

# DIN EN 12390-13:2021-09 (E)

## Testing hardened concrete - Part 13: Determination of secant modulus of elasticity in compression

---

<b>Contents</b>		<b>Page</b>
European foreword .....		3
<b>1</b>	<b>Scope .....</b>	<b>5</b>
<b>2</b>	<b>Normative references .....</b>	<b>5</b>
<b>3</b>	<b>Terms, definitions, symbols and abbreviations .....</b>	<b>5</b>
<b>3.1</b>	<b>Terms and definitions .....</b>	<b>5</b>
<b>3.2</b>	<b>Symbols and abbreviations .....</b>	<b>6</b>
<b>4</b>	<b>Principle .....</b>	<b>7</b>
<b>5</b>	<b>Apparatus .....</b>	<b>7</b>
<b>5.1</b>	<b>Test machine .....</b>	<b>7</b>
<b>5.2</b>	<b>Instrumentation .....</b>	<b>7</b>
<b>5.3</b>	<b>Gauge length .....</b>	<b>8</b>
<b>6</b>	<b>Test specimens .....</b>	<b>8</b>
<b>6.1</b>	<b>Shape and dimensions of specimens .....</b>	<b>8</b>
<b>6.2</b>	<b>Curing, storage and conditioning .....</b>	<b>8</b>
<b>7</b>	<b>Method .....</b>	<b>8</b>
<b>7.1</b>	<b>Specimen instrumentation and positioning .....</b>	<b>8</b>
<b>7.2</b>	<b>Determination of compressive strength .....</b>	<b>9</b>
<b>7.3</b>	<b>Determination of secant modulus of elasticity .....</b>	<b>9</b>
<b>7.3.1</b>	<b>Method A - Determination of initial and stabilized secant modulus of elasticity .....</b>	<b>9</b>
<b>7.3.2</b>	<b>Method B - determination of stabilized secant modulus of elasticity .....</b>	<b>11</b>
<b>8</b>	<b>Calculation of secant modulus of elasticity .....</b>	<b>13</b>
<b>8.1</b>	<b>Initial secant modulus of elasticity (Method A) .....</b>	<b>13</b>
<b>8.2</b>	<b>Stabilized secant modulus of elasticity (Method A and B) .....</b>	<b>13</b>
<b>9</b>	<b>Test report .....</b>	<b>14</b>
<b>10</b>	<b>Precision .....</b>	<b>14</b>
<b>Bibliography .....</b>		<b>15</b>