

# ISO 20504:2019-07 (E)

## Fine ceramics (advanced ceramics, advanced technical ceramics) - Mechanical properties of ceramic composites at room temperature - Determination of compressive properties

---

<b>Contents</b>		<b>Page</b>
Foreword .....		iv
<b>1</b>	<b>Scope .....</b>	<b>1</b>
<b>2</b>	<b>Normative references .....</b>	<b>1</b>
<b>3</b>	<b>Terms and definitions .....</b>	<b>1</b>
<b>4</b>	<b>Principle .....</b>	<b>3</b>
<b>5</b>	<b>Apparatus .....</b>	<b>3</b>
5.1	Test machine .....	3
5.2	Load train .....	3
5.3	Strain measurement .....	4
5.3.1	General .....	4
5.3.2	Strain gauges .....	4
5.3.3	Extensometry .....	4
5.4	Data recording system .....	4
5.5	Dimension-measuring devices .....	4
<b>6</b>	<b>Test specimens .....</b>	<b>5</b>
6.1	General .....	5
6.2	Compression between platens .....	5
6.3	Test specimen used with grips .....	7
<b>7</b>	<b>Test specimen preparation .....</b>	<b>10</b>
7.1	Machining and preparation .....	10
7.2	Number of test specimens .....	10
<b>8</b>	<b>Test procedure .....</b>	<b>10</b>
8.1	Test mode and rate .....	10
8.2	Measurement of test specimen dimensions .....	10
8.3	Buckling .....	10
8.4	Testing technique .....	11
8.4.1	Test specimen mounting .....	11
8.4.2	Extensometers .....	11
8.4.3	Measurements .....	11
8.5	Test validity .....	11
<b>9</b>	<b>Calculation of results .....</b>	<b>11</b>
9.1	Test specimen origin .....	11
9.2	Compressive strength .....	12
9.3	Strain at maximum compressive force .....	12
9.4	Proportionality ratio or pseudo-elastic modulus, elastic modulus .....	12
<b>10</b>	<b>Test report .....</b>	<b>13</b>
<b>Annex A (informative)</b>	<b>Illustration of elastic modulus .....</b>	<b>15</b>
<b>Bibliography .....</b>		<b>17</b>