministry.

Committee members shall receive no remuneration for the functions entrusted to them.

CERTIGAZ shall take special provisions to ensure the confidentiality of the applicant's or holder's files submitted to the Special Committee (except in case of challenge/appeal). To do this, a confidentiality undertaking shall be taken by each member or alternate. Representatives of AFNOR Certification, the Ministry and CERTIGAZ are bound by confidentiality as part of their duties and do not take this undertaking.

For specific topics, the Committee may call upon an expert. This expert is then invited and by signing the attendance register as any participant, he/she shall agree to ensure the confidentiality of the information discussed at the meeting.

No participation confirmation can be made before the reception by CERTIGAZ of the confidentiality and impartiality form (FOCER02) signed by the guest/expert.

No sending of file can be made before the quoted confidentiality and impartiality form reception.

A Special Committee non-member person can be invited in the following cases:

- 1) Invitation made at the initiative of CERTIGAZ or the Special Committee, of an expert (for a technical or various question)
- 2) Introduction of a future member of the Special Committee during an anticipated handover;
- 3) Exceptionally, if the Special Committee member form could not be validated before the meeting

The Special Committee may entrust some of its work to working groups. The result of this work shall be presented to the Special Committee for opinion. These working groups may be composed of members of the Special Committee and holders of the NF Mark.

Before each meeting, CERTIGAZ shall send an agenda to each member, with or without preparatory documents.

At each meeting of the Special Committee, CERTIGAZ present complaints / calls received and reported on accreditation Cofrac. CERTIGAZ also presents the actions put in place to manage potential conflicts of interest. The Special Committee advises on the terms established by CERTIGAZ to control his impartiality. This review is recorded in the official report.

CERTIGAZ shall prepare and send the report to the Committee members.

5.6.2 - Composition of the Special Committee

The composition of the Special Committee shall be defined so as to respect a representation between the different interested parties that does not lead to the predominance of one of them and that guarantees their relevance.

The members of the Special Committee shall be appointed by CERTIGAZ. A member of the Special Committee may be represented only by an alternate appointed under the same conditions. A committee constitution list is available on the CERTIGAZ website.

During Special Committee meetings, the holder and its alternate may be present; but in case of voting, only the holder may vote.

When several holder manufacturers belong to a group, only one seat is possible for the group. However, the Committee member and his/her alternate may belong to two different entities within the same group and participate together in meetings.

The term of office of the members and the president shall be 3 years. The term is renewable by tacit agreement if there are no other nominations, and the maximum number of seats per panel is not reached.

The Committee shall be composed of three panels of 3 to 10 seats each:

MANUFACTURERS Panel:

Amongst the holders of the PE Accessories NF Mark and the trade union of PE accessory manufacturers (STRPEPP).

USERS/SPECIFIERS Panel:

Among the managers, users and/or prescribers of PE networks, distributors of PE fittings, DIY superstores (GSB) which market fittings for PE networks, organizations representing these entities.

Managers, users and / or prescribers of PE networks are :

- For the gas application, GRDF for 2 possible seats to take into account the size of the managed network and 3 seats for the other entities that manage networks within the large cities and their agglomeration,
- For water applications, the entities that manage PE drinking water networks, with 2 reserved seats,

Distributors are entities that distribute PE network connections. 2 seats are reserved for them. The remaining seat may be occupied, depending on the applications, by the entities described above, the GSB or bodies representing these professions.

When applying, CERTIGAZ ensures that :

- each entity undertakes to promote PE networks, without discrimination,
- each entity undertakes to respect the committee member's charter, available on CERTIGAZ website,
- different entities would not represent the same organization (same group for example) to avoid an unbalanced representation,

TECHNICAL AND ADMINISTRATIVE BODIES Panel:

Amongst AFNOR Certification, CERTIGAZ, BNPP, independent laboratories of the NF APE mark, technical inspection agency, the Ministry for gas safety, etc.

The Chairman of the Special Committee

The Chairman shall be appointed from among the members of the Special Committee and by them.

The Chairman has no special prerogative except :

- to be able to ask for a Committee alone, otherwise it is at the initiative of CERTIGAZ or at the written request of at least five of its members;
- to open, adjourn or suspend the meeting;
- to ensure compliance with the Certification Rules;
- to ensure the smooth running of the Committee;
- to give an opinion to CERTIGAZ before the broadcast to all the members, the agenda and the minutes of a meeting.

CERTIGAZ and AFNOR Certification shall be ex officio vice-presidents.

Part 6

RATES

This part defines the amount payable for services regarding NF certification and describes the collection method.

NF certification includes the following services:

- development and implementation of an application
- examination of the application
- functioning of the certification application
- tests
- inspection/audit visits
- sampling
- right to use the NF Mark
- additional inspections
- promotion

6.1 Services relating to certification

Type of service	Definition of the service	General conditions common to NF Marks
Development and implementation of an application (Registration)	Participation in the implementation of an NF Mark application, elaboration of the certification rules (guidelines) included.	Registration fees are paid by the applicant at the initial application for the right to use the NF Mark. These fees are invoiced when CERTIGAZ registers the initial application and no later than the time the right to use is invoiced (during the certification of products).
Examination of the application	This service includes the examination of application files, exchanges with applicants, laboratories, inspectors/auditors, and the evaluation of inspection results.	Payment for these services is due even if the right to use the NF Mark is not granted or if the application process is forsaken during examination.
Functioning of the certification application	Services for managing the files of certified products and their holders, drawing up lists of certified products, and assessing inspection results.	The payment for this management is invoiced at the beginning of every year. Upon admission, the management is prorated to the number of months following the certification decision. Payment for managing the NF Mark is due even in the case of withdrawal or suspension during the year.
Monitoring tests	Laboratory testing services	Tests rates provided by the laboratories which ensure the invoicing of this service.

Tests	Testing services of laboratories.	Rates for tests provided by laboratories, which invoice for this service.
Inspection and audit visit	Services including the preparation of the audit visit, the audit itself and the report. Travel expenses and allowances for long-distance travel will be added to these services.	Payment for these services is due even if the right to use the NF Mark is not granted or extended.
Sampling	This service includes sampling preparation and the sampling itself.	The service is invoiced for actual time spent.
Right to use the NF Mark	This licence fee due to AFNOR Certification is intended to cover: <ul style="list-style-type: none"> • Protection of the NF Mark: filing and protection of the mark, legal counsel, processing of appeals and misuses (legal services). • General promotion of the NF Mark. • General operation of the NF Mark (management of the the NF Mark governance bodies, quality systems, etc.). 	The licence fee amount is invoiced by CERTIGAZ and paid to AFNOR Certification as manager and leader of the NF certification system. Upon admission, the licence fee is prorated to the number of months following the certification decision. The licence fee for using the NF Mark is due, even in the case of withdrawal or suspension during the year.
Additional inspections	Services incurred by additional inspections or verification tests that may prove necessary following insufficiency or anomalies revealed by current inspections.	Services are borne by the applicant/holder.
Promotion	Sector-based promotion of the NF Mark.	Service for which the fees can be defined every year in addition to the other services.

Note: In the case of cancellation or postponement of an inspection or audit visit, due to the applicant/holder, the actual costs incurred by CERTIGAZ will be invoiced.

6.2 Collection of payments for services

The above-defined services are invoiced by CERTIGAZ to the applicant/holder.

CERTIGAZ is authorised to collect the payments for all the services.

However, bodies involved in testing shall directly invoice and collect the amount payable for the corresponding services.

The applicant or holder shall pay for such services under the prescribed conditions: any failure on the part of the holder constitutes an obstacle to CERTIGAZ in its exercise of the control and intervention responsibilities incumbent on it under these Certification Rules (guidelines).

The payment of invoices issued by CERTIGAZ, **only in computer format**, shall be due within 30 days from receipt of invoice, or upon receipt in the case of invoices sent to a foreign manufacturer.

In case a first notice does not lead to the payment of all sums due, any sanction provided in Part 4 may be taken for all of the holder's accepted products.

Services invoiced correspond to the number of verifications performed. Any additional test or audit is invoiced to the manufacturer, whatever the results obtained.

As long as there are stocks of NF marked products remaining with the holder, inspections and the reimbursement of corresponding services shall be maintained.

6.3 Amount payable for services

The amount payable for such services and for the right to use the mark is subject to a financial framework revisable annually by CERTIGAZ and sent, at the beginning of the year, to all holders of the mark, to the Special Committee members and to AFNOR Certification.

The tariff revision is based on the evolution of the SYNTEC index from July n-1 to July n for application to year n + 1.

This rate is available upon request to CERTIGAZ and on CERTIGAZ's website: www.certigaz.fr

Rates are in Euros excluding taxes. As regards test rates, the samples shall be delivered to the Mark laboratory, carriage paid and customs cleared as appropriate, within a maximum period of 30 days from the sampling date.

Part 7

CERTIFICATION FILES

7.1 File for application for the right to use

The application for the right to use the NF Mark shall be sent to CERTIGAZ.

If the application comes from an entity located outside the European Economic Area (EEA) or in the European Free Trade Association (EFTA), the applicant shall appoint a French agent which shall co-sign the application.

The applicant shall compile a file whose content is adapted on a case-by-case basis and according to the attached models.

- ⇒ Model application letter (admission, extension or maintenance) reproduced on the manufacturer's letterhead
- ⇒ General information form
- ⇒ Product form
- ⇒ Technical file, provided as one unlocked pdf file which can be validated by CERTIGAZ.

		Type of application		
		Admission	Extension	Maintenance
Application and undertaking letter	PE accessory certification (2)	Model letter 001	Model letter 002 A	Model letter 002 B
	excess flow valve approval (2)	Model letter 001 H	Model letter 002 A H	Model letter 002 B H
General information form regarding the applicant	Form 003 A sites	X	X (1)	X (1)
	Model letter 003 C Agent (3)	X	X (1)	X (1)
Product form	Form 004 A (4)	X	X (1)	X (5)
Technical file	Form 005	X	X (1)	X (1)

(1) if modification to the already certified product (reference to original file)

(2) depending on the type of application

(3) if necessary

(4) the form 004 A is an excel file available on the website of certigaz : www.certigaz.fr

(5) may be limited to a list of correspondence of commercial references for the different brands

7.2 Model forms

MODEL LETTER 001 - NF APE MARK

to be drawn up on the applicant's letterhead

CERTIGAZ
Dear **Madam**
Immeuble le Linéa
1, rue du Général Leclerc
F – 92800 Puteaux

Subject: **NF APE Mark**
Admission application for the right to use the NF Mark for a new product

Dear **Madam**,

I would like to apply for the right to use the NF Mark for the following product/product range:

<product name/reference normative document>

produced in the following manufacturing entity:

<company name + address>

and for the brand and for the reference below:

<trademark and trade reference>.

In this respect, I hereby declare that I know and accept the General Rules of the NF Mark and the NF APE Certification Rules and undertake to comply therewith throughout the period of use of the NF Mark all these rules available on the CERTIGAZ's website.

<OPTION (1): Moreover, I hereby authorise the Company (company name), (status of the company), (head office) represented by Mr/Ms (name of the legal representative), in their capacity as (function), to represent me in France for all questions relating to the use of the NF APE Mark.

I undertake to inform CERTIGAZ immediately of any change in the aforementioned representative.

<OPTION: I consequently request that the expenses that are to be borne by me be invoiced directly to the said representative.

This representative will ensure immediate settlement of invoices upon receipt on my behalf as bound so to do in accepting to represent me.

I undertake to pay, as soon as invoices are received, the fees at our expense.

The tariffs are available on CERTIGAZ website and can be asked to CERTIGAZ.

Yours faithfully,

Date and signature
of the legal representative
of the applicant (compulsory)

<OPTION (1): Date and signature
of the representative in the EEA/EFTA>

(1) Only concerns applicants-holders located outside of the European Economic Area (EEA) or in the European Free Trade Association (EFTA) and facultative for the other.

MODEL LETTER 002 A - NF APE MARK

to be drawn up on the applicant's letterhead

CERTIGAZ
Dear **Madam**
Immeuble le Linéa
1, rue du Général Leclerc
F – 92800 Puteaux

Subject: **NF APE**
Application for extension of the right to use the NF Mark for a modified product

Dear **Madam**,

As a holder of the NF Mark for the product manufactured by me under the following reference:

- . name of product/product range:
- . reference normative document:
- . manufacturing entity: (<company name + address>)
- . trademark and trade reference:
- . certificate number:
- . right to use granted on: (<certificate date>)

I would like to apply for the extension of the right to use the NF Mark for the product(s) manufactured by my company, with the following changes:
<description of changes>.

This product/product range will replace the certified product: NO YES

I hereby declare that the other characteristics of the products/product range concerned by this application are in strict compliance with the products that are already NF certified and manufactured in the same conditions.

In this respect, I hereby declare that I know and accept the General Rules of the NF Mark and the NF APE Certification Rules and undertake to comply therewith throughout the period of use of the NF Mark all these rules available on the CERTIGAZ's website.

I undertake to pay, as soon as invoices are received, the fees at our expense.
The tariffs are available on CERTIGAZ website and can be asked to CERTIGAZ.

Yours faithfully,

**Date and signature
of the legal representative
of the holder**

MODEL LETTER 002 B - NF APE MARK

to be drawn up on the applicant's letterhead

CERTIGAZ
Dear **Madam**
Immeuble le Linéa
1, rue du Général Leclerc
F – 92800 Puteaux

Subject: **NF APE**

Application for the maintenance of the right to use the NF Mark

Dear **Madam**,

I would like to apply to maintain the right to use the NF Mark for the product(s) which does/do not differ from the already NF certified product other than in their references and/or brand names affixed thereto and in design changes which do not alter their certified features in any way whatsoever.

This application concerns:

- the name of product/product range
- the manufacturing unit (company name) (address)
- the right to use granted on: (date)
- the file number: (number)

The brand names requested by the distributor are:

- trade reference:
- trademark:

I hereby declare that the other characteristics of the products concerned by this application are in strict compliance with the products that are already NF certified <certificate no. APE> and manufactured in the same conditions.

In this respect, I hereby declare that I know and accept the General Rules of the NF Mark and the NF APE Certification Rules and undertake to comply therewith throughout the period of use of the NF Mark all these rules available on the CERTIGAZ's website.

I undertake to pay, as soon as invoices are received, the fees at our expense.
The tariffs are available on CERTIGAZ website and can be asked to CERTIGAZ.

Yours faithfully,

**Date and signature
of the legal representative
of the applicant**

**(and signature of the holder of the NF APE Mark for
agreement in the case of an application for
maintenance wherein the applicant is different from
the holder)**

MODEL LETTER 001 H - NF APE MARK

to be drawn up on the applicant's letterhead

CERTIGAZ
Dear **Madam**
Immeuble le Linéa
1, rue du Général Leclerc
F – 92800 Puteaux

Subject: **NF APE Mark**
Application for approval of a new excess flow valve

Dear **Madam**,

I would like to apply for the approval of the following excess flow valve(s):
<description>

In this respect, I hereby declare that I know and accept the General Rules of the NF Mark and the NF APE Certification Rules and undertake to comply therewith throughout the period of the approval, all these rules available on the CERTIGAZ's website.

<OPTION (1): Moreover, I hereby authorise the Company (company name), (status of the company), (head office) represented by Mr/Ms (name of the legal representative), in their capacity as (function), to represent me in France for all questions relating to the use of the NF APE Mark.

I undertake to inform CERTIGAZ immediately of any change in the aforementioned representative.

<OPTION: I consequently request that the expenses that are to be borne by me be invoiced directly to the said representative.

This representative will ensure immediate settlement of invoices upon receipt on my behalf as bound so to do in accepting to represent me.

I undertake to pay, as soon as invoices are received, the fees at our expense.
The tariffs are available on CERTIGAZ website and can be asked to CERTIGAZ.

Yours faithfully,

Date and signature
of the legal representative
of the applicant (compulsory)

<OPTION (1): Date and signature
of the representative in the EEA/EFTA>

(1) Only concerns applicants-holders located outside of the European Economic Area (EEA) or in the European Free Trade Association (EFTA) and facultative for the other.

MODEL LETTER 002 A H - NF APE MARK

to be drawn up on the applicant's letterhead

CERTIGAZ
Dear **Madam**
Immeuble le Linéa
1, rue du Général Leclerc
F – 92800 Puteaux

Subject: **NF APE**
Application for the extension or modification of an approval of excess flow valve

Dear **Madam**,

As holder of an approval for the following excess flow valve(s):

- . manufacturing entity: (<company name + address>)
- . trademark and trade reference:
- . approval number:
- . date of approval:

I would like to apply for the extension of this approval for the following changes:

<description of changes>.

These excess flow valve(s) will replace those previously approved: NO YES

I hereby declare that the other characteristics of the excess flow valve(s) concerned by this application are in strict compliance with the products already approved and manufactured in the same conditions.

In this respect, I hereby declare that I know and accept the General Rules of the NF Mark and the NF APE Certification Rules and undertake to comply therewith throughout the period of use of the approval, all these rules available on the CERTIGAZ's website.

I undertake to pay, as soon as invoices are received, the fees at our expense.

The tariffs are available on CERTIGAZ website and can be asked to CERTIGAZ.

Yours faithfully,

Date and signature
of the legal representative
of the holder

MODEL LETTER 002 B H - NF APE MARK

to be drawn up on the applicant's letterhead

CERTIGAZ
Dear **Madam**
Immeuble le Linéa
1, rue du Général Leclerc
F – 92800 Puteaux

Subject: **NF APE**
Application for the maintenance of approval

Dear **Madam**,

I would like to apply to maintain the approval of the excess flow valves which do not differ from the already approved product other than in their references and/or trademarks and/or in design changes that do not alter their certified features in any way whatsoever.

This application concerns:

- the product name
- the manufacturing unit: (company name) (address)
- approval granted on: (date)
- under the number: (number)

The brand names requested by the distributor are:

- trade reference:
- trademark:

I hereby declare that the other characteristics of the products concerned by this application are in strict compliance with the products already approved and manufactured in the same conditions.

In this respect, I hereby declare that I know and accept the General Rules of the NF Mark and the NF APE Certification Rules and undertake to comply therewith throughout the period of use of the approval, all these rules available on the CERTIGAZ's website.

I undertake to pay, as soon as invoices are received, the fees at our expense.

The tariffs are available on CERTIGAZ website and can be asked to CERTIGAZ.

Yours faithfully,

Date and signature
of the legal representative
of the applicant

(and signature of the holder of the NF APE Mark for agreement in the case of an application for maintenance wherein the applicant is different from the holder)

FORM 003 A - NF APE MARK

GENERAL INFORMATION FORM REGARDING THE APPLICANT/HOLDER

APPLICANT/HOLDER:

- Company name:
- Address:
-
- Country: Website:
- SIRET no. (1): APE and/or VAT code
- Name and position of the legal representative (2):
- Name and position of the contact (if different):
- Tel.: Fax: Email:
- QHSE system certification: Body:

MANUFACTURING UNIT of finished products (if different from the applicant/holder):

- Company name:
- Address:
-
- Country: Website:
- Name and position of the legal representative (2):
- Name and position of the contact (if different):
- Tel.: Fax: Email:
- QHSE system certification: Body:

MANUFACTURING UNIT of injected products (if different from the manufacturing unit of products - paragraph to duplicate if multiple injection sites are used):

- Company name:
- Address:
-
- Country: Website:
- Name and position of the legal representative (2):
- Name and position of the contact (if different):
- Tel.: Fax: Email:
- QHSE system certification: Body:

NOTE: Duplicate the lines above for any other manufacturing step carried out on a different site

MANUFACTURING UNIT of excess flow valves and/or their ASSEMBLY (if different from the manufacturing unit of products - § to duplicate if the assembly is carried out on a storage site, for example):

- Company name:
- Address:
-
- Country: Website:
- Name and position of the legal representative (2):
- Name and position of the contact (if different):
- Tel.: Fax: Email:
- QHSE system certification: Body:

REPRESENTATIVE IN THE EEA (if required) or other REPRESENTATIVE:

- Company name:
- Address:
-
- Country: Website:
- SIRET no. (1): APE and/or VAT code:
- Name and position of the legal representative (2):
- Name and position of the contact (if different):
- Tel.: Fax: Email:
- QHSE system certification: Body:

(1) Only for French companies. (2) The legal representative is the legal person responsible for the company

MODEL LETTER 003 C - NF APE MARK

to be drawn up on the applicant's letterhead

CERTIGAZ
 Dear **Madam**
Immeuble le Linéa
1, rue du Général Leclerc
F – 92800 Puteaux

Subject: **AGENT / REPRESENTATIVE**

Dear **Madam**,

I hereby authorise the Company identified below in its capacity as agent to represent me on French territory for all issues relating to the use of the NF APE mark. I undertake to inform CERTIGAZ immediately of any new appointment of the below-mentioned representative.

- Company name:
- Address:
-
- Country: Website:
- SIRET no. (1): APE and/or VAT code:
- Name and position of the legal representative (2):
- Name and position of the contact (if different):
- Tel.: Fax: Email:
- QHSE system certification: Body:

I consequently request that the expenses that are to be borne by me be invoiced directly to the said representative. This representative will ensure immediate settlement of invoices upon receipt on my behalf as bound so to do in accepting to represent me.

Yours faithfully,

<p>Date, name and signature of the legal representative (2) of the applicant/holder, preceded by the handwritten comment “Approved for representation”</p>	<p>Date, name and signature of the agent in Europe preceded by the handwritten comment “Approved for acceptance of representation”</p>

(1) Only for French companies.

(2) The legal representative is the person legally responsible for the company.

FORM 005 - NF APE MARK

MODEL OF TECHNICAL FILE by product reference

The technical file shall include at minimum the following items. It may be supplemented by quality plans, control plans, quality manual. Its coding must allow traceability to link with the version that is the subject of type tests.

The technical file items are organised in the order defined below.

This file may can be sent to CERTIGAZ in electronic form (PDF) provided that all these items are contained in a single PDF file for each product reference.

- 1 **Information on one of the forms 005 below according to the family. Part of the information from sheet 004 appears in sheets 005. During an extension or maintenance, sheet 004 may be optional depending on the nature of the modification. The overall drawing (accessories, excess flow valves, etc.)**
- 2 **The overall plan or diagram (accessories, triggers, etc.)**
- 3 **The parts list for products made up of multiple components**
- 4 **Detailed drawings or information of all the components (making sure to define the materials used accurately)**
- 5 **The marking plan or information**
- 6 **The definition of the codification of the batch number on the certified product**
- 7 **Manuals (for installation, use, as appropriate) → TO BE DEBATED with regard to the regulations because often there are no instructions**
- 8 **Packaging type → TO BE DEBATED with regard to the regulations because often there is no information on the packaging and its marking**
- 9 **The ACS (health compliance certificate) for drinking water application (application group 2)**
- 10 **The material compliance certificates according to the respective specifications:**
 - 10.1 **For PE resin, certificate NF114 (available on LNE website) and 3.1 of the standard NF EN 10204 (during audits)**
 - 10.2 **For metal parts or components or other resins of components, document such as certificate 3.1 of the standard EN 10204**
 - 10.3 **For seals, material certificate according to :**
 - ISO 16010, NF EN 549 or NF EN 682 with the hardness and temperature classes for gas application
 - ISO 4633, ISO 23711 or NF EN 681 for the water application

If a certificate is not available but only compliance tests according to a required norm, CERTIGAZ will ask to see the tests report during audits according to the said norm every 2 years. Those tests could be carried out at the LRCCP French laboratory following a sample taking in compliance with CERTIGAZ required norms.
 - 10.4 **For lubricants used for leaktightness, certificate according to EN 377**

If a lubricant is not certified according to EN 377 but is historically used since many years by the manufacturer/holder, without causing any customer complaint, CERTIGAZ can allow its use by special dispensation.
 - 10.5 **For adhesives used for leaktightness, certificate according to EN 751-1 or EN 751-2 with NF540 certification**
- 11 **Description of tools**
 - 11.1 **Key tool for perforators of tapping saddles, B1 family**
 - 11.2 **Compatible tools for the implementation of RPC, E2 family**
 - 11.3 **Compatible tools for the implementation of saddles to closed and/or derivation, B2 family**

TECHNICAL FILE No.:

revision:

Date:

Families A, B, C

1 - DESCRIPTION

TABLE 1

Trademark	
Trade reference	
Part type (Coupler, Saddle (*), Reducer, Elbow, Tee Other to be specified)	
Identification system (batch no., manufacturing period, other)	
Nominal diameter	
Stop (removable or not, specify)	

(*) Specify if the saddle is of one-piece or if there is a lower saddle or a strap and the tool to be used.

TABLE 2

PART	RESIN	TRADE REFERENCES
Fittings		
Welding zone		

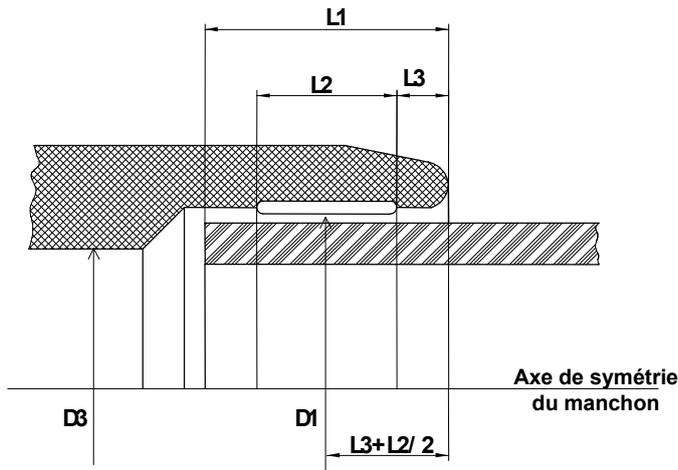
TABLE 3

Electrical connection	(See also Table 6)
Shape of connectors	(See also Table 6)
Limits of applications: (Series/SDR pipe, internal insert, use, storage period)	

2 - GEOMETRY OF THE JOINTING

In the absence of fittings drawings, diagrams such as those presented below may constitute the file. The symbols listed below comply with the standard of the product.

2.1. - SOCKET FITTING



- E: Thickness measured at any point
- D1: Inside diameter of the socket, measured at $L3 + L2/2$
- D2: Minimum inside diameter in the length of the socket ($L1$)
- D3: Minimum inside diameter of the fitting
- E1: Thickness at D1
- E3: Minimum thickness outside of L3
- L4: Distance between welding zones
- L1: Length of the penetration of the pipe

2.2 - COUPLERS

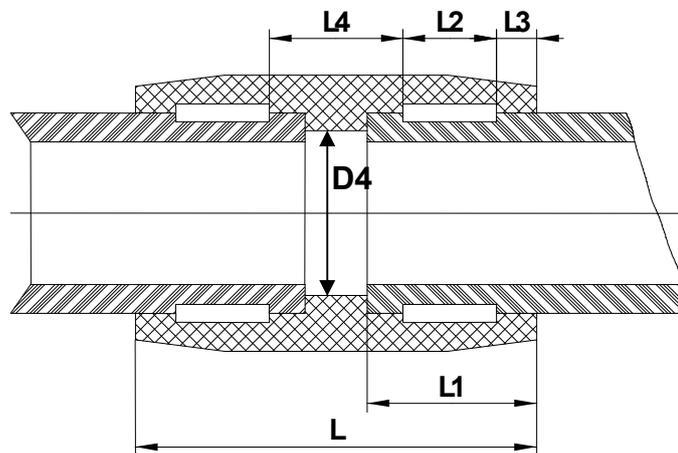


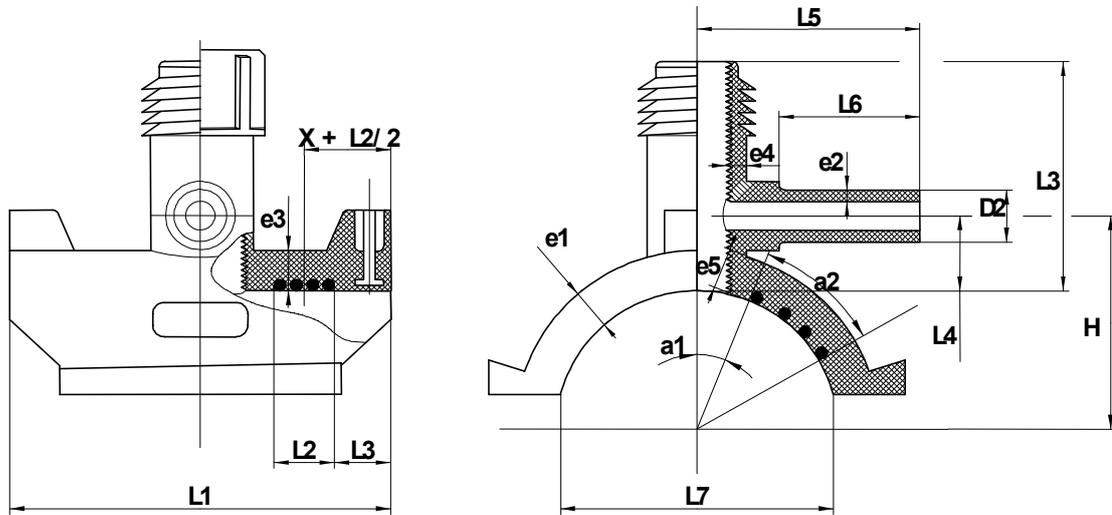
TABLE 4

PARAMETER	UNIT	NOMINAL	MIN	MAX
L	mm			
L1	mm			
L2	mm			
L3	mm			
L4	mm			
D1	mm			
D2	mm			
D3	mm			
D4	mm			
E	mm			
Ovality	mm			
Stop *				

* for gas application, the stop is recommended for $dn < 63$; In all cases, state whether there is a stop and whether it is fixed or removable.

2.3 - SADDLES

The diagrams in this figure are given by way of example. The manufacturer will mention on its diagram the dimensions as shown in the attached example.



e4: minimum thickness of the saddle stack

e5: minimum thickness in the welding zone

TABLE 5

PARAMETER	UNIT	NOMINAL	MIN	MAX
e1	mm			
e2	mm			
e3	mm			
e4	mm			
e5	mm			
D1	mm			
D2	mm			
L1	mm			
L2	mm			
L3	mm			
L4	mm			
L5	mm			
L6	mm			
L7	mm			
a1	Degrees			
a2	Degrees			
K			pressure drop coefficient compliant with product standard	

For the tapping saddles, the main specifications of the perforator function are specified:

- Material of the body of the perforator and the cutting part
- Cutting diameter
- Operating key for the perforator (male hexagonal key 10, 12 or 17 according to standard NF T54-970)
- For the gas application:
 - MOP of the tapping saddles
 - Leakage level during the operation (0 or <200l / h under MOP according to standard NF T54-970)

2.4 - OTHER FITTINGS

In the case of other electrofusion fittings (reducers, elbows, tees), the socket dimensions shall be consistent with those given in § 2.1 and 2.2.

In the case of spigot fittings, it is necessary to specify all the other characteristic dimensions.

2.5 - MBDI

Overall drawing and parts list of the MBDI with the dimensional drawings of the coupler/pipe alone and the PE raw material with the resin code.

3 - CHARACTERISTICS

3.1 - ELECTRICAL

TABLE 6

CHARACTERISTIC	UNIT	NOMINAL	MIN	MAX
Resistance at 23 °C	Ω			
Wire material	<i>Material grade according to the standard to be specified</i>			
Wire diameter	mm			
Linear resistance	Ω/m			
Winding pitch	mm			
Number of turns				
Winding diameter	mm			
Connector material	<i>Material grade according to the standard to be specified</i>			
Connector diameter	mm			
Connector height	mm			

Specify the technology used for making the electrical part (wire insertion, injection on wire, injection on a wire retaining profile, etc.)

3.2 – SEALS

Specify the dimensions, the materials of seals, hardness, temperature ranges, certifications.

3.3 – OTHER CHARACTERISTICS

You must indicate all characteristics that are important to declare, such as:

- the cutter with the operating tool,
- the integrated excess flow valve of tapping tees,
- the means for protecting the steel ends, family A2 (see family D3).

4 - WELDING PARAMETERS

4.1 - DEFINITIONS

- TR = Reference temperature: 23 °C
 Tm = Minimum temperature at which the fitting can be welded
 TM = Maximum temperature at which the fitting can be welded

4.2 - INFLUENCE OF TEMPERATURE

TABLE 7

TEMPERATURE	PARAMETER	UNIT	NOMINAL	MIN	MAX
TR	Time	s			
	Energy	kJ			
Tm	Time	s			
	Energy	kJ			
TM	Time	s			
	Energy	kJ			

4.3 - REGULATION TYPE

Specify the type of regulation used (voltage, current or energy):

TABLE 8

PARAMETERS	UNITS	NOMINAL
Time	s	
Voltage	V	
Current	A	
Regulated energy	kJ	

Any correction to the welding conditions based on a parameter other than the temperature shall be specified by the manufacturer.

4.4 - COOLING TIME OF ELECTROFUSION ACCESSORIES

Indicate the cooling time necessary to reach, at an ambient temperature of 23 °C, the two temperatures (at the interface of the welding zone) defined in Table 10 below:

TABLE 9

Temperature at the welding zone	Cooling time
70 °C	
110 °C	

5 - TOOLS

The manufacturer shall specify the mechanical tools necessary for installation of the fitting, such as:

- Key tool for perforators of tapping saddles, B1 family
- Compatible tools for the implementation of saddles to closed and/or derivation, B2 family

Note: The roughness and in general the surface appearance of the fittings is compatible with the sealing mode of the tools declared compatible. This area where sealing is required with the tools is mentioned on the drawings.

6 – DESCRIPTION OF BAR CODES

6.1 Welding

For electrofusion fittings, description in tabular form of the code digit by digit, according to standard NF ISO 13950.

6.2 Component traceability

Description in tabular form of the code digit by digit, according to standard ISO 12176-4.

This code is mandatory for electrofusion fittings and optional for the other fittings.

Families D1, D2, D3

1 - DESCRIPTION

1.1. – IDENTIFICATION

- **Manufacturer's name**
- **Trademark**
- **Trade reference**
- **Type of mechanical fitting**
- **Identification system (by batch no. or manufacturing period, etc.)**

1.2. - ADDITIONAL CHARACTERISTICS

- **Composition**
 - Nature and reference of materials (standardised name and reference standard):
 - PE :
 - brass :
 - steel :
- **Type of coating for metal bodies (D3 family)**
 - Nature of coating between PR and metal
 - Colour
 - Material reference (standardised name and reference standard)
 - Nature of the peelable coating
 - Designation
 - Colour
- **Composition of seals**
 - Nature
 - Material reference
 - Hardness
 - Temperature range
 - Certification
- **Installation manual specific to the fitting**
 - Tightening torque, etc.

2 – GEOMETRY

- a dimensioned overall view
- a detailed dimensioned diagram of components

Families E1, E2, E3

1 - DESCRIPTION

1.1 - IDENTIFICATION

- **Manufacturer's name**
- **Trademark**
- **Trade reference**
- **Type of PE valve**
- **Identification system (by batch no. or manufacturing period, etc.)**
- **Nominal diameter and SDR (or series) of PE couplers**
- **Type of plug (cylindrical or spherical, etc.) with diameter or passage area of fluid**
- **Type of saddle for RPCs (model, reference, supplier)**

Append the technical files of saddles

1.2 - ADDITIONAL CHARACTERISTICS

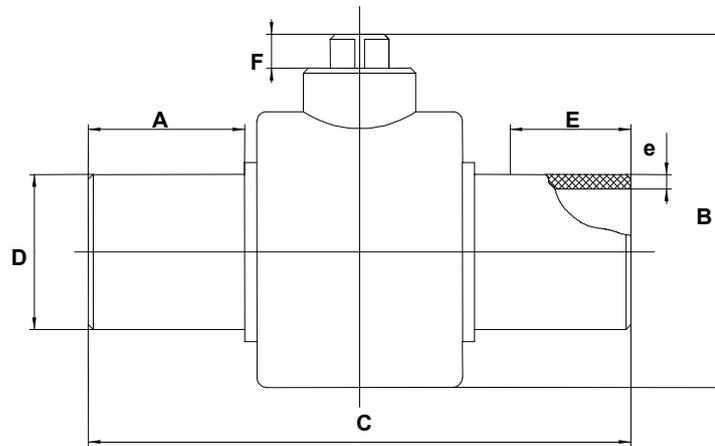
- **Composition of the body**
 - Nature of material(s)
 - Material(s) reference (standardised name and reference standard)
 - closing direction (for applications other than gas):
- **Composition of spigot ends**
 - Resin reference
 - Classification (MRS 8 or 10)
- **Type of body/spigot ends jointing** (butt fusion, socket fusion, mechanical or other)
- **Type of valve/saddle jointing** (butt fusion, socket fusion, mechanical or other)
- **Composition of seals**

	Internal leaktightness	External leaktightness
<ul style="list-style-type: none"> - Nature - Material reference - Hardness - Temperature range - Certification 		

2 - GEOMETRY

Depending on the different products below, specify the product groups by body type, control type, cross-section (shape and surface), stopper type (cylindrical, spherical, etc.), technology, etc.

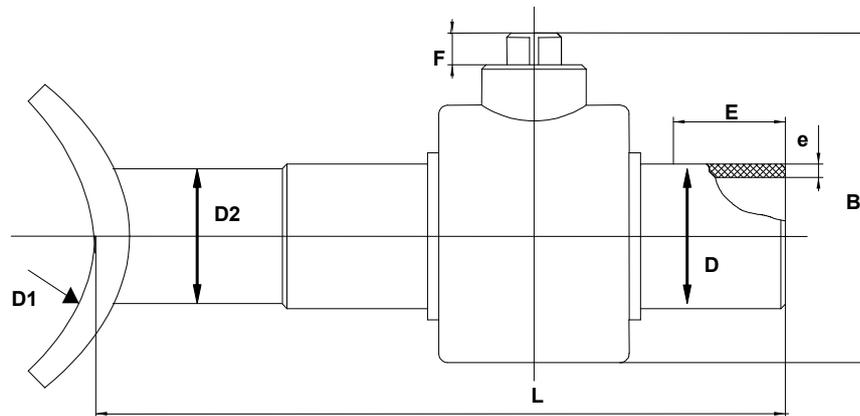
2.1 - Valve



- A = Length of the coupler
- B = Total height of the valve
- C = Total length of the valve
- D = Outside diameter of the coupler
- E = Useful welding length
- e = Thickness of couplers
- F = Height of operating square key

2.2 - RPC

In addition to the valve dimensions, specify the following dimensions L, D1 and D2.



For the implementation of the RPC, compatible tools are mentioned

Note: The roughness and in general the surface appearance of the fittings is compatible with the sealing mode of the tools declared compatible. This area where sealing is required with the tools is mentioned on the drawings.

2.3 – Valves with purge

- Configuration selected with the parts list of the components and component drawings
- Dimensional according to § 2.1 above with the purge(s) (centre distance, d_n , length, etc.)
- Designation of purges (raw material of resin, NF PE pipe, MRS 8 or 10, SDR...)

Part 8

GLOSSARY

The glossaries of product standards are applicable for technical terms.

Relinquishment:	The holder requests the termination of the right to use the Mark for all or part of its products.
Granting the right to use the NF mark:	Authorisation granted by AFNOR Certification and notified by CERTIGAZ to an applicant, allowing it to display the NF Mark on the product for which application has been made. This grant is materialised by a certificate.
Audit:	According to standard NF EN ISO 9001: Part of the site visit regarding the examination of a product and assessment of the specific means used to ensure compliance with the requirements in the certification guidelines.
Warning:	Decision taken by the certification body whereby the holder shall rectify the infringements. Sanction decision, following the finding of non-compliance with a low or non-recurring impact with low recurrence on product safety, property or persons, notified by CERTIGAZ, whereby the holder is required to correct any faults observed, a deadline set by CERTIGAZ (shorter than observation), during which time the right to use the NF Mark is not suspended.
Consensus	According to standard NF EN 45020: "General agreement, characterized by the absence of sustained opposition to substantial issues by any important part of the concerned interests and by a process that involves seeking to take into account the views of all parties concerned and to reconcile any conflicting arguments." Note: Consensus need not imply unanimity."
Application:	Letter whereby an applicant requests the right to use the NF Mark, declares that it is familiar with and undertakes to comply with the certification guidelines in their entirety.
Applicant:	Legal entity requesting a certification and which undertakes to manage the conformity of its product with the certification guidelines in question.
Right to use the NF Mark:	Right granted by AFNOR Certification to a body to use the NF Mark for products in the concerned application in accordance with the General Rules of the NF Mark and with the relevant certification guidelines.
Cavity:	Interior of a mould to be filled to form the moulded product. When multiple products are made from a single injection, we speak about a multi-cavity mould. In this case, each cavity shall be distinguishable to ensure its monitoring.
Extension:	Authorisation granted by AFNOR Certification and notified by CERTIGAZ to an applicant, allowing it to display the NF Mark on the modified product for which the application has been made. This grant is materialised by a certificate. This procedure whereby a certification applicant's file submitted by a holder is examined, concerns a product already certified by the mark and having undergone changes or a new product derived from a product already certified by the mark. The extension is major when tests and / or audits are needed and minor otherwise.

Batch:	<p>A batch is a set of products of the same model, manufactured in the same production run with the same composition (same batch of resin or alloy). Production run means the period during which a defined and homogeneous quantity of products is manufactured under uniform conditions without any interruption that might call into question the manufacturing conditions. The batch is defined and identified by the manufacturer and should allow traceability of the product.</p>
Maintenance:	<p>Authorisation granted by AFNOR Certification and notified by CERTIGAZ to an applicant to display the NF Mark on a product already certified for which the modification does not require any technical review (example: change in trade reference or trademark; aesthetic change without functional impact, etc.).</p>
Agent	<p>Legal entity or private individual located in the European Economic Area (EEA) or the European Free Trade Association (EFTA) which represents the applicant/holder outside the EEA/ EFTA and has a written power of attorney from the applicant/holder stating that it can act on its behalf with respect to the use of the NF Mark, in the certification process and in invoicing. The agent may be the distributor or the importer; its various functions are clearly identified.</p>
Major non-conformity	<p>Deviation from a requirement of the standard relating to the organization, application or formalization of the QMS or the product and resulting in a proven risk (that is to say based on objective elements) of non-compliance, recurrent or unique in the event of a very significant risk, of a specified requirement.</p>
Minor non-conformity	<p>Deviation from a requirement of the standard relating to the organization, application or formalization of the QMS or the product and not entailing any significant risk of non-compliance with a specified requirement.</p>
Observation:	<p>Decision taken by the certification body whereby the holder shall rectify the infringements. Sanction decision, following the finding of non-compliance with a very low impact without recurrence on product safety, property or persons, notified by CERTIGAZ, whereby the holder is required to correct any faults observed, before the next monitoring, during which time the right to use the NF Mark is not suspended.</p>
Improvement point :	<p>Way in which, a margin of progress has been identified.</p>
Strong point :	<p>Point that exceeds the requirements of the standard, or particularly efficient.</p>
Sensitive point :	<p>Compliant element during the audit but fragile in the short or medium term.</p>
Admissibility:	<p>Suitability of a file which allows an application to be examined; admissibility concerns the administrative parts of the file.</p>
Continuance:	<p>Decision whereby the holder's right to use the NF Mark is continued within the context of monitoring.</p>
Renewal:	<p>Decision whereby the holder's right to use the NF Mark is renewed (tacit renewal of certificates).</p>
Withdrawal:	<p>Decision taken by the certification body which cancels the right to use the NF Mark. Withdrawal may be declared as a sanction or in the event that the holder relinquishes its user right.</p>

-
- Suspension:** Decision taken by the certification body which cancels the right to use the NF Mark for a set period of time. Suspension may be declared as :
- a sanction, following the finding of non-compliance with a big impact or low but with a big recurrence on product safety, property or persons, notified by CERTIGAZ
 - in the event that the holder temporarily relinquishes its user right.
- Holder:** Legal entity, **manufacturer or distributor**, that has the right to use the NF mark.
- Manufacturing unit:** Plant that manufactures the products covered by the Guidelines and that is responsible for the final testing and inspection of the products.
- Place of production of PE accessories: geographic unit(s) where at least the assembly and final inspection are carried out.