

DIN EN 1071-13:2010-07 (E)

Advanced technical ceramics - Methods of test for ceramic coatings - Part 13: Determination of wear rate by the pin-on-disk method

Contents	Page
Foreword	3
Introduction	4
1 Scope	5
2 Normative references	5
3 Terms and definitions	5
4 Significance and use	6
5 Principle	6
6 Apparatus	6
6.1 Pin-on-disk method testing apparatus	6
6.2 Test apparatus design requirements	7
6.3 Instruments for determining the volume loss	8
6.4 Operating environment	8
7 Preparation of test pieces	8
7.1 Substrate material and preparation	8
7.2 Coating deposition	9
7.3 Post-coating preparation	9
7.4 Cleaning	10
8 Testing procedure	10
8.1 Preliminary setup	10
8.2 Producing the wear track and scar	11
8.3 Evaluation of wear and measurement of wear scars	11
8.4 Calculation of test results	14
9 Repeatability and limits	15
10 Report	16
Annex A (informative) Methods for the determination of coating properties likely to be relevant to coating performance in a pin-on-disk wear test	18
A.1 Relevant properties	18
A.2 Phase composition and preferred orientation	18
A.3 Residual stress	18
A.4 Hardness	18
Annex B (informative) Determination of volume loss from the pin using profilometry	19
Annex C (informative) Determination of wear of coated disk by ball crater technique	20
Bibliography	23