DIN EN ISO 28080:2021-06 (E)

Hardmetals - Abrasion tests for hardmetals (ISO 28080:2021)

Contents

Page

European foreword 4

Foreword 5

Introduction 6

1 Scope 7

2 Normative references 7

3 Termsanddefinitions 7

4 Principle 8

5 Materials 8
5.1 Test pieces 8
5.1.1 Overall sizes 8
5.1.2 Surface finish 8
5.2 Abrasive 8
5.3 Reference materials 8
5.4 Wheel 9
5.4.1 Material 9
5.4.2 Wheel size 9

6 Apparatus 9
6.1 Summary of apparatuses (test systems) 9
6.2 Abrasive-feed mechanism 10
6.3 Vacuum extraction 10
6.4 Control of wheel speed 11
6.5 Calibration of abrasive flow 11
6.6 Test load 11
6.7 Fluid flow 11
6.8 Instrumentation 11

7 Preparation of test piece 12
7.1 Test-piece cleaning 12
7.2 Test-piece weighing 12
7.3 Test-sample density 12

8 Procedure 13
8.1 General 13
8.2 Test-piece clamping 13
8.3 Typical operation conditions 13
8.4 Start of test 13
8.5 End of test or test stop 13
8.6 Interrupted tests 14
8.7 Use of a reference material 14
8.8 Number of repeat tests 14

9 Expression of results 14
9.1 Single-step test 14
9.2 Multiple-step test 14

9.2.1 Tabulation 14
9.2.2 Calculation of abrasion rate 15
9.3 Illustration of trends of wear, friction force and normal force 15
9.4 Illustration of comparative set of measurements using two abrasion materials 15

10 Uncertainty of measurement 16

11 Test report 17

Bibliography 19