

# ISO 16742:2014-03 (E)

## Iron ores - Sampling of slurries

---

<b>Contents</b>		<b>Page</b>
Foreword .....		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>2</b>
<b>4</b>	<b>General considerations for sampling slurries .....</b>	<b>2</b>
<b>4.1</b>	<b>Basic requirements .....</b>	<b>2</b>
<b>4.2</b>	<b>Sampling errors .....</b>	<b>3</b>
<b>4.3</b>	<b>Establishing a sampling scheme .....</b>	<b>4</b>
<b>5</b>	<b>Fundamentals of sampling and sample preparation .....</b>	<b>6</b>
<b>5.1</b>	<b>Minimization of bias .....</b>	<b>6</b>
<b>5.2</b>	<b>Volume of increment for falling stream samplers to avoid bias .....</b>	<b>7</b>
<b>5.2.1</b>	<b>Linear cross-stream cutter .....</b>	<b>7</b>
<b>5.2.2</b>	<b>Vezein cutter .....</b>	<b>8</b>
<b>5.3</b>	<b>Volume of increment for manual sampling to avoid bias .....</b>	<b>8</b>
<b>5.4</b>	<b>Overall precision .....</b>	<b>9</b>
<b>5.5</b>	<b>Quality variation .....</b>	<b>10</b>
<b>5.6</b>	<b>Sampling precision and number of primary increments .....</b>	<b>11</b>
<b>5.7</b>	<b>Precision of sample preparation and overall precision .....</b>	<b>11</b>
<b>6</b>	<b>Minimum mass of solids in gross and partial samples .....</b>	<b>12</b>
<b>6.1</b>	<b>General .....</b>	<b>12</b>
<b>6.2</b>	<b>Minimum mass of solids in gross samples .....</b>	<b>12</b>
<b>6.3</b>	<b>Minimum mass of solids in partial samples .....</b>	<b>13</b>
<b>7</b>	<b>Time-basis sampling .....</b>	<b>13</b>
<b>7.1</b>	<b>General .....</b>	<b>13</b>
<b>7.2</b>	<b>Sampling interval .....</b>	<b>13</b>
<b>7.3</b>	<b>Cutters .....</b>	<b>13</b>
<b>7.4</b>	<b>Taking of increments .....</b>	<b>14</b>
<b>7.5</b>	<b>Constitution of gross or partial samples .....</b>	<b>14</b>
<b>7.6</b>	<b>Division of increments and partial samples .....</b>	<b>14</b>
<b>7.7</b>	<b>Division of gross samples .....</b>	<b>14</b>
<b>7.8</b>	<b>Number of cuts for division .....</b>	<b>14</b>
<b>8</b>	<b>Stratified random sampling with fixed time intervals .....</b>	<b>14</b>
<b>9</b>	<b>Mechanical sampling from moving streams .....</b>	<b>15</b>
<b>9.1</b>	<b>General .....</b>	<b>15</b>
<b>9.2</b>	<b>Design of the sampling system .....</b>	<b>15</b>
<b>9.2.1</b>	<b>Safety of operators .....</b>	<b>15</b>
<b>9.2.2</b>	<b>Location of sample cutters .....</b>	<b>15</b>
<b>9.2.3</b>	<b>Provision for duplicate sampling .....</b>	<b>15</b>
<b>9.2.4</b>	<b>System for checking the precision and bias .....</b>	<b>15</b>
<b>9.2.5</b>	<b>Minimizing bias .....</b>	<b>16</b>
<b>9.3</b>	<b>Slurry sample cutters .....</b>	<b>16</b>
<b>9.3.1</b>	<b>General .....</b>	<b>16</b>
<b>9.3.2</b>	<b>Falling-stream cutters .....</b>	<b>17</b>

9.3.3	Cutter velocities .....	17
9.4	Mass of solids in increments .....	17
9.5	Number of primary increments .....	17
9.6	Routine checking .....	18
10	Manual sampling from moving streams .....	18
10.1	General .....	18
10.2	Choosing the sampling location .....	18
10.3	Sampling implements .....	18
10.4	Volume of increments .....	18
10.5	Number of primary increments .....	19
10.6	Sampling procedures .....	19
11	Sampling of stationary slurries .....	19
12	Sample preparation procedures .....	20
12.1	General .....	20
12.2	Grinding mills .....	20
12.3	Sample division .....	20
12.4	Chemical analysis samples .....	20
12.5	Physical test samples .....	20
13	Packing and marking of samples .....	20
AnnexA(informative)Examplesofcorrectslurrysamplingdevices .....		22
AnnexB(informative)Examplesofincorrectslurrysamplingdevices .....		25
AnnexC(normative) Manual sampling implements .....		28
Bibliography .....		29