

DIN EN 488-1:2025-07 (E)

District heating pipes - Bonded single pipe systems for directly buried hot water networks - Part 1: Factory made steel shut-off valve assembly for steel service pipes, polyurethane thermal insulation and a casing of polyethylene

Contents		Page
	European foreword	4
	Introduction	5
1	Scope	6
2	Normative references	6
3	Terms and definitions	6
4	Requirements	7
4.1	General	7
4.2	Pressure ratings for valves	7
4.2.1	General	7
4.2.2	Valves without indicated flow direction	7
4.3	Service temperatures for valves	7
4.4	Steel parts	7
4.4.1	Specification	7
4.4.2	Valve	7
4.4.3	Valve extension pipes	8
4.4.4	Surface condition	8
4.4.5	Welding of steel parts	8
4.5	Casing	8
4.6	Polyurethane foam thermal insulation	8
4.6.1	General	8
4.6.2	Minimum thickness of thermal insulation	8
4.7	Valve assembly	8
4.7.1	General	8
4.7.2	Thermal insulation series	8
4.7.3	Ends of valve assembly	8
4.7.4	Polyethylene welding	9
4.7.5	End of stem construction	9
4.7.6	Tolerances of main dimensions	10
4.7.7	Expected thermal life and long term temperature resistance	10
4.7.8	Thermal conductivity	10
4.7.9	Surface conditions at delivery	10
4.7.10	Measuring wires for surveillance systems	10
4.8	Installation, operation and maintenance	10
4.8.1	Installation	10
4.8.2	Operation	10
4.8.3	Maintenance	11
4.9	Resistance to axial forces and bending moments	11
5	Test methods	11
5.1	General conditions and test specimens	11
5.2	Test specimens	11
5.2.1	Type testing of steel parts of the valve	11
5.2.2	Test specimens from casings and polyurethane foam thermal insulation	12
5.3	Steel parts	12

5.3.1	Type test of the steel parts	12
5.3.2	Production testing of valves	15
6	Marking	16
6.1	General	16
6.2	Valve	16
6.3	Valve extension pipes	16
6.4	Casing	16
6.5	Valve assembly	16
Annex A (informative) Guidelines for inspection and testing		18
Annex B (normative) Resistance to axial force and bending moment		20
Annex C (normative) Resistance to bending forces		22
Annex D (informative) Waste treatment and recycling		27
Bibliography		28