ISO 11301-1:2026-07 (E)

Piping systems for rehabilitation of underground gas supply networks - Part 1: Polyethylene (PE) material

Contents

Page

Foreword v

Introduction vi

1 Scope 1

2 Normative references 2

3 Termsanddefinitions 2
3.1 General 2
3.2 Terms related to techniques 5
3.3 Terms related to characteristics 6
3.4 Terms related to product stages 8
3.5 Terms related to materials 8
3.6 Terms related to service conditions 9
3.7 Terms related to joints 9

4 Symbols and abbreviated terms 10
4.1 Symbols 10
4.2 Abbreviated terms 11

5 Pipes 11
5.1 Materials 11
5.2 General characteristics 11
5.3 Material characteristics 12
5.4 Geometric characteristics 12
5.5 Mechanical characteristics 12
5.6 Physical characteristics 12
5.7 Jointing 12
5.8 Marking 13
5.9 Regional requirements for pipes 13

6 Fittings 13
6.1 Materials 13
6.2 Marking 13
6.3 Regional requirements for fittings 14

7 Ancillary components 14
7.1 Requirements 14
7.2 Regional requirements for ancillary components 14

8 Fitness for purpose 14
8.1 Materials 14
8.2 General characteristics 14
8.3 Geometric characteristics 15
8.4 Mechanical characteristics 15
8.5 Sampling 15
8.6 Regional requirements for fitness for purpose 16

9 Installation practice 16
9.1 Preparatory work 16

9.2 Storage, handling and transport of pipes and fittings 16
9.3 Equipment 16
9.3.1 General 16
9.3.2 Butt fusion equipment and de-beading equipment 17
9.3.3 Pipe skids/rollers 17
9.3.4 Winching and rod-pulling equipment 17
9.3.5 Pipe entry guides 17
9.3.6 Electrofusion equipment 17
9.3.7 Inspection equipment 18
9.3.8 Lifting equipment 18

9.4 Installation 18
9.4.1 General 18
9.4.2 Safety precautions 19
9.4.3 Simulated installations 19
9.5 Process-related inspection and testing 20
9.6 Pipe end termination 20
9.7 Reconnection to the existing pipeline system 20
9.8 Final inspection and testing 20
9.9 Documentation 20

Annex A (normative)Specificrequirementsapplicableforliningwithcontinuouspipes 21

Annex B (normative)Specificrequirementsapplicableforliningwithclose-fitpipes 22

Annex C (normative) Specific requirements for trenchless replacement techniques -- Pipe bursting, pipe extraction, HDD and impact moling 26

Annex D (normative) Layered pipes 31

Annex E (normative) Factory-folded heat-reverted polyethylene (PE) pipe -- Determination of memory ability 32

Annex F (informative) Pipe design considerations particular to pipe bursting and pipe extraction ... 34

Annex G (informative) Pipe design considerations particular to HDD 36

Annex H (informative)Summaryofrequiredelementstobeincludedininstallationmanuals 38

Bibliography 39