

| WOOD PELLETS SPECIFICATIONS                            | 27/04/2012                                   | EN         | Initiative Wood Pellets Buyers: Industrial wood pellets specifications                 |                      |  |                      |  |                      |                    | Check performed by             | Remarks |
|--|--|------------|--|----------------------|--|----------------------|--|----------------------|--------------------|--------------------------------|---------|
|  | PARAMETERS AND REJECTION LIMITS <sup>4</sup> | Units      | Standard   | I1 industrial        |  | I2 industrial        |  | I3 industrial        |                    |                                |         |
| Origin and source                                      | Only accepted                                | EN 14961-1 | 1.1 Forest, plantation and other virgin wood, 1.2.1 chemically untreated wood residues |                      | 1.1 Forest, plantation and other virgin wood, 1.2.1 chemically untreated wood residues |                      | 1.1 Forest, plantation and other virgin wood, 1.2.1 chemically untreated wood residues |                      | insp & lab         | type and quantity to be stated |         |
| Sampling   |  | EN 14778   |  |                      |  |                      |  |                      | insp               |                                |         |
| Quality check  |  |            |  |                      |  |                      |  |                      | insp               |                                |         |
| Sample preparation                                     |  | EN 14780   |  |                      |  |                      |  |                      | insp               |                                |         |
| No water damage  |  |            | None   |                      | None   |                      | None   |                      | insp               |                                |         |
| No burned/charred pellets                              |  |            | None   |                      | None   |                      | None   |                      | insp               |                                |         |
| Additives (composition, mass )                         | weight% ar                                   | EN 14961   | < 3% additives   |                      | < 3% additives   |                      | < 3% additives   |                      | declared by seller |                                |         |
|  |  | OFGEM      | sustainability proven for UK   |                      | sustainability proven for UK   |                      | sustainability proven for UK   |                      | seller             |                                |         |
| <b>Physical parameters</b>                             |  |            | <b>Limit</b>   | <b>Tolerance</b>     | <b>Limit</b>   | <b>Tolerance</b>     | <b>Limit</b>   | <b>Tolerance</b>     |                    |                                |         |
| Diameter   | mm   | EN16127    | 6 to 8   | within range         | 6 to 10  | within range         | 6 to 12  | within range         | insp & lab         |                                |         |
| Length ≤50 mm  | weight %                                     | EN16127    | 99,9%  | within range         | 99,9%  | within range         | 99,9%  | within range         | insp & lab         |                                |         |
| Length ≤40 mm  | weight %                                     | EN16127    | 99%  | within range         | 99%  | within range         | 99%  | within range         | insp & lab         |                                |         |
| Water content  | weight% ar                                   | EN 14774   | ≤ 10 %   | <b>0,5% absolute</b> | ≤ 10 %   | <b>0,5% absolute</b> | ≤ 10 %   | <b>0,5% absolute</b> | insp & lab         |                                |         |
| Bulk (apparent) density                                | kg/m3  | EN 15103   | ≥ 600  | 2% of limit          | ≥ 600  | 2% of limit          | ≥ 600  | 2% of limit          | insp & lab         |                                |         |
| Maximum bulk temperature                               | °C   | EN15234-2  | ≤ 60   | 1°C                  | ≤ 60   | 1°C                  | ≤ 60   | 1°C                  | insp               |                                |         |
| Net calorific value at constant pressure               | GJ/ton ar                                    | EN 14918   | ≥ 16,5   | 0,3 GJ/ton           | ≥ 16,5   | 0,3 GJ/ton           | ≥ 16,5   | 0,3 GJ/ton           | lab                |                                |         |
| Ash content  | weight% DM                                   | EN 14775   | ≤ 1,0%   | <b>10% of limit</b>  | ≤ 1,5%   | <b>10% of limit</b>  | ≤ 3%   | <b>10% of limit</b>  | lab                |                                |         |
| <b>Elementary composition</b>                          |  |            |  |                      |  |                      |  |                      |                    |                                |         |
| Cl   | weight% DM                                   | EN 15289   | ≤ <b>0,03%</b>   | 0,01% absolute       | ≤ <b>0,05 %</b>  | 0,01% absolute       | ≤ <b>0,1 %</b>   | 20% of limit         | lab                |                                |         |
| N  | weight% DM                                   | EN 15104   | ≤ <b>0,3%</b>  | 0,05% absolute       | ≤ <b>0,3 %</b>   | 10% of limit         | ≤ <b>0,6 %</b>   | 10% of limit         | lab                |                                |         |
| S  | weight% DM                                   | EN 15289   | ≤ 0,15 %   | 0,01% absolute       | ≤ 0,2 %  | 20% of limit         | ≤ 0,4 %  | 20% of limit         | lab                |                                |         |
| <b>Trace elements</b>                                  |  |            |  |                      |  |                      |  |                      |                    |                                |         |
| As   | mg/kg DM                                     | EN 15297   | ≤ 2  | 0,064 absolute       | ≤ 2  | 0,064 absolute       | ≤ 2  | 0,064 absolute       | lab                |                                |         |
| Cd   | mg/kg DM                                     | EN 15297   | ≤ 1  | 0,06 absolute        | ≤ 1  | 0,06 absolute        | ≤ 1  | 0,06 absolute        | lab                |                                |         |
| Cr   | mg/kg DM                                     | EN 15297   | ≤ 15   | 0,032 absolute       | ≤ 15   | 0,032 absolute       | ≤ 15   | 0,032 absolute       | lab                |                                |         |
| Cu   | mg/kg DM                                     | EN 15297   | ≤ 20   | 0,043 absolute       | ≤ 20   | 0,043 absolute       | ≤ 20   | 0,043 absolute       | lab                |                                |         |
| Pb   | mg/kg DM                                     | EN 15297   | ≤ 20   | 0,033 absolute       | ≤ 20   | 0,033 absolute       | ≤ 20   | 0,033 absolute       | lab                |                                |         |
| Hg   | mg/kg DM                                     | EN 15297   | ≤ 0,1  | 0,0046 absolute      | ≤ 0,1  | 0,0046 absolute      | ≤ 0,1  | 0,0046 absolute      | lab                |                                |         |
| Zn   | mg/kg DM                                     | EN 15297   | ≤ 200  | 5,43 absolute        | ≤ 200  | 5,43 absolute        | ≤ 200  | 5,43 absolute        | lab                |                                |         |
| Fines ≤ 3.15 mm (round hole sieves)                    | weight% ar                                   | EN15210-1  | ≤ 4 %  | <b>1% absolute</b>   | ≤ 5 %  | <b>1% absolute</b>   | ≤ 6 %  | <b>1% absolute</b>   | insp & lab         |                                |         |
| Durability   | weight% ar                                   | EN 15210   | 97,5-99%   | 0,5% absolute        | 97,0%-99%  | <b>0,5% absolute</b> | 96,5%-99%  | <b>0,5% absolute</b> | lab                |                                |         |
|  |  |            |  |                      |  |                      |  |                      | lab                |                                |         |
| <b>Particle size distribution (square hole sieves)</b> |  | EN15149-2  |  |                      |  |                      |  |                      |                    |                                |         |
| % < 3.15 mm  | weight %                                     | EN 16126   | >99%   | <b>1% absolute</b>   | >98%   | <b>1% absolute</b>   | >97%   | <b>1% absolute</b>   | lab                |                                |         |
| % < 2.0 mm   | weight %                                     | EN 16126   | >95%   | <b>2% absolute</b>   | >90%   | <b>2% absolute</b>   | >85%   | <b>2% absolute</b>   | lab                |                                |         |
| % < 1.0 mm   | weight %                                     | EN 16126   | >60%   | <b>5% absolute</b>   | >50%   | <b>5% absolute</b>   | >40%   | <b>5% absolute</b>   | lab                |                                |         |

**Tolerance: instances where ISO doesn't have a tolerance**

Notes:  
Generic wording to be included to cover water damage and burned pellets

Performed by: -Lab: analyses will be performed by the independent laboratory; - Insp: test will be performed by the inspection company;  
-Insp & lab: means a field test will be performed by the inspection company, the final value will be analyzed by the lab