

ISO 19604:2018-05 (E)

Fine ceramics (advanced ceramics, advanced technical ceramics) - Mechanical properties of ceramic composites at high temperature - Determination of stress-rupture time diagram under constant tensile loading

Contents		Page
Foreword		v
1	Scope	1
2	Normative references	1
3	Terms, definitions and symbols	1
4	Principle	3
5	Significance and use	3
6	Apparatus	3
6.1	Test machine	3
6.2	Gripping devices	4
6.2.1	General	4
6.2.2	Active gripping devices	4
6.2.3	Passive gripping devices	4
6.3	Test chamber	4
6.4	Load indicator	4
6.5	Extensometer	6
6.5.1	General	6
6.5.2	Mechanical extensometer	7
6.5.3	Electronic optical extensometer	7
6.6	Heating apparatus	7
6.7	Temperature measurement devices	7
6.8	Data recording system	8
6.9	Micrometers	8
7	Test specimens	8
7.1	Test specimen geometry	8
7.2	End tabs of specimen	9
7.3	Test specimen preparation	10
7.4	Number of test specimens	11
8	Test preparation	11
8.1	Alignment adjustment in tensile axis direction	11
8.2	Adjustment of heating apparatus and temperature measuring device	11
8.3	Measurement of test specimen dimension	11
9	Test procedures	12
9.1	Testing technique	12
9.1.1	Test specimen mounting	12
9.1.2	Setting of extensometers	12
9.1.3	Setting of inert atmosphere	12
9.1.4	Heating the test specimen	12
9.1.5	Monitoring of temperature and elongation	13
9.1.6	Applying load	13
9.2	Post-testing treatment	13

9.3	Test validity	13
9.4	Stress levels in tests	14
9.5	Accidental interruption of the test	14
10	Calculation of results	14
10.1	Tensile applied stress	14
10.2	Tensile strain	15
10.3	Drawing of tensile strain curve	15
10.4	Drawing of stress-rupture diagram	15
11	Test report	15
Annex A (informative) Measurement procedure of bending ratio in the adjustment of a tensile axis		17