DIN EN 13476-3:2018-12 (E)

Plastics piping systems for non-pressure underground drainage and sewerage - Structured-wall piping systems of unplasticized poly(vinyl chloride) (PVC-U), polypropylene (PP) and polyethylene (PE) - Part 3: Specifi cations for pipes and fittings with smooth internal and profiled external surface and the system, Type B

Contents

Page

European foreword 4

Introduction 6

1 Scope 7

2 Normative references 7

3 Terms, definitions, symbols and abbreviations 9
3.1 Terms and definitions 9
3.2 Symbols 10
3.3 Abbreviations 10

4 Material 11
4.1 General 11
4.2 Unplasticized poly(vinyl chloride) (PVC-U) 11
4.3 Polypropylene (PP) 12
4.4 Polyethylene (PE) 14
4.5 Sealing rings 15
4.6 Fused or welded joints 16
4.7 Adhesives for PVC-U 16

5 Designation of wall constructions and examples of typical jointing methods 16
5.1 Wall constructions designated as Type B 16
5.2 Designation and design of joints 18

6 Appearance and colour 18

7 Geometrical characteristics 19
7.1 General 19
7.2 Dimensions 19
7.3 Types of fittings 25
7.4 Design length of fittings 25

8 Physical characteristics 25
8.1 Unplastisized poly(vinyl chloride) (PVC-U) 25
8.2 Polypropylene (PP) 27
8.3 Polyethylene (PE) 28

9 Mechanical characteristics 29
9.1 Mechanical characteristics of pipes 29
9.2 Mechanical characteristics of fittings 32

10 Performance requirements 32

11 Marking 34
11.1 General 34
11.2 Minimum required marking 34

11.3 Additional marking ... 36

Annex A (normative) Compound / formulation PVC-U material ... 37

Annex B (normative) Utilization of non-virgin PVC-U material ... 38

B.1 Own reprocessed and recycled material from pipes and fittings ... 38
B.2 External reprocessed and recycled materials with agreed specifications ... 38

Annex C (normative) Compound / Formulation PP material ... 40

Annex D (normative) Utilization of non-virgin PP material ... 41

D.1 Own reprocessed material from pipes and fittings ... 41
D.2 External reprocessed and recycled materials with an agreed specification ... 41

Annex E (normative) Compound / Formulation PE material ... 43

Annex F (normative) Utilization of non-virgin PE material ... 44

F.1 Own reprocessed material from pipes and fittings ... 44
F.2 External reprocessed and recycled materials with an agreed specification ... 44
F.3 External reprocessed and recycled material from PE rotational-moulded fittings and other components ... 44

Annex G (normative) Impact test at 23 °C ... 46

Annex H (normative) Impact test at -10 °C ... 47

Annex I (normative) Ring flexibility test at 20 % diametric deflection ... 48

Annex J (informative) Survey of possible use of reprocessed and recycled material ... 49

Annex K (normative) Impact test for large diameter pipes with structured wall ... 50

K.1 Principle ... 50
K.2 Apparatus ... 50
K.3 Test samples ... 51
K.4 Conditioning ... 51
K.5 Procedure ... 51
K.6 Test result ... 52

Bibliography ... 53