DIN EN 12007-4:2012-10 (E)

Gas infrastructure - Pipelines for maximum operating pressure up to and including 16 bar - Part 4: Specific functional requirements for renovation

Contents

Page

Foreword 4

1 Scope 5

2 Normative references 5

3 Terms and definitions 5

4 Design 7
4.1 General 7
4.2 Pressure uprating 7
4.3 Selection of renovation technique 7
4.4 Consultation with third parties 8

5 Construction 8
5.1 General 8
5.2 Disconnection/reconnection of sections of the gas infrastructure 9
5.3 Excavation and no dig techniques 9
5.4 Laying 9
5.4.1 Laying of pipework 9
5.4.2 Cleaning of carrier pipe 10
5.4.3 Inspection of the pipework to be renovated 10

6 Pressure testing 10

7 Service line transfer 10

8 Commissioning and decommissioning 10

9 Record system 11

Annex A (informative) Chart of renovation techniques 12

Annex B (informative) Advantages and disadvantages of renovation techniques 13

Annex C (informative) Renovation with continuous or discrete pipe 16

C.1 Definition 16
C.2 Description 16
C.3 Conditions of application 16
C.4 Implementation 17
C.4.1 Preparation 17
C.4.2 Execution 17

Annex D (informative) Lining with close-fit pipe 20

D.1 Definition 20
D.2 Description 20
D.3 Conditions of application 20
D.4 Implementation 21
D.4.1 Materials 21

D.4.2 Preparation 21
D.4.3 Execution 21

Annex E (informative) Lining with cured-in-place pipe 23

E.1 Definition 23
E.2 Description 23
E.3 Conditions of application 23
E.4 Implementation 23
E.4.1 Preparation 23
E.4.2 Execution 24

Annex F (informative) Renovation by bursting or splitting existing pipe 25

F.1 Definition 25
F.2 Description 25
F.3 Conditions of application 25
F.4 Implementation 25
F.4.1 Preparation 25
F.4.2 Execution 26

Annex G (informative) Renovation by the pulling or pushing of the existing pipe 27

G.1 Definition 27
G.2 Description 27
G.3 Conditions of application 27
G.4 Implementation 27
G.4.1 Preparation 27
G.4.2 Execution 27

Annex H (informative) Joint repairs 29

H.1 Definition 29
H.2 Description 29
H.3 Conditions of application 29
H.3.1 General 29
H.3.2 Internal methods 29
H.3.3 External methods - Commissioned pipework 30
H.4 Implementation 30
H.4.1 Internal repairs 30
H.4.2 External repairs - Commissioned pipework 31
H.5 Testing 31
H.6 Commissioning 32

Annex I (informative) Resin lining 33

I.1 Definition 33
I.2 Description 33
I.3 Conditions of application 33
I.4 Implementation 33
I.4.1 Preparation 33
I.4.2 Execution 33
I.4.3 Testing 34
I.4.4 Commissioning 34

Bibliography 36