ISO 24131-1:2023-03 (E)

Internal protection by polymeric lining for ductile iron pipes - Requirements and test methods - Part 1: Polyurethane lining

Contents

Page

Foreword iv

Introduction v

1 Scope 1

2 Normative references 1

3 Termsanddefinitions 1

4 Technical requirements 3
4.1 General 3
4.2 Surface preparation 3
4.3 Surface roughness 4
4.4 Lining appearance 4
4.5 Lining thickness 4
4.6 Adhesion 4
4.7 Cross linkage 4
4.8 Non-porosity 5
4.9 Hardness 5
4.10 Protection of pipe ends 5
4.11 Marking 5
4.12 Repairs 5

5 Performance requirements 6
5.1 General 6
5.2 Materials in contact with water intended for human consumption 6
5.3 Abrasion resistance only for sewage applications 6
5.4 Chemical resistance only for sewage applications 6
5.5 Indirect impact resistance 6
5.6 Resistance to hot water 6
5.7 Specific lining resistance 6
5.8 Resistance to ovalization 7
5.9 Elongation at break 7

6 Test methods 7
6.1 Routine tests 7
6.1.1 Surface preparation 7
6.1.2 Surface roughness 7
6.1.3 Lining appearance 7
6.1.4 Lining thickness 7
6.1.5 Adhesion 7
6.1.6 Differential scanning calorimetry (DSC) 8
6.1.7 Non-porosity 8
6.1.8 Hardness 8
6.1.9 Marking 8
6.1.10 Repairs 8
6.2 Performance test 8
6.2.1 Abrasion resistance only for sewage applications 8
6.2.2 Chemical resistance only for sewage applications 8
6.2.3 Indirect impact resistance 8

6.2.4 Resistance to hot water 9
6.2.5 Specific lining resistance 9
6.2.6 Resistance to ovalization 10
6.2.7 Elongation at break 10

Annex A (normative) Quality assurance 11

Annex B (informative) Handling, transportation and storage 13

Bibliography 14