ISO 9351:2025-02 (E)

Galvanic anodes for cathodic protection in seawater and saline sediments

Contents

Page

Foreword iv

Introduction v

1 Scope 1

2 Normative references 1

3 Termsanddefinitions 1

4 Symbols and abbreviations 4
4.1 Symbols 4
4.2 Abbreviations 5

5 Competence of personnel 5

6 Galvanic anode materials and their properties 5
6.1 General 5
6.2 Anode alloy composition 5
6.3 Electrochemical properties 6
6.4 Electrochemical testing 6
6.4.1 General 6
6.4.2 Performance testing 6
6.4.3 Short-term testing for quality control 7
6.5 Anode consumption rate 7

7 Anode design and acceptance criteria 8
7.1 General 8
7.2 Chemical composition 9
7.3 Electrochemical properties 9
7.4 Anode shape 9
7.5 Physical properties 9
7.6 Anode core materials 10
7.7 Cable connections to anodes 11

8 Environmental impact 11

Annex A (informative) Seawater 13

Annex B (normative) Physical tolerances for galvanic anodes 14

Annex C (informative) Composition and performance properties for galvanic anodes 19

Annex D (informative) Description of various electrochemical tests 26

Annex E (informative) Environmental impact considerations 29

Annex F (informative) Inspection and test plan (ITP) 33

Bibliography 40