

# ISO 13585:2021-12 (E)

## Brazing - Qualification testing of brazers and brazing operators

---

<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>2</b>
<b>4</b>	<b>Symbols and abbreviated terms .....</b>	<b>3</b>
<b>5</b>	<b>Essential variables and range of qualification .....</b>	<b>4</b>
<b>5.1</b>	<b>General .....</b>	<b>4</b>
<b>5.2</b>	<b>Brazing process .....</b>	<b>5</b>
<b>5.3</b>	<b>Brazer qualification .....</b>	<b>5</b>
<b>5.3.1</b>	<b>Product type .....</b>	<b>5</b>
<b>5.3.2</b>	<b>Type of joint .....</b>	<b>5</b>
<b>5.3.3</b>	<b>Parent material group(s) .....</b>	<b>5</b>
<b>5.3.4</b>	<b>Filler metals and brazing filler application .....</b>	<b>6</b>
<b>5.3.5</b>	<b>Dimensions .....</b>	<b>6</b>
<b>5.3.6</b>	<b>Filler metal flow direction .....</b>	<b>7</b>
<b>5.4</b>	<b>Brazing operator qualification .....</b>	<b>7</b>
<b>5.4.1</b>	<b>Type of equipment .....</b>	<b>7</b>
<b>5.4.2</b>	<b>Filler metals and brazing filler application .....</b>	<b>7</b>
<b>6</b>	<b>Examination and testing .....</b>	<b>7</b>
<b>6.1</b>	<b>Supervision .....</b>	<b>7</b>
<b>6.2</b>	<b>Brazing conditions .....</b>	<b>8</b>
<b>6.3</b>	<b>Test piece .....</b>	<b>8</b>
<b>6.4</b>	<b>Assessment of work pieces .....</b>	<b>8</b>
<b>6.5</b>	<b>Extent of testing .....</b>	<b>8</b>
<b>6.6</b>	<b>Visual testing .....</b>	<b>8</b>
<b>6.7</b>	<b>Non-destructive testing .....</b>	<b>9</b>
<b>6.8</b>	<b>Destructive testing .....</b>	<b>9</b>
<b>6.9</b>	<b>Additional examination and testing .....</b>	<b>9</b>
<b>7</b>	<b>Acceptance requirements for test pieces .....</b>	<b>9</b>
<b>8</b>	<b>Re-tests .....</b>	<b>9</b>
<b>9</b>	<b>Period of validity .....</b>	<b>10</b>
<b>9.1</b>	<b>Initial qualification .....</b>	<b>10</b>
<b>9.2</b>	<b>Prolongation .....</b>	<b>10</b>
<b>10</b>	<b>Certificate .....</b>	<b>10</b>
<b>11</b>	<b>Designation .....</b>	<b>11</b>
	<b>Annex A (informative) Quality requirements for brazing .....</b>	<b>12</b>
	<b>Annex B (informative) Brazer qualification test certificate .....</b>	<b>13</b>
	<b>Annex C (informative) Brazing operator qualification test certificate .....</b>	<b>15</b>

<b>Annex D (informative) Other non-essential variables .....</b>	<b>16</b>
<b>Annex E (normative) Material grouping system .....</b>	<b>17</b>
<b>Annex F (informative) Examples of test pieces .....</b>	<b>19</b>
<b>Bibliography .....</b>	<b>21</b>