

DIN EN 476:2011-04 (E)

General requirements for components used in drains and sewers

Contents		Page
Foreword		4
1	Scope	5
2	Normative references	5
3	Terms and definitions	6
4	Symbols and abbreviations	9
5	Dimensional requirements	9
5.1	General	9
5.2	Dimensions of pipes and fittings	9
5.2.1	Nominal sizes	9
5.2.2	Internal diameters and tolerances	10
5.2.3	Geometrical characteristics of pipes	10
5.2.4	Geometrical characteristics of fittings	11
5.3	Dimensions of manholes and inspection chambers	12
5.3.1	General	12
5.3.2	Manholes with access for cleaning and inspection by personnel	12
5.3.3	Manholes with access for cleaning and inspection by personnel in only exceptional circumstances	12
5.3.4	Inspection chambers	13
5.4	Interconnection	13
6	Performance requirements	14
6.1	Mechanical resistance of pipes and fittings	14
6.1.1	Mechanical strength of pipes and fittings in the cross section	14
6.1.2	Longitudinal bending moment resistance	15
6.2	Mechanical resistance of manholes, shafts and inspection chambers above the base unit	15
6.2.1	General	15
6.2.2	Circular sections	15
6.2.3	Other shapes	15
6.2.4	Tapers, reducing and cover slabs	15
6.3	Tightness	16
6.3.1	Maximum internal test pressure	16
6.3.2	Seals for joints	17
6.3.3	Rigid joints	17
6.3.4	Joint deflection	17
6.3.5	Joint shear load	18
6.3.6	Restrained joints	18
6.4	Continuity of invert	18
6.5	Temperature	18
6.6	Dimensional stability	19
6.7	Smoothness of bore	19
6.8	Appearance	19
6.9	Corrosion resistance	19
6.10	Abrasion resistance	19
6.11	Coatings and linings	19
6.12	Long-term behaviour	19
6.13	Durability	20

6.14	Sealing elements	20
6.15	Resistance against cleaning operations	20
6.16	Handling	20
7	Test methods	20
7.1	Measurement of dimensions	20
7.1.1	Mean internal diameter of barrels	20
7.1.2	Mean external diameter of barrels	20
7.1.3	Spigots and sockets	20
7.1.4	Wall thickness of barrels	20
7.1.5	Deviation from straightness of barrels	21
7.1.6	Deviation from squareness of the ends of the pipes	21
7.2	Load bearing capacity tests	21
7.2.1	Load bearing capacity tests for pipes	21
7.2.2	Load bearing capacity tests for sections of manholes and shafts	22
7.3	Longitudinal bending moment resistance test for pipes	22
7.4	Tightness tests	22
7.4.1	Tightness test of pipes, fittings, manholes and inspection chambers	22
7.4.2	Tightness test of joints	24
7.4.3	Test methods for discharge components for use inside buildings	24
8	Marking, labelling and packaging	25
	Bibliography	26