DIN EN ISO 18797-1:2017-12 (E)

Petr oleum, petrochemical and natural gas industries - External corrosion protection of risers by coatings and linings - Part 1: Elastomeric coating systems - polychloroprene or EPDM (ISO 18797-1:2016); English version EN ISO 18797-1:2017

Contents

Page

Foreword ..... **v**

Introduction ..... **vi**

1 Scope **1**

2 Normative references **1**

3 Terms and definitions **3**

4 Abbreviated terms **5**

5 Pre-work requirements **6**
5.1 General 6
5.2 Health, safety and environmental (HSE) 6
5.3 Qualification of coating/lining application and inspection personnel 6

6 Materials **7**
6.1 General requirements 7
6.2 Material requirements 8
6.3 Materials packing, handling and storage 9
6.4 Coating materials 9

7 Bare pipes transportation, handling and storage **10**
7.1 Transportation and handling of pipes 10
7.2 Storage of pipes 10

8 Surface preparation **10**
8.1 General 10
8.2 Pipe imperfections/damages removal 11
8.3 Contaminants removal 11
8.4 Abrasive blast cleaning 11

9 Coating application for risers **13**
9.1 General 13
9.2 Priming and coating on abrasive blast-cleaned surface 13
9.3 Polychloroprene or EPDM application and vulcanization 14
9.4 Manual coating application on clamps, guides, bolt holes, inner sections of flanges and pipe section used for modifications at worksites 15
9.5 Coating application of field joints 16
9.6 Coating repair 16

10 Inspection and testing **17**
10.1 General 17
10.2 Testing of elastomer properties 17
10.2.1 General 17
10.2.2 Cure and hardness 17
10.2.3 Specific gravity 17
10.2.4 Rheological properties 17
10.2.5 Tensile strength, tear strength and elongation at break 17
10.2.6 Compression set 18
10.2.7 Abrasion resistance 18

10.2.8 Ozone resistance 18
10.2.9 Adhesion 18
10.2.10 Resistance to seawater 18
10.2.11 Thermal conductivity 18
10.2.12 Vulcanization characteristics (rotorless curemeters) 18
10.2.13 Cathodic disbondment 19
10.2.14 Volume resistivity 19
10.3 Inspection/testing of coated pipes 19
10.3.1 Visual inspection 19
10.3.2 Holiday detection 19
10.3.3 Thickness test 20
10.3.4 Adhesion (bond) test 20
10.3.5 Hardness testing 20
10.3.6 Ultrasonic inspection 20
10.3.7 Sound testing 20
10.3.8 Rejection 20
10.4 Inspection and testing of field joint coating 21
10.5 Test reports and certificate of compliance 21
11 Coating damage/defect repair 21
11.1 Defect acceptance criteria 21
11.2 Repair procedures 21
12 Handling and stacking of coated pipes 22
13 Quality requirements 22
14 Documentation 23
Annex A (informative) **Contents in a batch certificate 24**
Annex B (normative) **Physical properties of polychloroprene or EPDM elastomer 25**
Annex C (normative) **Riser pipe external coating progress chart 26**
Bibliography 28