

ISO 20343:2017-01 (E)

Fine ceramics (advanced ceramics, advanced technical ceramics) - Test method for determining elastic modulus of thick ceramic coatings at elevated temperature

Contents		Page
Foreword		iv
1	Scope	1
2	Normative references	1
3	Terms and definitions	1
4	Principle	2
5	Apparatus	2
5.1	Elastic modulus testing machine	2
5.2	Heating system	2
5.2.1	General	2
5.2.2	Temperature stability	2
5.2.3	Test temperature uniformity	2
5.2.4	Furnace heating rate	2
5.2.5	Furnace stability	2
5.3	Temperature measuring and indicating instruments	2
5.3.1	General	2
5.3.2	Thermocouples	3
5.3.3	Verification of the thermocouple temperature measuring system	3
5.4	Dimension-measuring device	3
5.5	Test fixture	3
5.5.1	General	3
5.5.2	Fixture material	3
6	Test pieces	3
6.1	Test piece size	3
6.2	Test piece preparation and storage	4
7	Test procedure	4
7.1	Measurement of the size and mass of the test-pieces	4
7.2	Measurement of elastic modulus of coating at elevated temperature	4
8	Calculation of results	6
8.1	Standard formula for elastic modulus of coating	6
8.2	Mean value and standard deviation for elastic modulus	6
8.3	Variation of elastic modulus with temperature	7
9	Analysis of precision and uncertainty	8
10	Test report	8
Bibliography		9