ISO 5173:2023-01 (E)

Destructive tests on welds in metallic materials - Bend tests

Contents

Page

Foreword iv

1 Scope 1

2 Normative references 1

3 Termsanddefinitions 1

4 Symbols and abbreviated terms 8

5 Principle 8

6 Preparation of test specimens 8
6.1 General 8
6.2 Location 9
6.3 Marking 9
6.4 Heat treatment and/or ageing 9
6.5 Extraction 9
6.6 Specimen size 9
6.6.1 Transverse root and face bend tests of a butt weld (TRBB and TFBB) 9
6.6.2 Transverse side bend tests of a butt weld (TSBB) 9
6.6.3 Longitudinal bend tests of a butt weld (LFBB and LRBB) 10
6.6.4 Face bend tests of cladding material without a butt weld (FBC) 10
6.6.5 Side bend tests of cladding material without a butt weld (SBC) 10
6.6.6 Transverse face bend tests of cladding material with a butt weld (FBCB) 10
6.6.7 Side bend tests of cladding material with a butt weld (SBCB) 11
6.6.8 Dimensions 11
6.6.9 Surface preparation 12

7 Conditions of testing 12
7.1 Etching 12
7.2 Testing 13
7.2.1 General 13
7.2.2 Testing with a former 13
7.2.3 Testing with a roller 17
7.2.4 Bend testing with backing plate 18
7.3 Diameter of former and roller 20
7.3.1 Steel, nickel and nickel alloys 20
7.3.2 Aluminium and its alloys 20
7.4 Distance between and radius of parallel rollers 20
7.5 Bending angle 21
7.6 Bending elongation 21

8 Test results 21

9 Test report 21

Annex A (informative) Example of a test report 23

Bibliography 24