DIN EN ISO 16810:2025-01 (E)

Non-destructive testing - Ultrasonic testing - General principles (ISO 16810:2024)

Contents

Page

European foreword ... **3**

Foreword ... **4**

Introduction ... **5**

1 Scope ... **6**

2 Normative references ... **6**

3 Terms and definitions ... **7**

4 Qualification and certification of test personnel ... **7**

5 Information required prior to testing ... **7**

6 Principles of ultrasonic testing (UT) ... **7**
6.1 General ... 7
6.2 Wave mode and direction of sound propagation ... 8
6.3 Through-transmission technique ... 8
6.4 Pulse-echo technique ... 8

7 Test equipment ... **8**
7.1 Instrument ... 8
7.2 Probes ... 8
7.2.1 General ... 8
7.2.2 Probe selection ... 9
7.2.3 Frequency and dimensions of transducer ... 9
7.2.4 Dead zone ... 9
7.2.5 Damping ... 9
7.2.6 Focusing probes ... 9
7.3 Coupling media ... 10
7.4 Standard blocks ... 10
7.5 Reference blocks ... 10
7.6 Specific test blocks ... 11

8 Settings ... **11**
8.1 General ... 11
8.2 Range ... 11
8.3 Sensitivity ... 12
8.4 Pulse repetition frequency ... 12

9 Preparation for testing ... **12**
9.1 Surface preparation ... 12
9.2 Identification and datum points ... 12
9.3 Application of transfer correction ... 12

10 Testing ... **13**
10.1 Coverage of testing ... 13
10.2 Overlapping ... 13
10.3 Scanning speed ... 13
10.4 Evaluation and recording levels ... 13
10.4.1 General ... 13
10.4.2 Pulse-echo technique ... 13
10.4.3 Through-transmission technique ... 13

11 Characterization of discontinuities **14**
11.1 Pulse-echo technique 14
11.2 Through-transmission technique 14
12 Test procedure **14**
13 Test report **15**
Bibliography **16**