ISO 18608:2017-03 (E)

Fine ceramics (advanced ceramics, advanced technical ceramics) - Mechanical p roperties of ceramic composites at ambient temperature in air atmospheric pressure - Determination of the resistance to crack propagation by notch sensitivity testing

Contents

Page

Foreword iv

1 Scope 1

2 Normative references 1

3 Termsanddefinitions 1

4 Principle 2

5 Significanceanduse 2

6 Apparatus 4
6.1 Test machine 4
6.2 Load train 4
6.2.1 General 4
6.2.2 Grips 4
6.2.3 Load train couplers 4
6.3 Data recording system 5
6.4 Micrometers 5
6.5 Ligament size measuring device 5

7 Specimens 5
7.1 Un-notched test specimens 5
7.2 Notched test specimens 5
7.3 Notches 6

8 Test specimen preparation 7
8.1 Machining and preparation 7
8.2 Number of test specimens 7

9 Test procedure 7
9.1 Test on reference specimen 7
9.2 Test on notched specimen 7
9.2.1 Displacement rate 7
9.2.2 Measurement of test specimen dimensions 7
9.2.3 Test technique 7
9.2.4 Test validity 8

10 Calculation of results 8
10.1 Test specimen origin 8
10.2 Tensile strength of un-notched specimen 8
10.3 Tensile strength of the notched specimen 8
10.4 Plotting of notch sensitivity diagram 8
10.5 Calculation of equivalent fracture toughness for the different classes of behaviour 9
10.5.1 Class A behaviour 9
10.5.2 Class B behaviour 9
10.5.3 Class C behaviour 10
11 Test report 10

Bibliography 11