ISO 4631:2023-11 (E)

Corrosion of metals and alloys - Measurement of the electrochemical critical localized corrosion potential (E-CLCP) for Ti alloys fabricated via additive manufacturing method in simulated biomedical solutions

Contents

Page

Foreword iv

Introduction v

1 Scope 1

2 Normative references 1

3 Terms and definitions 1

4 Principles 1

5 Apparatus 3
5.1 Potentiostat 3
5.2 Heating bath with temperature controller 3
5.3 Specimen holder and connections 3
5.4 Test cell 4
5.5 Auxiliary electrode and reference electrode 4

6 Test solutions 4

7 Test specimen 4

8 Procedure 5
8.1 Preparation of reference electrodes 5
8.2 Preparation of biomedical AM Ti alloy specimen 5
8.3 Preparation of solution 5
8.4 Setting up the E-CLCP test 5
8.5 Ending test 6

9 Examination and evaluation 6

10 Test report 7

Annex A (informative) **Validity of the E-CLCP by the correlation between E-CLCP and E-CLCT** 8

Bibliography 9