

Second edition  
2017-01

AMENDMENT 1  
2020-12

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**Plastics piping systems for hot  
and cold water installations —  
Polybutene (PB) —**

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

**AMENDMENT 1**

*Systèmes de canalisations en plastique pour les installations d'eau  
chaude et froide — Polybutène (PB) —*

*Partie 5: Aptitude à l'emploi du système*

*AMENDEMENT 1*



Reference number  
ISO 15876-5:2017/Amd.1:2020(E)

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Published in Switzerland

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This document was prepared by 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 collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 155, *Plastics piping systems and ducting systems*, 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 — Polybutene (PB) —

## Part 5: Fitness for purpose of the system

### AMENDMENT 1

*Scope, third paragraph*

Replace the reference to "ISO 15876-1:2003" with "ISO 15876-1:2017".

4.5, Table 7

Replace Table 7 with the following table:

**Table 7 — Test parameters for thermal cycling**

	Application class			
	Class 1	Class 2	Class 4	Class 5
Maximum 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.				

4.6, Table 8

Replace Table 8 with the following table:

**Table 8 — 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			

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