ISO/TS 23867:2026-09 (E)

Ultrasonic testing of hardmetals

Contents

Page

Foreword ..... **iv**

Introduction ..... **v**

1 Scope **1**

2 Normative references **1**

3 Terms and definitions **1**

4 Ultrasonic test block **2**
4.1 Flat-bottom hole test block 2
4.1.1 Shape and geometric tolerances 2
4.1.2 Dimension and dimensional tolerance specification of flat-bottom hole test block 3
4.1.3 Preparation of flat-bottom hole test block 3
4.2 Reference block 5
4.2.1 Basic requirements 5
4.2.2 Reference block shape and geometric tolerances 5
4.2.3 Materials 6
4.2.4 Mixing procedure 6
4.2.5 Pressing parameter 6
4.2.6 Sintering parameter 7
4.2.7 Preparation of reference block surface (grinding and polishing) 7

5 Equipment and specification **7**
5.1 Type of equipment 7
5.2 Probe 7

6 Testing methods **8**
6.1 Testing requirement 8
6.2 Detection sensitivity 8
6.3 Detection position 8
6.4 Probe scanning form 8
6.5 Probe scanning speed 8
6.6 Evaluation of test results 9

7 Defect qualification **9**
7.1 Defect characterization 9
7.2 Defect equivalent determination 9
7.2.1 Size of the hole 9
7.2.2 DAC curves 10
7.2.3 Defect boundary and indicated length 11
7.2.4 Length of crack 11
7.2.5 Area of delamination, tungsten carbide aggregation, cobalt pool, carbon defects and eta-phase 11
7.2.6 Area of exogenous material, under-sintered area and over-sintered area 11

8 Practical application **11**
8.1 Using flat-bottom hole test block to adjust initial sensitivity 11
8.2 Practical application of defect equivalent size determination 12
8.3 Practical application of crack defect length measurement 13
8.4 Calculation of defect area 14
8.5 Practical application 15

Annex A (informative) **Characterization of defects** **16**

Bibliography **19**