

# ISO 14780:2017-04 (E)

## Solid biofuels - Sample preparation

---

<b>Contents</b>		<b>Page</b>
Foreword .....		iv
Introduction .....		v
<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>2</b>
<b>5</b>	<b>Principles of correct sample reduction .....</b>	<b>2</b>
<b>6</b>	<b>Apparatus .....</b>	<b>2</b>
<b>6.1</b>	<b>Apparatus for sample division .....</b>	<b>2</b>
<b>6.1.1</b>	<b>General .....</b>	<b>2</b>
<b>6.1.2</b>	<b>Riffle boxes .....</b>	<b>2</b>
<b>6.1.3</b>	<b>Rotary sample dividers .....</b>	<b>3</b>
<b>6.1.4</b>	<b>Shovels and scoops .....</b>	<b>4</b>
<b>6.2</b>	<b>Apparatus for particle size-reduction .....</b>	<b>5</b>
<b>6.2.1</b>	<b>Coarse cutting mill or wood crusher .....</b>	<b>5</b>
<b>6.2.2</b>	<b>Cutting mill .....</b>	<b>5</b>
<b>6.2.3</b>	<b>Axe .....</b>	<b>6</b>
<b>6.2.4</b>	<b>Hand saw .....</b>	<b>6</b>
<b>6.2.5</b>	<b>Sieves .....</b>	<b>6</b>
<b>6.2.6</b>	<b>Balance .....</b>	<b>6</b>
<b>7</b>	<b>Sample reduction -- General principles .....</b>	<b>6</b>
<b>8</b>	<b>Methods for sample division .....</b>	<b>8</b>
<b>8.1</b>	<b>General .....</b>	<b>8</b>
<b>8.2</b>	<b>Riffing .....</b>	<b>9</b>
<b>8.3</b>	<b>Strip mixing .....</b>	<b>9</b>
<b>8.4</b>	<b>Long pile-alternate shovel method .....</b>	<b>9</b>
<b>8.5</b>	<b>Rotary divider .....</b>	<b>10</b>
<b>8.6</b>	<b>Coning and quartering .....</b>	<b>10</b>
<b>8.7</b>	<b>Mass reducing straw-like material (handful sampling) .....</b>	<b>10</b>
<b>9</b>	<b>Method for reducing laboratory samples to sub-samples and general analysis samples ...</b>	<b>11</b>
<b>9.1</b>	<b>Mixing .....</b>	<b>11</b>
<b>9.2</b>	<b>Initial sample division .....</b>	<b>11</b>
<b>9.3</b>	<b>Pre-drying .....</b>	<b>11</b>
<b>9.4</b>	<b>Coarse cutting (particle size reduction to &lt;31,5 mm) .....</b>	<b>12</b>
<b>9.5</b>	<b>Sample division of &lt;31,5 mm material .....</b>	<b>12</b>
<b>9.6</b>	<b>Particle size reduction of &lt;31,5 mm material to &lt;1 mm .....</b>	<b>12</b>
<b>9.7</b>	<b>Sample division of &lt;1 mm material .....</b>	<b>13</b>
<b>9.8</b>	<b>Particle size reduction of &lt;1 mm material to &lt;0,25 mm .....</b>	<b>13</b>
<b>10</b>	<b>Storage and labelling .....</b>	<b>13</b>
<b>11</b>	<b>Performance characteristics .....</b>	<b>13</b>

<b>Annex A (informative) Precision in relation to division method .....</b>	<b>14</b>
<b>Annex B (informative) Scheme of sample preparation for samples from single delivery .....</b>	<b>19</b>
<b>Annex C (informative) Scheme of sample preparation for samples from continuous delivery .....</b>	<b>20</b>
<b>Bibliography .....</b>	<b>22</b>