DIN EN ISO 10863:2011-12 (E)

Non-destructive testing of welds - Ultrasonic testing - Use of time-of-flight diffraction technique (TOFD) (ISO 10863:2011)

Contents

Page

Foreword 3

1 Scope 4

2 Normative references 4

3 Terms and definitions 5

4 General remarks on the capabilities of the technique 5

5 Testing levels 6

6 Information required prior to testing 6
6.1 Items to be defined by specification 6
6.2 Specific information required by the operator before testing 7
6.3 Written test instruction or procedure 7

7 Requirements for personnel and equipment 7
7.1 Personnel qualifications 7
7.2 Equipment 8

8 Preparation for testing 8
8.1 Volume to be inspected 8
8.2 Setup of probes 9
8.3 Scan increment setting 9
8.4 Geometry considerations 9
8.5 Preparation of scanning surfaces 9
8.6 Temperature 10
8.7 Couplant 10
8.8 Provision of datum points 10

9 Testing of base material 10

10 Range and sensitivity settings 11
10.1 Settings 11
10.2 Checking of the settings 11
10.3 Reference blocks 12

11 Weld testing 13

12 Interpretation and analysis of TOFD images 13
12.1 General 13
12.2 Assessing the quality of the TOFD image 13
12.3 Identification of relevant TOFD indications 14
12.4 Classification of relevant TOFD indications 14
12.5 Determination of location and size 15
12.6 Evaluation against acceptance criteria 16

13 Test report 16

Annex A (informative) Reference blocks 18

Annex B (informative) Examples of TOFD scans 23

Bibliography 33