DIN EN 1451-1:2018-10 (E)

Plastics piping systems for soil and waste discharge (low and high temperature) within the building structure - Polypropylene (PP) - Part 1: Specifications for pipes, fittings and the system (includes Corrigendum :2018)

Contents

Page

European foreword 4

1 Scope 6

2 Normative references 7

3 Terms and definitions 8

4 Symbols and abbreviations 11
4.1 Symbols 11
4.2 Abbreviations 11

5 Material 12
5.1 PP-compound 12
5.2 Additional requirement for pipe and fitting material for application area BD 12
5.3 Utilization of non-virgin material 13
5.4 Melt mass-flow rate 13
5.5 Thermal stability (OIT) 13
5.6 Sealing ring retaining means 13
5.7 Fire behaviour 13

6 General characteristics 14
6.1 Appearance 14
6.2 Colour 14

7 Geometrical characteristics 14
7.1 General 14
7.2 Dimensions of pipes 14
7.2.1 Outside diameters 14
7.2.2 Effective length of pipes 15
7.2.3 Chamfering 16
7.2.4 Wall thickness 16
7.3 Dimensions of fittings 18
7.3.1 Outside diameters 18
7.3.2 Design lengths 18
7.3.3 Wall thickness 18
7.4 Dimensions of sockets and pipe ends 19
7.4.1 Dimensions of ring seal sockets and spigot ends 19
7.4.2 Dimensions of pipe ends for butt fusion joints 23
7.5 Types of fittings 23

8 Mechanical characteristics 40
8.1 Mechanical characteristics of pipes 40
8.1.1 General characteristics 40
8.1.2 Additional characteristics for pipes 41
8.2 Mechanical characteristics of fittings for application area BD 42

9 Physical characteristics 43
9.1 Physical characteristics of pipes 43

9.2 Physical characteristics of fittings 44

10 Performance requirements 45

11 Sealing rings 46

12 Marking 46
12.1 General 46
12.2 Minimum required marking of pipes 46
12.3 Minimum required marking of fittings 47
12.4 Additional marking 48

Annex A (normative) Utilization of non-virgin PP material 49

A.1 Own reprocessed material from pipes and fittings 49
A.2 External reprocessed and recycled materials with an agreed specification 49
A.2.1 Material from PP pipes and fittings 49
A.2.2 Material from PP products other than pipes and fittings 50

Annex B (informative) Product standards 51

Bibliography 52