ISO 6507-1:2023-10 (E)

Metallic materials - Vickers hardness test - Part 1: Test method

Contents

Page

Foreword ... iv

1 Scope ... 1

2 Normative references ... 1

3 Terms and definitions ... 2

4 Symbols and designations ... 2
4.1 Symbols and designations used in this document ... 2
4.2 Designation of hardness number ... 3

5 Principle ... 3

6 Testing machine ... 4
6.1 Testing machine ... 4
6.2 Indenter ... 4
6.3 Diagonal measuring system ... 4

7 Test piece ... 5
7.1 Test surface ... 5
7.2 Preparation ... 5
7.3 Thickness ... 5
7.4 Tests on curved surfaces ... 5
7.5 Support of unstable test pieces ... 5
7.6 Metallic and other inorganic coatings ... 5

8 Procedure ... 6
8.1 Test temperature ... 6
8.2 Test force ... 6
8.3 Periodic verification ... 6
8.4 Test piece support and orientation ... 6
8.5 Focus on test surface ... 7
8.6 Test force application ... 7
8.7 Prevention of the effect of shock or vibration ... 7
8.8 Minimum distance between adjacent indentations ... 7
8.9 Measurement of the diagonal length ... 8
8.10 Calculation of hardness value ... 8

9 Uncertainty of the results ... 8

10 Test report ... 9

Annex A (normative) **Minimum thickness of the test piece in relation to the test force and hardness** ... 10

Annex B (normative) **Tables of correction factors for use in tests made on curved surfaces** ... 12

Annex C (normative) **Procedure for periodic checking of the testing machine, diagonal measuring system and indenter by the user** ... 16

Annex D (informative) **Uncertainty of the measured hardness values** ... 18

Annex E (informative) **Vickers hardness measurement traceability** ... 25

Annex F (informative) **CCM — Working group on hardness** ... 29

Annex G (informative) **Adjustment of Köhler illumination systems** ... 30

Annex H (normative) **Determining the Vickers hardness of metallic and other inorganic coatings** ... 31

Bibliography ... 35