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**Plastics piping systems for hot  
and cold water installations —  
Polypropylene (PP) —**

**Part 5:  
Fitness for purpose of the system**

**AMENDMENT 1**  
**iTeh STANDARD REVIEW**  
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*Systemes de canalisations en plastique pour les installations d'eau  
chaude et froide — Polypropylène (PP) —*

*ISO 15874-5:2013/Amd 1:2018  
Partie 5: Aptitude à l'emploi du système*

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**AMENDMENT 1**



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This document was prepared by the European Committee for Standardization (CEN) Technical Committee CEN/TC 155, *Plastics piping systems and ducting systems*, in collaboration with ISO Technical Committee ISO/TC 138, *Plastics pipes, fittings and valves for the transport of fluids*, Subcommittee SC 2, *Plastics pipes and fittings for water supplies*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

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# Plastics piping systems for hot and cold water installations — Polypropylene (PP) —

## Part 5: Fitness for purpose of the system

### AMENDMENT 1

*Page 1, Clause 2*

Replace the normative reference:

EN 712, *Thermoplastics piping systems — End-load bearing mechanical joints between pressure pipes and fittings — Test method for resistance to pull-out under constant longitudinal force*

with

ISO 3501, *Plastics piping systems — Mechanical joints between fittings and pressure pipes — Test method for resistance to pull-out under constant longitudinal force*

Replace the normative reference:

EN 713, *Plastics piping systems — Mechanical joints between fittings and polyolefin pressure pipes — Test method for leak tightness under internal pressure of assemblies subjected to bending.*

with

ISO 3503, *Plastics piping systems — Mechanical joints between fittings and pressure pipes — Test method for leaktightness under internal pressure of assemblies subjected to bending.*

Replace the normative reference:

EN 12294, *Plastics piping systems — Systems for hot and cold water — Test method for leak tightness under vacuum*

with

ISO 13056, *Plastics piping systems — Pressure systems for hot and cold water — Test method for leaktightness under vacuum.*

*Page 2, Table 1*

In row 3 (Bending test), replace the test method "EN 713" with "ISO 3503".

In row 4 (Pull-out test), replace the test method "EN 712" with "ISO 3501".

In row 7 (Vacuum test), replace the test method "EN 12294" with "ISO 13056".

*Page 5, 4.3, first sentence*

Replace "EN 713" with "ISO 3503".

*Page 5, 4.3, second paragraph*

Replace "of nominal diameter greater than or equal to 32 mm" with "that are declared as being bendable by the system supplier."

Page 7, 4.4, first sentence

Replace "EN 712" with "ISO 3501".

Page 8, Table 11

Replace Table 11 with the new Table 11 below.

**Table 11 — Test parameters for thermal cycling**

	Application class			
	Class 1	Class 2	Class 4	Class 5
Max design temperature, $T_{max}$ , in °C	80	80	70	90
Highest test temperature, in °C	90	90	80	95
Lowest test temperature, in °C	20	20	20	20
Test pressure, in bars	$p_D$	$p_D$	$p_D$	$p_D$
Number of cycles for $d_n \leq 160$ mm <sup>a</sup>	5 000	5 000	5 000	5 000
Number of cycles for $d_n > 160$ mm <sup>b</sup>	500	500	500	500
Number of test pieces	One set of fittings in accordance with the configuration shown in ISO 19893 <sup>c</sup> .			

<sup>a</sup> Each cycle shall comprise  $15^{+1}_0$  min at the highest test temperature and  $15^{+1}_0$  min at the lowest (i.e. the duration of one cycle is  $30^{+2}_0$  min).

<sup>b</sup> Each cycle shall comprise  $150^{+5}_0$  min at the highest test temperature and  $150^{+5}_0$  min at the lowest (i.e. the duration of one cycle is  $300^{+10}_0$  min).

<sup>c</sup> The test arrangement consists of min. 4 pipe connectors or min. 6 pipe connections for  $d_n > 160$  mm. The free pipe length between the joints shall not be less than 150 mm. A representative set of fittings shall be used in the assembly.

Page 9, Table 12

Replace Table 12 with the new Table 12 below:

**Table 12 — Test parameters for pressure cycling**

Characteristics	Requirement	Test parameters		Test method	
Pressure cycling	No leakage	Test temperature	23 °C		ISO 19892
		Number of test pieces	3		
			$d_n \leq 160$ mm	$d_n > 160$ mm	
		Frequency (cycles/min)	(30 ± 5)	(15 ± 3)	
		Number of cycles	10 000	5 000	
		Test pressure limits for a design pressure of:	Upper limit	Lower limit	
4 bar	6,0 bar	0,5 bar			
6 bar	9,0 bar	0,5 bar			
8 bar	12,0 bar	0,5 bar			
10 bar	15,0 bar	0,5 bar			

Page 9, 4.7, first sentence

Replace "EN 12294" with "ISO 13056".

Page 9, Table 13

In the “Test method” column, replace "EN 12294" with "ISO 13056".

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