

DIN EN 17878-1:2025-03 (E)

District heating pipes - Factory made flexible pipe systems with a lower temperature profile - Part 1: Classification, general requirements and test methods

Contents		Page
European foreword		4
Introduction		5
1	Scope	6
2	Normative references	6
3	Terms, definitions and symbols	7
3.1	Terms and definitions	7
3.2	Symbols, indices and abbreviations	7
4	Classification	10
5	Design requirements	10
5.1	Thermal insulation properties	10
5.2	Bending test	10
5.2.1	Flexibility	10
5.2.2	Ovality	11
5.2.3	Cracks	11
5.3	Resistance to external load	11
5.3.1	Ring stiffness	11
5.3.2	Impact resistance	11
5.4	Thermal insulation	11
5.4.1	Compressive creep	11
5.4.2	Water absorption at elevated temperatures	11
5.4.3	Density of thermal insulation	12
5.5	Casing	12
5.5.1	UV stability	12
5.5.2	Thermal stability of the material	12
5.5.3	Stress crack resistance of the material	12
5.5.4	Use of rework material	12
5.6	Surveillance systems	12
6	Test methods	12
6.1	General	12
6.2	Bending test	13
6.2.1	Flexibility	13
6.2.2	Ovality test	14
6.2.3	Cracks in the thermal insulation	14
6.3	Compressive creep	15
6.3.1	General	15
6.3.2	Principles of testing	15
6.3.3	Test apparatus	15
6.3.4	Test specimens	16
6.3.5	Test procedure	17
6.3.6	Test force and expression of results	17
7	Marking	18
7.1	General marking aspects	18
7.2	Minimum marking information	19

8	Manufacturer's information	19
	Annex A (normative) Thermal conductivity of factory made pipes - Test procedure	20
A.1	General	20
A.2	Requirements	20
A.3	Apparatus	20
A.4	Test specimen	21
A.5	Procedure	21
A.6	Calculations - Thermal conductivity	24
	Annex B (informative) Determination of design values for the radial thermal resistance	26
	Annex C (informative) Guidelines for inspection and testing	27
	Bibliography	29