

DIN EN 1401-1:2019-09 (E)

Plastics piping systems for non-pressure underground drainage and sewerage - Unplasticized poly(vinyl chloride) (PVC-U) - Part 1: Specifications for pipes, fittings and the system

Contents		Page
European foreword		4
1	Scope	6
2	Normative references	6
3	Terms and definitions	8
4	Symbols and abbreviations	11
4.1	Symbols	11
4.2	Abbreviations	11
5	Material	12
5.1	General	12
5.2	Use of mineral modifier	12
5.3	Pipe material	13
5.4	Fitting material	13
5.5	Fabricated fitting material	14
5.6	Utilization of non-virgin material	14
5.7	Sealing ring retaining means material	14
6	General characteristics	15
6.1	Appearance	15
6.2	Colour	15
7	Geometrical characteristics	15
7.1	General	15
7.2	Dimensions of pipes	15
7.2.1	Outside diameters	15
7.2.2	Out of roundness	16
7.2.3	Length of pipes	16
7.2.4	Chamfering	17
7.2.5	Wall thickness	17
7.3	Dimensions of fittings	18
7.3.1	Outside diameters	18
7.3.2	Design lengths (Z)	18
7.3.3	Wall thicknesses	19
7.4	Dimensions of sockets and spigots	19
7.4.1	Elastomeric ring seal sockets and spigots	19
7.4.2	Adhesive joint sockets and spigots	23
7.5	Types of fittings	24
8	Mechanical characteristics	27
8.1	Mechanical characteristics of pipes	27
8.1.1	General requirements	27
8.1.2	Additional mechanical requirements	28
8.2	Mechanical characteristics of fittings	29
8.2.1	Ring stiffness class	29
8.2.2	Additional requirements	29

9	Physical characteristics	30
9.1	Physical characteristics of pipes	30
9.2	Physical characteristics of fittings	31
10	Performance requirements	32
11	Sealing rings	33
12	Adhesives	33
13	Marking	34
13.1	General	34
13.2	Minimum required marking of pipes	34
13.3	Minimum required marking of fittings	35
13.4	Additional marking	35
	Annex A (normative) Utilization of non-virgin material	36
A.1	General	36
A.2	Own reprocessed material	36
A.3	External reprocessed and/or recycled materials with agreed specifications	36
	Annex B (informative) General characteristics of PVC-U pipes and fittings	38
B.1	General	38
B.2	Formulation characteristics	38
B.3	Creep ratio	38
B.4	Chemical resistance	38
B.5	Abrasion resistance	38
B.6	Hydraulic roughness	39
B.7	Diametric deflection	39
	Annex C (informative) Product standards	40
	Bibliography	41