

# ISO 18756:2003-12 (E)

Fine ceramics (advanced ceramics, advanced technical ceramics) - Determination of fracture toughness of monolithic ceramics at room temperature by the surface crack in flexure (SCF) method

---

<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>Symbols .....</b>	<b>3</b>
<b>5</b>	<b>Principle .....</b>	<b>4</b>
<b>6</b>	<b>Apparatus .....</b>	<b>5</b>
<b>7</b>	<b>Test specimens .....</b>	<b>6</b>
<b>7.1</b>	<b>Specimen size, preparation and edge chamfering .....</b>	<b>6</b>
<b>7.2</b>	<b>Number of specimens .....</b>	<b>6</b>
<b>8</b>	<b>Procedure .....</b>	<b>7</b>
<b>8.1</b>	<b>Introduction of the precrack by Knoop indentation .....</b>	<b>7</b>
<b>8.2</b>	<b>Specimen fracture .....</b>	<b>11</b>
<b>8.3</b>	<b>Crack size measurement .....</b>	<b>12</b>
<b>8.4</b>	<b>Environmental effects .....</b>	<b>13</b>
<b>8.5</b>	<b>Optional: Estimate of R-curve behaviour .....</b>	<b>14</b>
<b>8.6</b>	<b>Optional: Reference materials .....</b>	<b>14</b>
<b>9</b>	<b>Calculation .....</b>	<b>14</b>
<b>10</b>	<b>Test report .....</b>	<b>15</b>
	<b>Annex A (informative) Environmental effects .....</b>	<b>17</b>
	<b>Annex B (normative) Precrack characterization .....</b>	<b>18</b>
	<b>Annex C (informative) R-curve estimation by the SCF method .....</b>	<b>25</b>
	<b>Annex D (normative) Chamfer correction factors .....</b>	<b>27</b>
	<b>Bibliography .....</b>	<b>29</b>