

Second edition
2013-02-15

AMENDMENT 2
2022-06

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

**Part 2:
Pipes**

AMENDMENT 2: Impact test

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

Partie 2: Tubes

AMENDMENT 2: Essai de choc



Reference number
ISO 15874-2:2013/Amd.2:2022(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 — Polypropylene (PP) —

Part 2: Pipes

AMENDMENT 2: Impact test

Normative references

Add the following reference:

ISO 3127, *Thermoplastics pipes — Determination of resistance to external blows — Round-the-clock method*

Clause 7

Add the following new subclause title after the title "7 Mechanical characteristics":

"7.1 Resistance to internal pressure"

Clause 7

Add the following text as a new subclause after Table 10:

"7.2 Impact resistance

When tested according to the test methods as specified in Table 11 using the indicated parameters, the pipe shall conform to the requirements given in that table.

Table 11 — Impact resistance of pipes

Characteristics	Requirements	Test parameters		Test method
Impact resistance (Charpy method) For DN ≤ 25 mm	≤ 10 %	Test temperature	0 °C	ISO 9854-1
		Conditioning medium	Liquid bath or air	ISO 9854-2
		Test piece type	1 (Whole pipe)	
Impact resistance (round-the clock method) For DN ≥ 32 mm	TIR ≤ 10 %	Test temperature	0 °C	ISO 3127
		Conditioning medium	Liquid bath or air	
		Type of striker	d25 for striker mass ≤ 0,8 kg or d90 for striker mass ≥ 1,6 kg	
		Mass of striker	according to Table 12	

Table 11 (continued)

Characteristics	Requirements	Test parameters		Test method
		Fall height of striker	according to Table 12	

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Table 12 — Test parameters for round the clock method

DN (mm)	S8		S6,3		S5		S4		S3,2		S2,5		S2	
	Mass (kg)	Height (m)												
32	0,25	0,5	0,25	0,5	0,25	0,5	0,25	0,5	0,25	0,6	0,25	0,7	0,25	0,8
40	0,25	0,5	0,25	0,7	0,25	0,8	0,25	0,8	0,50	0,5	0,50	0,6	0,50	0,7
50	0,25	0,7	0,25	0,9	0,50	0,6	0,50	0,6	0,50	0,8	0,50	0,9	0,50	1,0
63	0,50	0,6	0,50	0,7	0,80	0,6	0,80	0,6	0,80	0,7	0,80	0,9	0,80	1,0
75	0,80	0,5	0,80	0,6	0,80	0,7	0,80	0,9	0,80	1,1	1,60	0,6	1,60	0,7
90	0,80	0,7	0,80	0,9	0,80	1,1	1,60	0,6	1,60	0,8	1,60	0,9	1,60	1,0
110	1,60	0,5	1,60	0,7	1,60	0,8	1,60	1,0	2,50	0,7	2,50	0,9	2,50	1,0
125	1,60	0,7	2,50	0,5	2,50	0,7	2,50	0,8	2,50	0,9	2,50	1,1	3,20	1,0
140	2,50	0,6	3,20	0,5	3,20	0,6	3,20	0,8	3,20	0,9	3,20	1,1	4,00	1,0
160	3,20	0,6	3,20	0,7	3,20	0,8	3,20	1,0	3,20	1,2	3,20	1,4	4,00	1,3
180	3,20	0,7	3,20	0,9	3,20	1,1	3,20	1,3	3,20	1,5	3,20	1,8	4,00	1,7
200	3,20	0,9	3,20	1,1	3,20	1,3	3,20	1,6	3,20	1,9	4,00	1,8	5,00	1,6
225	3,20	1,1	3,20	1,4	3,20	1,7	3,20	2,0	4,00	1,9	5,00	1,8	6,30	1,6
250	3,20	1,4	3,20	1,7	4,00	1,7	4,00	2,0	5,00	1,9	6,30	1,8	6,30	2,0

NOTE The proposed drop-height (m) and masses (kg) have been calculated to provide a specific impact energy of $E/A = 4 \text{ kJ/m}^2$ (similar to Charpy impact resistance proposed as material characteristic in ISO 15874-1:2020, Table 2). Impact energy has been evaluated from $E = \text{mass} \times \text{drop-height} \times 9,81$ and pipe cross-section from $A = \pi \times [\text{DN}^2 - (\text{DN} - 2 \times e_p)^2]/4$. (Exceptionally DN32 S5-S6,3-S8 pipes have a specific impact energy higher than 4 kJ/m^2 because a minimum drop height of 0,5 m has been selected).

Clause 8

Re-number Table 11 as Table 13, as follows:

“When tested in accordance with the test methods as specified in Table 13 using the indicated parameters, the pipe shall conform to the requirements given in this table.

Table 13 — Physical and chemical characteristics of pipes”

10.2

Re-number Table 12 as Table 14, as follows:

“The minimum required marking of the pipe is specified in Table 14.

Table 14 — Minimum required marking”

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