ISO 23936-3:2026-07 (E)

Oil and gas industries including lower carbon energy - Non-metallic materials in contact with media related to oil and gas production - Part 3: Thermosets

Contents

Page

Foreword v

Introduction vi

1 Scope 1

2 Normative references 1

3 Terms,definitionsandabbreviatedterms 2
3.1 Terms and definitions 2
3.2 Abbreviated terms 5

4 Technical requirements 5
4.1 General requirements 5
4.2 Cautionary remarks 6
4.3 Traceability 6
4.4 Test specimen identification 6
4.4.1 Coding overview 6
4.4.2 Moulding 7
4.4.3 Orientation 7
4.4.4 Form 7
4.4.5 Post treatment 8
4.4.6 Shaping 8
4.4.7 Test specimen fabrication for Level 2, Level 3 and Level 4 ageing experiments 8
4.5 Validation of conformity 8

5 Level 1 -- Material property characterization 9
5.1 General 9
5.2 Reporting 10
5.2.1 Material data report 10
5.2.2 Certificate of conformity 10

6 Level 2 -- Material stability (short-term) 10
6.1 General 10
6.2 Test criteria 10
6.2.1 General 10
6.2.2 Exposure temperature 11
6.2.3 Exposure durations 11
6.2.4 Test fluids 11
6.2.5 Property test methods 11
6.2.6 Threshold criteria 12
6.3 Preconditioning considerations 12
6.4 Reporting 12

7 Level 3 -- Material stability (accelerated) 13
7.1 General 13
7.2 Exposure temperatures 13
7.3 Exposure durations 13
7.4 Exposure fluids 14
7.5 Initial swelling 14
7.6 Property test methods 14

7.7 Threshold criteria 14
7.8 Preconditioning considerations 15
7.9 Reporting 15

8 Level 4 -- Material stability (long-term) 15
8.1 General requirements for Level 4 evaluation 15
8.2 Exposure temperatures 15
8.3 Exposure durations 16
8.4 Exposure fluids 16
8.5 Initial swelling 16

8.6 Property test methods 16
8.7 Preconditioning considerations 16
8.8 Threshold baseline 16
8.9 Threshold criteria 17

9 Additional test considerations 17
9.1 Fluid ageing 17
9.2 Functional tests 19

Annex A (normative) Test media, conditions, equipment and procedures for ageing of thermoset materials 20

Annex B (informative) Guideline for maximum long-term operating temperatures for common thermosets used in oil and gas environment 36

Bibliography 37