

# ISO 3884:2025-04 (E)

**Solid recovered fuels - Methods for the determination of the content of elements (Al, Ca, Fe, K, Mg, Na, P, S, Si, Ti, As, Ba, Be, Cd, Co, Cr, Cu, Hg, Mo, Mn, Ni, Pb, Sb, Se, Sn, Tl, V, Zn)**

---

<b>Contents</b>		<b>Page</b>
<b>Foreword</b>		<b>v</b>
<b>Introduction</b>		<b>vi</b>
<b>1</b>	<b>Scope</b>	<b>1</b>
<b>2</b>	<b>Normative references</b>	<b>2</b>
<b>3</b>	<b>Terms and definitions</b>	<b>2</b>
<b>4</b>	<b>Symbols and abbreviations</b>	<b>2</b>
<b>5</b>	<b>Safety remarks</b>	<b>5</b>
<b>6</b>	<b>Principle</b>	<b>5</b>
<b>7</b>	<b>Reagents</b>	<b>5</b>
<b>8</b>	<b>Apparatus</b>	<b>6</b>
<b>9</b>	<b>Interferences and sources of errors</b>	<b>7</b>
9.1	General information	7
9.2	Closed vessel system for microwave digestion	8
<b>10</b>	<b>Preparation of the test sample</b>	<b>8</b>
<b>11</b>	<b>Procedure</b>	<b>8</b>
11.1	General	8
11.2	Blank test	8
11.3	Method A (general method for SRF and major elements in ashed SRF) - Microwave assisted digestion with hydrochloric, nitric and hydrofluoric acid mixture (6 ml HCl; 2 ml HNO <sub>3</sub> ; 2 ml HF)	9
11.4	Method AT (method for SRF and major elements in ashed SRF) - Microwave assisted digestion with hydrochloric, nitric and tetrafluoroboric acid mixture (6 ml HCl; 2 ml HNO <sub>3</sub> ; 4 ml HBF <sub>4</sub> )	11
11.5	Method B (e.g. plastic based SRF and others if method A cannot be applied) - Microwave assisted digestion with hydrochloric, nitric and hydrofluoric acid mixture (0,5 ml HCl; 6 ml HNO <sub>3</sub> ; 1 ml HF)	11
11.6	Method BT (e.g. plastic based SRF and others) - Microwave assisted digestion with hydrochloric, nitric and tetrafluoroboric acid mixture (0,5 ml HCl; 6 ml HNO <sub>3</sub> ; 2 ml HBF <sub>4</sub> )	12
11.7	Method C (e.g. wood based SRFs) - Microwave assisted digestion with nitric acid, hydrogen peroxide and hydrofluoric acid mixture (2,5 ml H <sub>2</sub> O <sub>2</sub> ; 5 ml HNO <sub>3</sub> ; 0,4 ml HF)	13
11.8	Method CT (e.g. wood based SRFs) - Microwave assisted digestion with nitric acid, hydrogen peroxide and tetrafluoroboric acid mixture (2,5 ml H <sub>2</sub> O <sub>2</sub> ; 5 ml HNO <sub>3</sub> ; 0,8 ml HBF <sub>4</sub> )	14
11.9	Method D (major elements in SRF ash) - digestion of ashed SRF with fluxing agent lithium metaborate (fused bead)	14
<b>12</b>	<b>Analysis</b>	<b>15</b>
12.1	Preparation of the solution for analysis	15
12.2	Analytical step	15
12.3	XRF analysis on ashed samples - sample preparation (major elements only)	15
<b>13</b>	<b>Calculations</b>	<b>16</b>
<b>14</b>	<b>Quality control</b>	<b>16</b>

<b>15</b>	<b>Performance characteristics</b> .....	<b>16</b>
<b>16</b>	<b>Test report</b> .....	<b>16</b>
<b>Annex A (informative)</b>	<b>Calibration of the power adjustment</b> .....	<b>18</b>
<b>Annex B (informative)</b>	<b>Validation and performance data (SRF22ERI)</b> .....	<b>19</b>
<b>Annex C (informative)</b>	<b>Performance data (QUOVADIS)</b> .....	<b>65</b>
<b>Annex D (informative)</b>	<b>Results of ruggedness testing (QUOVADIS)</b> .....	<b>78</b>
<b>Bibliography</b> .....		<b>82</b>