ISO 23146:2012-12 (E)

Fine ceramics (advanced ceramics, advanced technical ceramics) - Test methods for fracture toughness of monolithic ceramics - Single-edge V-notch beam (SEVNB) method

Contents

Page

Foreword iv

1 Scope 1

2 Normative references 1

3 Termsanddefinitions 1

4 Principle 1

5 Apparatus 2

6 Test piece preparation 3
6.1 Number of test pieces 3
6.2 Test-piece dimensions 4
6.3 Preparing the V-notch by hand 4
6.4 Preparing the V-notches by machine (optional) 7
6.5 Determination of notch-root radius 7

7 Test procedure 8
7.1 Dimensions of test piece 8
7.2 Flexural-strength test 8
7.3 Measurement of notch depth 9
7.4 Calculation of fracture toughness 9

8 Precision and bias 11

9 Test report 11

Annex A (informative) Notch honing by machine 12

Annex B (informative) Interlaboratory evaluation of the SEVNB fracture toughness test procedures 14

Annex C (informative) Corrections for effective crack length greater than notch depth 16

Bibliography 17