

ISO 21713:2020-03 (E)

Fine ceramics (advanced ceramics, advanced technical ceramics) - Determination of elastic modulus of ceramics at high temperature by thin wall C-ring method

Contents		Page
Foreword		iv
1	Scope	1
2	Normative references	1
3	Terms and definitions	1
4	Principle	2
5	Apparatus	3
5.1	Testing machine	3
5.2	Heating system	4
5.2.1	General	4
5.2.2	Test piece temperature stability	4
5.2.3	Test temperature uniformity	4
5.2.4	Furnace heating rate	4
5.2.5	Furnace stability	4
5.3	Temperature-measuring and indicating instruments	4
5.3.1	General	4
5.3.2	Thermocouples	4
5.3.3	Verification of the thermocouple temperature-measuring system	4
5.4	Vacuating machine	4
5.5	Data acquisition	4
5.6	Dimension-measuring device	5
6	Test pieces	5
6.1	Test piece size and preparation	5
6.1.1	General	5
6.1.2	Test piece storage	5
6.1.3	Number of test pieces	5
6.2	Rigid disk preparation	5
7	Test procedures	6
7.1	Check of vacuuming system	6
7.2	Check of heating system	6
7.3	Testing machine and loading speed	6
7.4	Elastic modulus measurement steps	6
7.5	Test validity requirement	7
8	Calculation of results	8
8.1	Calculation of the elastic modulus	8
8.2	Mean value and standard deviation for elastic modulus	8
9	Test report	8
Bibliography		10