DIN EN ISO 17142:2016-11 (E)

Fine ceramics (advanced ceramics, advanced tech nical ceramics) - Mechanical properties of ceramic composites at high temperature in air at atmospheric pressure - Determination of fatigue properties at constant amplitude (ISO 17142:2014)

Contents

Page

European foreword 3

Foreword 4

1 Scope 5

2 Normative references 5

3 Terms and definitions 6
3.1 General 6
3.2 Cyclic fatigue phenomena 7

4 Principle 9

5 Significance and use 9

6 Apparatus 10
6.1 Fatigue test machine 10
6.2 Load train 10
6.3 Set-up for heating 11
6.4 Extensometer 11
6.5 Temperature measurement 11
6.6 Data recording system 11
6.7 Micrometers 11

7 Test specimens 11

8 Test specimen preparation 12
8.1 Machining and preparation 12
8.2 Number of test specimens 13

9 Test procedure 13
9.1 Test set-up: temperature considerations 13
9.2 Measurement of test specimen dimensions 13
9.3 Testing technique 14
9.4 Test validity 15

10 Calculation of results 15
10.1 Time to failure, tf 15
10.2 Damage parameters 15
10.3 Residual properties 16

11 Test report 17

Annex A (informative) Schematic evolution of E 19