ISO/PAS 5929:2025-08 (E)

Corrosion of metals and alloys - Test and evaluation method for the corrosion of steel bar embedded in concrete structure exposed to total corrosion zones in marine environments

Contents

Page

Foreword iv

Introduction v

1 Scope 1

2 Normative references 1

3 Terms and definitions 1

4 Apparatus 2
4.1 Simulated marine environmental chamber 2
4.2 Environmental parameter control chamber 2
4.3 Atmospheric zone: Spraying device 2
4.4 Splash zone: Splashing device 3
4.5 Tidal zone: Tidal device 3
4.6 Immersion zone 3
4.7 Buried zone 3

5 Test materials 4
5.1 Steel bar 4
5.2 Concrete 4
5.3 Industrial salt 4
5.4 Water 5
5.5 Chloride concentration and salt solution temperature 5

6 Preparation of specimens 5
6.1 Rust removal of steel bar 5
6.2 Making concrete specimens 5

7 Test procedure 6
7.1 Specimen placement 6
7.2 Maintenance 7

8 Measurement 7
8.1 Initial performance measurement 7
8.1.1 Mechanical properties and chemical compositions of steel bars 7
8.1.2 Dimensions 7
8.1.3 3D scan model 7
8.1.4 Mass 7
8.1.5 Concrete strength 7
8.1.6 Chlorine ion concentration 7
8.2 Periodic measurement 8
8.2.1 General 8
8.2.2 Measurement time 8
8.2.3 Mechanical properties and chemical compositions of steel bars 8
8.2.4 Dimensions 8
8.2.5 3D scan measurement 9
8.2.6 Mass 9

8.2.7 Chlorine ion concentration 9

9 Results 9

10 Evaluation 9

11 Test report 10

Annex A (informative) Example of test apparatus 11

Annex B (informative) Example of test results 19