

ISO 4545-1:2017-12 (E)

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

Contents		Page
Foreword		iv
1	Scope	1
2	Normative references	1
3	Terms and definitions	1
4	Principle	1
5	Symbols and designations	2
5.1	Symbols and designations used in this document	2
5.2	Designation of hardness number	3
6	Testing machine	3
6.1	Testing machine	3
6.2	Indenter	3
6.3	Diagonal measuring system	4
7	Test piece	4
7.1	Test Surface	4
7.2	Preparation	4
7.3	Thickness	4
7.4	Support of unstable test pieces	4
8	Procedure	5
8.1	Test temperature	5
8.2	Test force	5
8.3	Periodic verification	5
8.4	Test piece support	5
8.5	Focus on test surface	5
8.6	Test force application	6
8.7	Prevention of the effect of shock or vibration	6
8.8	Minimum distance between adjacent indentations	6
8.9	Measurement of diagonal length	7
8.10	Calculation of hardness value	7
9	Uncertainty of the results	7
10	Test report	7
Annex A (normative)	Procedure for periodic checking of the testing machine, diagonal measuring system and the indenter by the user	9
Annex B (informative)	Uncertainty of the measured hardness values	11
Annex C (informative)	Knoop hardness measurement traceability	18
Annex D (informative)	CCM -- Working group on hardness	22
Annex E (informative)	Adjustment of Köhler illumination systems	23
Bibliography		24