

# Residential EN Plus Specification

## Quality Specification from EN PLUS Handbook

**Table 1** Threshold values of the most important pellet parameters. More parameters can be found in EN 14961-2.

| Property                            | Unit                | ENplus-A1                           | ENplus-A2             | EN-B                      | Testing standard  |
|-------------------------------------|---------------------|-------------------------------------|-----------------------|---------------------------|-------------------|
| Diameter                            | mm                  | 6 or 8                              |                       |                           | EN 16127          |
| Length                              | mm                  | $3.15 \leq L \leq 40$ <sup>3)</sup> |                       |                           | EN 16127          |
| Moisture Content                    | w-% <sup>1)</sup>   | $\leq 10$                           |                       |                           | EN 14774-1        |
| Ash Content                         | w-% <sup>2)</sup>   | $\leq 0.7$                          | $\leq 1.5$            | $\leq 3.0$                | EN 14775 (550 °C) |
| Mechanical Durability               | w-% <sup>1)</sup>   | $\geq 97,5$ <sup>4)</sup>           |                       | $\geq 96.5$ <sup>4)</sup> | EN 15210-1        |
| Fines (< 3.15 mm)                   | w-% <sup>1)</sup>   | <1                                  |                       |                           | EN 15210-1        |
| Net Calorific Value                 | MJ/kg <sup>1)</sup> | $16,5 \leq Q \leq 19$               | $16,3 \leq Q \leq 19$ | $16,0 \leq Q \leq 19$     | EN 14918          |
| Bulk Density                        | kg/m <sup>3</sup>   | $\geq 600$                          |                       |                           | EN 15103          |
| Nitrogen Content                    | w-% <sup>2)</sup>   | $\leq 0.3$                          | $\leq 0.5$            | $\leq 1.0$                | EN 15104          |
| Sulfur Content                      | w-% <sup>2)</sup>   | $\leq 0.03$                         |                       | $\leq 0.04$               | EN 15289          |
| Chlorine Content                    | w-% <sup>2)</sup>   | $\leq 0.02$                         |                       | $\leq 0.03$               | EN 15289          |
| Ash Melting Behaviour <sup>4)</sup> | °C                  | $\geq 1200$                         | $\geq 1100$           |                           | EN 15370          |

1) As received 2) Dry basis 3) A maximum of 1 w-% of the pellets may be longer than 40 mm, no pellets > 45 mm allowed  
4) Deformation temperature, sample preparation at 815 °C

The ENplus requirements go beyond EN 14961-2 in the following points:

- Mandatory requirements on ash melting behaviour (EN 14961-2 is voluntary)
- ENplus-A1 requires an ash deformation temperature of  $\geq 1200$  °C.
- ENplus-A2 and EN-B require an ash deformation temperature of 1100 °C
- The ash used for analyses is produced at 815 °C.
- For EN-B, no chemically treated wood is allowed as raw material (see 2.2).