ISO 4992-2:2020-03 (E)

Steel castings - Ultrasonic testing - Part 2: Stee l castings for highly stressed components

Contents

Page

Foreword iv

1 Scope 1

2 Normative references 1

3 Termsanddefinitions 2

4 Requirements 3
4.1 Order information 3
4.2 Extent of testing 3
4.3 Maximum acceptable size of discontinuities 3
4.3.1 General 3
4.3.2 Indications without measurable dimensions 3
4.3.3 Indications with measurable dimensions 3
4.4 Qualification of personnel 5
4.5 Wall-section zones 5
4.6 Classes 5

5 Testing 5
5.1 Principles 5
5.2 Material 5
5.3 Test equipment, coupling fluid, test sensitivity and resolution of detection 6
5.3.1 Ultrasonic instrument 6
5.3.2 Probes and transducer frequencies 6
5.3.3 Checking of the ultrasonic test equipment 6
5.3.4 Coupling fluid 6
5.3.5 Test sensitivity and resolution of detection 7
5.4 Preparation of casting surfaces for testing 7
5.5 Test procedure 7
5.5.1 General 7
5.5.2 Range setting 8
5.5.3 Sensitivity setting 8
5.5.4 Consideration of various types of indications 9
5.5.5 Recording and recording limits 9
5.5.6 Assessment of indications to be recorded 9
5.5.7 Characterization and sizing of discontinuities 10
5.6 Test report 10

Annex A (normative) Resolution of detection of the instrument-probe combination 18

Annex B (informative) Sound-beam diameters 19

Annex C (informative) Types of indications generated by typical discontinuities 21

Bibliography 33