DIN EN ISO 17640:2018-03 (E)

Non-destructive testing of welds - Ultrasonic testing - Techniques, testing levels, and assessment (ISO 17640:2017)

Contents

Page

European foreword ... **3**

Foreword ... **4**

1 Scope ... **5**

2 Normative references ... **5**

3 Terms and definitions ... **6**

4 Symbols ... **6**

5 Principle ... **7**

6 Information required prior to testing ... **7**
6.1 Items to be specified ... 7
6.2 Specific information required before testing ... 7
6.3 Written test procedure ... 8

7 Requirements for personnel and equipment ... **8**
7.1 Personnel qualifications ... 8
7.2 Test equipment ... 8
7.3 Probe parameters ... 8
7.3.1 Test frequency ... 8
7.3.2 Angles of incidence ... 8
7.3.3 Element size ... 9
7.3.4 Adaptation of probes to curved scanning surfaces ... 9
7.3.5 Coupling media ... 9

8 Testing volume ... **9**

9 Preparation of scanning surfaces ... **10**

10 Parent metal testing ... **10**

11 Range and sensitivity setting ... **11**
11.1 General ... 11
11.2 Reference for sensitivity setting ... 12
11.3 Evaluation levels ... 13
11.4 Transfer correction ... 13
11.5 Signal-to-noise ratio ... 13

12 Testing levels ... **13**

13 Testing techniques ... **14**
13.1 General ... 14
13.2 Manual scan path ... 14
13.3 Testing for imperfections perpendicular to the testing surface ... 14
13.4 Location of discontinuities ... 14
13.5 Evaluation of indications ... 14
13.5.1 General ... 14
13.5.2 Maximum echo amplitude ... 14
13.5.3 Discontinuity length ... 15
13.5.4 Discontinuity height ... 15
13.5.5 Characterization of discontinuities ... 15

14 Test report ... **15**

Annex A (normative) **Testing levels for various types of welded joints** ... **17**

Bbliography ... **33**