

Certificate of Analysis

BEL ID Number:	BEL171782-1	Sample Weight (kg):	15.10
Product / Commodity:	Wood Pellets	Sample Received:	9/25/2017
Sample Designation:	ENplus A1 Audit Sample	Report Date:	10/24/2017
Date Sampled:		Report Code:	EN PLUS A1
		Purchase Order #:	

Parameter	As-Received	Dry Basis	Analytical Method	ISO 17025
Total Moisture (%)	5.65		ISO 18134-1	Q
Ash (%)	0.33	0.35	ISO 18122	Q
GCV (GJ/Tonne)	19.21	20.37	CEN/EN 14918	Q
NCV cV (GJ/Tonne)	17.88	19.09	CEN/EN 14918	Q
NCV cV (kWh/kg)	5.0	5.3	CEN/EN 14918	Q
NCV cP (GJ/Tonne)	17.81	19.02	CEN/EN 14918	Q
NCV cP (kWh/kg)	4.9	5.3	CEN/EN 14918	Q
Carbon (%)	47.97	50.84	ISO 16948	Q
Hydrogen (%)	5.84	6.19	ISO 16948	Q
Nitrogen (%)	0.13	0.14	ISO 16948	Q
Sulfur (%)	0.01	0.01	ISO 16948	Q
Oxygen (%)	40.08	42.48	ISO 16948	Q
Chlorine (%)	< 0.005	< 0.005	ISO 16994	S

Parameter	Result	Analytical Method	ISO 17025
Bulk Density (kg/m ³)	682	ISO 17828	Q
Pellet Diameter Mean (mm)	6.43	ISO 17829	Q
Pellet Diameter Std Dev	0.05	ISO 17829	Q
Pellet Length Mean (mm)	13.10	ISO 17829	Q
Pellet Length Std Dev	4.50	ISO 17829	Q
Wt % > 40 mm	0.00	ISO 17829	Q
Number of Pellets > 45 mm	0	ISO 17829	Q
Durability Index	99.2	ISO 17831-2	Q
Fines <3.15 mm (%)	0.19	ISO 18846	Q

Parameter	Oxidizing	Analytical Method	ISO 17025
Shrinkage Starting Temperature - SST (°C)	1290	CEN/TS 15370-1 (815°C)	S
Deformation Temperature - DT (°C)	1470	CEN/TS 15370-1 (815°C)	S



Prepared By: 
 Christopher Cox - Laboratory Manager

Results shown on this certificate represent only the quantity of sample which was submitted for analysis. BEL does not assume responsibility for selection, representation, and/or sample identifications. BEL is accredited by the International Accreditation Service to ISO 17025. Specific test procedures included in BEL's scope of accreditation are identified with a "Q". Test Parameters performed by our sister laboratory, Technical Laboratory Rotterdam (TLR) are designated with an "S". TLR is an ISO 17025 accredited laboratory by the Dutch Accreditation Council RvA.

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	Oxidizing	Analytical Method	ISO 17025
Hemispherical Temperature - HT (°C)	1470	CEN/TS 15370-1 (815°C)	S
Flow Temperature - FT (°C)	1480	CEN/TS 15370-1 (815°C)	S

Parameter	Dry Basis	Analytical Method	ISO 17025
Arsenic (As) mg/kg	< 0.040	ISO 16968	S
Cadmium (Cd) mg/kg	0.077	ISO 16968	S
Chromium (Cr) mg/kg	< 5.0	ISO 16968	S
Copper (Cu) mg/kg	< 2.3	ISO 16968	S
Lead (Pb) mg/kg	0.24	ISO 16968	S
Mercury (Hg) mg/kg	< 0.020	ISO 16968	S
Nickel (Ni) mg/kg	< 3.0	ISO 16968	S
Zinc (Zn) mg/kg	11.4	ISO 16968	S

Method Description:

Tested in accordance with CEN/TS 15370-1 but prepared at 815C

Method Code:

CEN/TS 15370-1
(815°C)



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