

**Specific Rules for Nordic Certification in
accordance with
*EN 1329-1 Plastics piping systems for soil and waste
discharge within the building structure –
Unplasticized poly(vinyl chloride) (PVC-U) – Part 1:
Specifications for pipes, fittings and the system***

• INSTA-CERT •

Specific rules for certification in accordance with EN 1329-1

Plastics piping systems for soil and waste discharge within the building structure – Unplasticized poly(vinyl chloride) (PVC-U) – Part 1: Specifications for pipes, fittings and the system

Foreword

EN 1329-1 specifies the requirements for a piping system for soil and waste discharge (low and high temperature) made from PVC. The piping system intended to be used within the building structure (marked with "B") and for waste discharge within and under the building structure (marked with "BD").

The following modifications are made in this version of this document:

Tables 5 and 8: Changes in Impact resistance test method requirements

Tables 5, 6 and 11: K-value has been changed to min 64.0

References: Misprints corrected

References

INSTA-CERT GRC General Rules for Certification provided by INSTA-CERT

EN1329-1:2014+ A1: 2018

Plastics piping systems for soil and waste discharge within the building structure – Unplasticized poly(vinyl chloride) (PVC-U) – Part 1: Specifications for pipes, fittings and systems

CEN/TS 1329-2:2012 Plastics piping systems for soil and waste discharge within the building structure – Unplasticized poly(vinyl chloride) (PVC-U) – Part 2: Assessment of conformity

1 CONDITIONS FOR CERTIFICATION

The issuing of a certificate requires that the applicant commits himself to follow the "General Rules for Certification provided by INSTA-CERT" (hereafter INSTA-CERT GRC) and the specific rules but also to make sure that the products mentioned fulfil the requirements in EN 1329-1.

Products made from external non-virgin materials cannot be certified under this INSTA-CERT system.

Lead stabilised PVC products cannot be certified under the INSTA-CERT system.

2 APPLICATION FOR A CERTIFICATE

The applicant is free to choose at which certification body, partner of INSTA-CERT, he wants to apply and subsequently a certificate is issued. The application shall be in writing on a separate form, available at www.insta-cert.net

The application should include information concerning the applicant as well as information about dimensions of pipes and fittings, stiffness classes and fittings types etc. mentioned in the application.

The application shall include:

- Accredited reports covering type tests (testing and inspection) according to clause 4.1 and description of each component intended to be covered in the certificate. When appropriate, technical specifications or drawings can be used. The type test report or any other test reports should be presented in any of the Nordic languages or in English. The age of the reports should preferably not exceed two years.
- Information concerning the material in pipes and fittings stating the name of the manufacturer of raw material and information of the raw material
- If applicable information concerning manufacturer and type of the sealing rings, together with documentation that the sealing ring material meet the requirements in the relevant standard, EN 681-1 or -2, either as a valid accredited certificate or as accredited test reports as required in the standard.
- Description of the manufacturers internal control system and instructions for quality assurance of relevant product according to clause 4.1.2.
- Proposal for marking according to clause 5 and Annex B.

An INSTA CERT certificate can only be given to manufacturers of materials or components in the field of thermoplastics piping and fitting system

3 CERTIFICATE

The certificate can be issued, when the reports from the type testing prove that the requirements in EN 1329-1 and in this SBC are fulfilled as well as other application initiatives according to clause 2 are approved.

A certificate according to this SBC covers only one manufacturer and products from one place of production.

For a manufacturer extending his scope of certification to another production site with products covered by this SBC, one of the following alternatives may be followed.

1. Type testing is performed by an approved test laboratory according to Table 11, Audit test. A certificate may be issued, when the approved results are available for short time tests.
2. The manufacturer shall carry out a preliminary type test (PTT) according to Table 11, Audit test. The certificate may be issued as soon as approved results are available for all tests and pipes are sent for testing at an approved test laboratory.

Both alternatives imply that production and quality assurance system for the actual production sites are similar. This is verified through assessment of the quality system and initial inspection at the production site. A report shall be available ahead of the issuing of a certificate.

The scope of certification will be according to the table 1

Table 1 The scope of certification

Application area and diameter (mm)	
B	BD
32	
40	
50	
	75
	110
	125
	160

Pipes and fittings are classified in size groups according to below Table 2.

Table 2 Size groups for pipes and fittings

Mean outside diameter d_n (mm)	Size group
32 – 50	1
75 – 160	2

Fittings are divided into groups according to below Table 3.

Table 3 Fitting groups

Fitting type	Fitting group
Bends	1
Branches	2
Other fittings	3

4 TESTING AND INSPECTION

Testing and inspection include:

- Type testing and inspection, 4.1
- Factory production control (BRT, PVT), 4.2
- Audit testing (AT) and inspection, 4.3
- Other testing and/or inspection, 4.4
- Testing and/or inspection by change of production conditions, 4.5

4.1 Type testing and inspection

Material in these special rules means specification of raw material-type, additives and their mixture ratios.

If mixture ratios of recipe or if some of the material types accompanying is changing, exceeding tolerances given in 8.1.1, this causes a change in the material.

The values of the parts (X_i) shall be specified by the manufacturer in his quality plan.

4.1.1 Type testing

Type testing shall be performed on pipes and fittings, which are included in the application and to the extent stated in Table 5, 6 and 7. On request by the applicant the type test shall be performed by an approved testing laboratory. The type test report shall confirm that all requirements are fulfilled with regard to the relevant pipes/fittings. The type test report shall state the designation of material and sealing rings used in the tested pipes and fittings.

4.1.2 Initial inspection

The initial inspection shall be performed by an approved inspection body according to Annex A to this SBC.

The initial inspection forms part of the type test and shall verify that the manufacturers system for quality assurance for relevant products comply with the below notes and clause 4.2.1.

Documented routines shall cover:

- Disposition of responsibility
- Documentation (manual or document shall refer to INSTA-CERT GRC and this SBC) and valid standards for actual products shall be available for the personnel involved.
- Purchase and receiving inspection, stocking of raw material
- Factory production control
- Recording of the results from the internal inspection including handling records in electronic form
- Deviations and corrective actions
- Calibration of measuring and testing equipment with traceability to accredited calibrated instrument
- Final inspection of finished product
- Handling of finished product (stocking, packaging and delivery) to prevent damages
- Claims
- Traceability from products to internal records

In case the applicant has a valid INSTA-CERT certificate for similar products this shall be taken in consideration when deciding in the extent of initial inspection.

At the initial inspection it shall be evaluated if the resources of the manufacturer are sufficient to ensure the required quality level of the products and to perform the internal testing according to clause 4.2.1.

4.2 Factory production control

4.2.1 Internal testing

The manufacturer is responsible for demonstrating through described procedures and written instructions that INSTA-CERT marked pipes and fittings included in the certificate fulfil the requirements in EN 1329-1 and this SBC.

The internal control is performed partly as, batch release test (BRT) with the minimum content as stated in tables 8 and 9 attached to this SBC, and partly as, process verification test (PVT) performed according to table 10. Documentation from the testing should be kept for at least 5 years.

The certificate holder/manufacturer is responsible for ensuring that the instructions concerning the internal quality inspection are available for the personnel in the language of the manufacturer country concerned.

Records of the internal control shall be signed, dated and shall be available for the external inspector according to clause 4.3.1.

The records shall include information of - or traceability to

- Type of raw material
- Certificate of raw material
- Recipe/compound identification/designation
- Batch number
- Date of production

If the tested pipes and fittings do not fulfil the requirements, the manufacturer/certificate holder must immediately initiate the necessary corrective actions to ensure that the products fulfil the requirements, see clause 8.2 batch release tests in this SBC.

Delivery of defective conformity marked products shall be prevented.

4.3 Audit testing and inspection

Audit testing and inspection of pipes and fittings shall be performed normally twice per year by an approved inspection body and testing laboratory according to Annex A to this SBC (see 4.3.3).

4.3.1 Inspection

The inspection includes

- Review of the manufacturer's documentation of the internal control according to clause 4.2.1 including inspection of records as well as inspection of the manufacturer's testing equipment and calibration of measuring and testing equipment used.
- Storage, packing and delivery of final products. In addition also random surveillance of the quality insurance routines is made according to 4.1.2.
- Sampling of certified products from the manufacturer's stock. The samples shall be signed by the inspector for testing according to 4.3.2

4.3.2 Audit testing

Testing shall be performed according to table 11 covering pipes and fittings with sizes representative for the manufacturer's production. All test results shall be documented in a report stating the designation of material and sealing rings used in tested pipes and fittings.

4.3.3 Results from inspection and testing

If the requirements are not fulfilled the certification body decides, if necessary in consent with the inspection body and/or testing laboratory concerned, which action shall be taken.

Deficiencies in the results of external or internal testing or inspection may cause withdrawal of the right to use the conformity mark until sufficient actions to ensure the quality have been taken. The certification body may additionally increase the number of external inspections for a certain period of time.

4.4 Other testing and inspection

Other testing and inspection may be carried out under the conditions stated in INSTA-CERT GRC.

4.5 Control at change of material or production methods

The certificate holder shall in advance inform the certification body of all changes in recipe/compound, design and production methods. Table 5, 6 and 7 describe the extent of the control, which is caused by the change.

The certificate holder is not allowed to mark any changed product with the conformity mark without a written permission from the certification body.

5 MARKING

Pipes and fittings included in the certificate shall at least be marked with:

1. the conformity mark, see Annex B
2. information according to EN 1329-1 clause 12

Marking according to items 1 to 2 shall be approved by the certification body.

Any additional marking shall not be in conflict with the marking according to items 1 to 2.

6 FEES

Information about application and annual fees can be given by the INSTA-CERT members.

The costs for type testing and inspection as well as audit testing and inspection are paid by the applicant/certificate holder directly to the inspection body/testing laboratory.

Costs related to other kind of testing and/or inspection is paid according to the conditions stated in INSTA-CERT GRC.

7 REGISTER

Register of approved pipes and fittings according to EN 1329-1 can be found on the INSTA-CERT homepage www.insta-cert.net.

8 TESTING EXTENT

8.1 Type testing

Relevant type testing according to table 5, 6 and 7 shall be performed when changes in construction, changes in material and/or production method are taking place. Characteristics with given frequency are tested by an approved test laboratory.

8.1.1 Material specification, PVC-U

The raw material requirements specified in this INSTA SBC are valid for both B and BD application.

For the purpose of this SBC the material specification consists of a recipe/ compound which defines types of PVC-U and additives and their dosage level.

The dosage levels of ingredients shall not exceed the tolerance bands given in table 4. If any level exceeds the dosage band or if a type is changed, this variation in formulation constitutes a change in material.

Lead stabiliser systems are not included in this SBC and such systems cannot be certified under the INSTA-CERT system.

Table 4 Compound of raw material mixture

Component	Type	Range
PVC resin	Nominal K value; as specified	+3 / -0 units
Type of stabilizer or master batch	Ca-Zn Sn Ca-Sn Other	$X_1: \pm 25 \%$
Lubricants	All	$X_2: \pm 50 \%$ if $X_2 \leq 0.2$ part $X_2: \pm 0,1$ part if $X_2 > 0.2$ part
Fillers	CaCO ₃ Others	$X_3: \pm 6$ parts $X_4: \pm 50 \%$
Impact modifiers	All	$X_5: \pm 1$ part
Flow agents	All	$X_6 \pm 25 \%$ if $X_6 \leq 2$ part $X_6: \pm 0.5$ part if $X_6 > 2$ part
Pigments	no requirements	
Other components	To be separately specified by the manufacturer	$X_{7...n}: \pm 12.5 \%$

Table 5 Characteristics of pipes that require type testing

Characteristic	Reference to clauses and tables of EN 1329-1:2014	3rd party type testing frequency				Number of test pieces	Number of measurements per test piece
		New	Change of design (Only changes having influence on the jointing and/or performance of the pipe)	Change of material a), b)	Extension (New size group))		
K-value EN ISO 13229 Min. 64.0		Once/ material		Once/ material			
PVC content	4.1	One calculation/ material		One calculation/ material			
Resistance to internal pressure	4.2 – table 1	Once/ material/ size group		Once/ material/ size group	Once/ material/ size group	3	1
Appearance	5.1	Pipes from which samples for testing as specified below and in table 7 is taken				1	1
Colour	5.2						
Dimensions Pipe diameter and wall thickness; socket depth, wall thickness and diameters	6.2 and 6.4 – tables 3, 5, 9 13 and 14						
Impact resistance Size group 1 (round the clock; at 0 °C)	7.1.1 – table 18	1 diameter/ size group b)		1 diameter			
Impact resistance Size group 2 (stair case method at -10°C)	7.1.1 – table 18	1 diameter/ size group b)		1 diameter		Min 20	1
Vicat softening temperature (VST)	8.1 – table 21	Once/ material		Once/ material		2	1
Longitudinal reversion	8.1 – table 21	1 diameter/size group, but at least two diameters shall be tested		1 diameter / size group, but at least two diameters shall be tested	1 diameter / new size group and/or SN	3	1
Resistance to dichloromethane at a specified temperature	8.1 – table 21	1 diameter/size group, but at least two diameters shall be tested		1 diameter/ size group, but at least two diameters shall be tested	1 diameter/ new size group and/or SN	3	1
Sealing rings	10	Control of documentation/ material		Control of documentation/ material			
Marking	12,1 – table 25	c)					
a) For definition of change of material, see clause 8.1.1 b) At least two dimensions shall be tested; If only one size group will be certified, shall it be tested two dimensions / size group c) Products for type testing do not need to be marked as requested in the referring standard. The manufacturer shall mark such products according to his quality plan in a clear way so traceability to all necessary data for the material used, processing parameters etc. is secured. This marking shall be reflected in the report.							

Table 6 Characteristics of fittings that require type testing

Characteristic	Reference to clauses and tables of EN 1329-1:2014	3rd part type testing frequency				Number of test pieces	Number of measurements per test piece
		New	Change of design (Only changes having influence on the jointing and/or performance of the fitting)	Change of material a)	Extension (New size group or fitting group)		
K-value EN ISO 13229 Min. 64.0		Once/ material			Once/ material		
PVC content	4.1	One calculation/ material			One calculation/ material		
Resistance to internal pressure	4.2 – table 2	Once/material		Once/material		3	1
Appearance	5.1	Once/size group/fitting group	Once/size group/fitting group	Once/size group/fitting group	Once/new size group/fitting group and/or new SDR	1	1
Colour	5.2	Once/size group/fitting group	Once/size group/fitting group	Once/size group/fitting group	Once/new size group/fitting group and/or new SDR	1	1
Dimensions Spigot diameter, length and wall thickness; socket depth, wall thickness and diameters	6.3 and 6.4 – tables 4, 9, 13 and 14	Once/size group/fitting group	Once/size group/fitting group	Once/size group/fitting group	Once/new size group/fitting group and/or new SDR	1	1
Flexibility or mechanical strength ^{b)} EN 1401-1 Clause 7.2 – table 11		Once/size group/fitting group	Once/size group/fitting group	Once/size group/fitting group	Once/new size group/fitting group and/or new SDR	3	1
Impact resistance (drop test) EN 1401-1 Clause 7.2 – table 11		Once/ fitting group in one of the dimensions 110, 125 or 160mm	Once/ fitting group in one of the dimensions 110, 125 or 160mm	Once/ fitting group in one of the dimensions 110, 125 or 160mm	Once/ fitting group in one of the dimensions 110, 125 or 160mm and / or new SDR	3	1
Vicat softening temperature (VST)	8.2 – table 22	Once/ material		Once/ material		2	1
Effect of heating ^{c)}	8.2 – table 22	Once/size group/fitting group	Once/size group/fitting group	Once/size group/fitting group	Once/size group/fitting group	3	1
Sealing rings	10	Control of documentation /material		Control of documentation/ material			
Marking	12.3 – table 26	d)		Covered by BRT	Covered by BRT		
<p>a) For definition of change of material, see clause 8.1.1</p> <p>b) Only fabricated fittings.</p> <p>c) Only for injection-moulded parts.</p> <p>d) Products for type testing do not need to be marked as requested in the referring standard. The manufacturer shall mark such products according to his quality plan in a clear way so traceability to all necessary data for the material used, processing parameters etc. is secured. This marking shall be reflected in the report.</p>							

Table 7 Characteristics of fitness for purpose of the system that require type testing

Characteristic	Reference to clauses and tables of EN 1329-1:2014	3rd party type testing frequency				Number of test pieces	Number of measurements per test piece
		New	Change of design (Only changes having influence on the jointing and/or performance of the fitting)	Change of material	Extension (New size group or fitting group)		
Water tightness ^{b)}	9 – table 24	Once /application area/size /joint design	Once/application area/size /joint design		Once/new application area/size / joint design	1	1
Air tightness ^{b)}	9 – table 24	Once/ application area/ size/ joint design	Once/application area/size /joint design		Once/new application area/size/ joint design	1	1
Application area "BD" Tightness of elastomeric sealing ring joints ^{a) b)}	9 – table 24	Once/ application area/ size / joint design ^{c)}	Once/application area/size/joint design ^{c)}		Once/new application area/size/ joint design ^{c)}	1	1
Application area "B" elevated temperature cycling ^{f)}	9 – table 24	Once/material /joint design on the lowest stiffness produced ^{c)}	Once/ material/ joint design on the lowest stiffness produced ^{c)}	Once/ material/ joint design on the lowest stiffness produced ^{c)}	Once/ material/ joint design if lower stiffness ^{c)}	1 set	1
Application area BD" Elevated temperature cycling , figure 2 in EN 1055	9 – table 24	Once/ material/joint design on the lowest stiffness produced ^{c)}	Once/material/joint design on the lowest stiffness produced ^{c)}	Once/ material/joint design on the lowest stiffness produced ^{c)}	Once/ material/ joint design on lowest stiffness produced ^{c)}	1 set	1
Application area "BD" Resistance to combined temp. cycling and external loading – Method A EN 1437:1998 ^{d) e) g)}		One pipe and one branch from dimension 110, 125 or 160 / material	One pipe and one branch from dimension 110, 125 or 160 / material	One pipe and one branch from dimension 110, 125 or 160 / material	If the new size group is 2: One pipe and one branch dimension 110, 125 or 160 / material	1	1
<p>a) The tightness test shall be performed according to ISO 13259 in the following order: The test starts with Condition B with 10% deformation on the socket and 15% deformation on the spigot in 5 minutes and continue with Condition D during 15 minutes.</p> <p>b) A certificate covering a size group may be issued when one size in that size group has been successfully tested. The other sizes shall be tested at the first production</p> <p>c) Joint design at least includes seal design, groove geometry and seal hardness (± 5 IHRD).</p> <p>d) The following requirements apply: - vertical deformation: $\leq 9\%$ - deviation from surface evenness in bottom: ≤ 3 mm - radius of bottom: $\geq 80\%$ of original - opening of weld line: $\leq 20\%$ of wall thickness - tightness at 0.35 bar/15 minutes: No leakage allowed</p> <p>e) If there are no branches in the programme the bend with the largest angle shall be used. If there are no fittings in the programme a pipe joint shall be tested.</p> <p>f) If only 32, 40 and/or 50 mm (Size group 1) are in the manufactures production range, the test shall only be performed according to Figure 1 in EN 1055.</p> <p>g) If only 32 mm is in the manufactures production range, the test shall be performed according to Figure 3 EN 1055. For approval of new and/or modified sealing rings the Resistance to combined temp. cycling and external loading test is not required.</p>							

8.2 Batch Release Test, BRT

Batch release testing shall be performed by the manufacturer and includes determination of the characteristics listed in tables 8 and 9 with the specified minimum sampling frequencies.

A production batch may only be released when BRT shows conformity with the requirements of EN 1329-1 and this SBC. The maximum extent of a production batch is seven days without change of material or dimension. If a product is rejected due to any lack of quality stated in table 8 or 9 the batch shall be scrapped or a re-test procedure shall be performed for the specific character/part of the product that has been rejected.

The following procedures shall then be performed:

1. The latest product which fulfils all requirements specified in EN 1329-1 shall be traced.
2. Release all products which have been produced before this date and reject the products which have been produced after this date.
3. Routines for handling deviating products shall be described in the manufacturer's quality plan.

Table 8 Characteristics of pipes and minimum sampling frequencies for BRT

Characteristic	Reference to clauses and tables of EN 1329-1:2014	Sampling procedure (minimum sampling)
Appearance/colour	5.1 and 5.2	At start up and change of material and/or colour. Then continuously, but no registration
Mean outside diameter	6.2.1- table 3	At start up and continuously or every 8 h
Wall thickness	6.2.5 – table 5	At start up and continuously or every 8 h
Socket dimensions – socket depth, wall thickness and diameter ^{a)}	6.3.3.3 and 6.4.2 –tables 9, 13,14 and 15	At start up
Impact resistance (round the clock) at 0 °C size group 1	7.1.1 – table 18	At start up and 24 h
Impact resistance (stair case method) at -10 °C size group 2 If 5 samples are tested at 1.5 meter fall height without failure all full test is not necessary	7.1.1 – table 18	At start up and 24 h
Longitudinal reversion	8.1 – table 21	At start up and week
Resistance to dichloromethane at a specified temperature	8.1 – table 21	At start up and 24 h
Marking	12.2- table 25	At start up and week. Then continuously, but no registration
a) For dimensions which are influenced by the process.		

Table 9 Characteristics of fittings and minimum sampling frequencies for BRT

Characteristic	Reference to clauses and tables of EN 1329-1:2014	Sampling procedure (minimum sampling)
Appearance/colour	5.1 and 5.2	Once/cavity/shift
Spigot dimensions – wall thickness and diameter ^{a)}	6.3.2 and 6.3.3.3 –tables 3, 9, 13, 14 and 15	Once/cavity/shift
Socket dimensions – wall thickness and diameters ^{a)}	6.3.3.3 and 6.4.2 –tables 11, 13, 14 and 15	Once/cavity/shift
Spigot length and socket depth	6.4.2 – tables 13, 14 and 15	At the first production of a product not included in the type test.

Effect of heating ^{c)}	8.2 – table 22	DN≤ 160: Once/cavity/day
Flexibility or mechanical strength EN 1401-1 Clause 7.2 – table 11 ^{b)}	-	At the first production of a product not included in the type test
Water tightness – EN 1401-1 Clause 8.2 - Table 14 ^{b)}	-	Once/shift/product
Marking	12.3 - table 26	Once per cavity at start up and by change of marking
a) For dimensions which are influenced by the process. b) Only fabricated fittings c) Only for injection moulded parts		

8.3 Process verification test, PVT

Process verification testing shall be performed by the producer and includes determination of the characteristics listed in table 10 with the specified minimum sampling frequencies.

For products which have been audit tested in the same period the process verification test does not need to be repeated.

If the product does not conform to the requirements in respect of any characteristic in table 10 the retest procedures detailed in the manufacturer's quality plan shall be performed.

If the retest procedure does not show conformity of the product to the requirements, then the process shall be investigated and corrected in accordance with the procedures in the manufacturer's quality plan.

Table 10 Characteristics and minimum sampling frequencies for PVT

Characteristic	Reference to clauses and tables of EN 1329-1:1999	Sampling procedure (minimum sampling)
Pipes		
Resistance to internal pressure ^{a)}	4.2– table 1	Once/year/material, varying size groups
Vicat softening temperature (VST)	8.1 – table 21	Once/year/material
Fittings		
Resistance to internal pressure ^{b)}	4.3– table 2	Once/year/ material
Vicat softening temperature (VST)	8.2 – table 22	Once/year/material
The system		
Water tightness ^{d)}	9 – table 24	Once/2 years/application area/dimension/ joint design
Air tightness ^{d)}	9 – table 24	Once/2 years/application area/dimension/ joint design
Application area "BD" Tightness of elastomeric sealing ring joints ^{c) d)}	9 – table 24	Once/2 years/application area/ dimension / joint design
a) On the smallest diameter produced. b) To be tested in pipe form on an optimal diameter. c) The tightness test shall be performed according to ISO 13259 in the following order: The test starts with Condition B with 10% deformation on the socket and 15% deformation on the spigot in 5 minutes and continue with Condition D during 15 minutes. d) Joint design at least includes: seal design, groove geometry and seal hardness (± 5 IHRD).		

8.4 Audit test, AT

Audit testing shall be performed by the testing laboratory on behalf of the certification body and includes determination of the characteristics listed in table 11 with the specified minimum sampling frequencies.

Table 11 Characteristics and minimum sampling frequencies for AT

Characteristic	Reference to clauses and tables of EN 1329-1:2014	Sampling procedure (minimum sampling)
Pipes		
K-value - EN ISO 13229 Min. 64.0	-	Once/year/material (check of documentation)
PVC content	4.1	Once/year/material (check of recipe)
Resistance to internal pressure	4.2 – table 1	Once/year/size group
Appearance and colour	5.1 and 5.2	Once/year/size group/ application area
Dimensions Pipe diameter and wall thickness; socket depth, wall thickness and diameters	6.2 and 6.4 – tables 3, 5, 9, 13, 14 and 15	Once/year/size group/ application area
Impact resistance Size group 1 (staircase method; 0°C)	7.1.1 – table 18	1 diameter / year
Impact resistance Size group 2 (staircase method; -10°C)	7.1.1 table 18	1 diameter/ year
Vicat softening temperature (VST)	8.1 – table 21	Once/year
Longitudinal reversion	8.1 – table 21	Once/year/size group/ application area
Resistance to dichloromethane at a specified temperature	8.1 – table 21	Once/year/size group/ application area
Sealing ring	10	Check of documentation/material
Marking	12.2- table 25	Once/year/size group/ application area
Fittings		
K-value - EN ISO 13229 Min. 64.0	-	Once/year/material (check of documentation)
PVC content	4.1	Once/year/material (check of recipe)
Resistance to internal pressure ^{a)}	4.3 – table 2	Once/ year, varying materials
Appearance and colour	5.1 and 5.2	Once/year/size group/fitting group
Dimensions Spigot diameter, length and wall thickness; socket depth, wall thickness and diameters	6.3 and 6.4 – tables 3, 9, 13, 14 and 15	Once/year size group/fitting group
Impact resistance (drop test) EN 1401-1 Clause 7.2 – table 11	-	Once/2 years size group/ fitting group application area/
Vicat softening temperature (VST)	8.2 – table 22	Once/year
Flexibility or mechanical strength EN 1401-1 Clause 7.2 – table 11 ^{b)}		Once/year/size group/fitting group
Effect of heating ^{d)}	8.2 – table 22	Once/year/size group/ fitting group
Sealing ring	10	Check of documentation/material
Marking	12.3- table 26	Once/year/size group/ fitting group

The system		
Water tightness	9 – table 24	Once year/size group
Air tightness	9 – table 24	Once/year/size group
Application area “BD” Tightness of elastomeric sealing ring joints ^{d)}	9 – table 24	Once/year/size group/joint design
Application area “B” elevated temperature cycling ^{f)}	9 – table 24	Once/2 years/joint design
Application area “BD” Elevated temperature cycling, figure 2 in EN 1055 ^{e)}	9 – table 24	Once/ 2 years/joint design
<p>a) To be tested in pipe form on the smallest diameter produced.</p> <p>b) Only fabricated fittings</p> <p>c) Only for injection moulded parts.</p> <p>d) The tightness test shall be performed according to ISO 13259 in the following order: The test starts with Condition B with 10% deformation on the socket and 15% deformation on the spigot in 5 minutes and continue with Condition D during 15 minutes.</p> <p>e) Joint design at least includes seal design, groove geometry and seal hardness (± 5 IHRD)</p> <p>f) If only 32, 40 and/or 50 mm (Size group 1) are in the manufacturer's production range, the test shall only be performed according to Figure 1 in EN 1055. If only 32 mm is in the manufacturer's range, the test shall be performed according to Figure 3 in EN 1055.</p>		

9 ANNEXES

Annex A	Bodies for inspection and testing
Annex B	Nordic marking

ANNEX A

This annex forms part of the Specific Rules.

INSPECTION BODIES AND TESTING LABORATORIES

1 Inspection Body

An inspection body, fulfilling the requirements stated in ISO 17020, shall assess the manufacturer's internal routines specified in clause 4.1.2. and 4.3.1.

The certification body is responsible for the approval of the inspection body.

2 Testing laboratories

Type testing and audit testing of plastic pipes and fittings for certification in conformity with the requirements in EN 1329-1 shall be performed by a testing laboratory accredited according to ISO 17025.

The accreditation shall include the testing standards stated in EN 1329-1.

In case no testing laboratory is accredited to test one or more characteristics, a not accredited report can be accepted after agreement with INSTA-CERT.

3 Bodies approved for inspection (I) and testing (P):

Norner AS Asdalstrand 291 NO-3962 Stathelle Tel.: +47 35 57 80 00 www.norner.no	(I)	Inspecta Sertifiointi Oy Sörnäistenkatu 2 P.O Box 1000 FI-00581 Helsinki Tel.: +358 10 521 6720 www.inspecta.com	(I)
RISE Research Institutes of Sweden AB Certifiering Box 857 SE-515 15 Borås Tel.: +46 10 516 50 00 www.ri.se	(I)	Dancert A/S Gregersenvej 4 DK-2630 Taastrup Tel.: +45 72 20 21 60 www.dancert.dk	(I)
RISE Research Institutes of Sweden AB Energy and circular economy – Pipe centre (P/I) Box 24036 SE-400 22 Göteborg Tel.: + 46 10 516 50 00 www.ri.se	(P/I)	VTT Expert services Ltd P.O. Box 1001 FI-02044 VTT Tel.: + 358 20 722 111 www.vtt.fi	(P/I)
DTI-Danish Technological Institute, Energy and Climate VA Testing and Inspection Kongsvang Alle 29 DK-8000 Aarhus C Tel.: + 45 72 20 20 00 www.dti.dk	(P/I)		

ANNEX B

This annex forms part of the Specific Rules.

Nordic conformity mark for products according to the present
INSTA-CERT SBC

is

