DIN EN ISO 17139:2022-06 (E)

Fine ceramics (advanced ceramics, advanced technical ceramics) - Thermophysical properties of ceramic composites - Determination of thermal expansion (ISO 17139:2014)

Contents

Page

European foreword ... **3**

Foreword ... **4**

1 Scope ... **5**

2 Normative references ... **5**

3 Terms and definitions ... **5**

4 Principle ... **6**
4.1 General ... 6
4.2 Direct measurement ... 6
4.3 Differential method ... 6

5 Apparatus ... **6**
5.1 Construction materials ... 6
5.2 Heating and cooling device ... 6
5.3 Temperature measurement ... 6
5.4 Test piece mounting ... 6
5.5 System for measuring and recording the thermal expansion ... 7
5.6 Test piece measurement ... 7

6 Specimens ... **7**
6.1 Test pieces ... 7
6.2 Reference pieces ... 7
6.3 Dimensions ... 8

7 Procedure ... **8**

8 Calculations ... **9**
8.1 Direct measurement ... 9
8.2 Differential method ... 9

9 Test report ... **10**

Annex A (normative) **Direct measurement apparatus** ... **13**

Annex B (normative) **Differential type measurement apparatus** ... **15**

Bibliography ... **16**