

Eurofins Umwelt Ost GmbH - Lindenstraße 11 - Gewerbegebiet Freiberg Ost -
D-09627 Bobritzsch-Hilbersdorf

Control Union Certifications Germany GmbH
Bornitzstraße 73-75
10365 Berlin

Title : **Analytical Report for Order 12401399**

Test report number : **AR-24-FR-003616-01**

Project name : **Barlinek Invest LLC UA_2023_11_10**

Number of samples : **1**

Sample type: **wood pellets**

Date of sample taking : **2023-11-10**

Sample Taker: **not specified, sample(s) were delivered to lab**

Sample reception date : **2024-01-15**

Sample processing time : **2024-01-15 - 2024-01-24**

The test results solely refer to the analysed test specimen. Unless the sampling was done by our laboratory or in our sub-order the responsibility for the correctness of the sampling is disclaimed. This analytical report is electronically signed and may only be further published completely and unchanged. Extracts or changes require the authorisation of the EUROFINS UMWELT in each individual case.

Our General Terms & Conditions of Sale (GTCS) are applicable, as far as no specific agreements do exist. The GTCS are available on <http://www.eurofins.de/umwelt/avb.aspx>.

Accredited test laboratory according to DIN EN ISO/IEC 17025:2018 DAkkS notification under the DAkkS German Accreditation System for Testing. The laboratory is according (D-PL-14081-01-00) accredited.

Attachments

XML_Export_AR-24-FR-003616-01.xml

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Digitally signed 1/24/2024
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Parameter	Lab	Accr.	Method	Limit values						Description		ENplus-6mm/Barlinek-LLC/2023-1	
				ENplus A1 ar	ENplus A1 db	Enplus A2 ar	ENplus A2 db	ENplus B ar	ENplus B db	Date and time of sample taking	Sample number	ar	db
										LOQ	Unit		
Quality characteristics													
Length	FR	F5	DIN EN ISO 17829: 2016-03	3)		3)		3)				o.k.	-
Diameter	FR	F5	DIN EN ISO 17829: 2016-03	4)		4)		4)			mm	6.1	-
Moisture	FR	F5	DIN EN ISO 18134-2: 2017-05	10 ⁵⁾		10 ⁵⁾		10 ⁵⁾		0.1	% (w/w)	6.6	-
Ash content (550°C)	FR	F5	DIN EN ISO 18122: 2016-03		0.7 ⁶⁾		1.2 ⁶⁾		2 ⁶⁾	0.1	% (w/w)	0.4	0.4
Durability	FR	F5	DIN EN ISO 17831-1: 2016-05	≥ 98 ⁷⁾		≥ 97.5		≥ 97.5			% (w/w)	99.1	-
Fine portion < 3,15 mm	FR	F5	DIN EN ISO 5370: 2022-03 E	1 ⁸⁾		1 ⁸⁾		1 ⁸⁾		0.1	% (w/w)	0.3	-
Coarse pellet fines, CPF > 3,15 - < 5,6 mm	FR	F5	DIN EN ISO 5370: 2022-03 E	9)		9)		9)		0.1	% (w/w)	0.3	-
Bulk density	FR	F5	DIN EN ISO 17828: 2016-05	600 - 750		600 - 750		600 - 750			kg/m ³	645	-
Particle density	FR	F5	DIN EN ISO 18847: 2016-12	9)		9)		9)			g/cm ³	1.2	-
Gross calorific value (qV,gr)	FR	F5	DIN EN ISO 18125: 2017-08							200	kJ/kg	19200 ¹⁾	20600 ¹⁾
Net calorific value (qp,net)	FR	F5	berechnet nach DIN EN ISO 18125: 2017-08	≥ 4.6 ¹⁰⁾		≥ 4.6 ¹⁰⁾		≥ 4.6 ¹⁰⁾		0.06	kWh/kg	4.95 ²⁾	5.35 ²⁾
Carbon	FR	F5	DIN EN ISO 16948: 2015-09							0.2	% (w/w)	48.0	51.4
Nitrogen	FR	F5	DIN EN ISO 16948: 2015-09		0.3		0.5		1	0.05	% (w/w)	0.25	0.26
Hydrogen	FR	F5	DIN EN ISO 16948: 2015-09							0.1	% (w/w)	5.7	6.1
Oxygen	FR	F5	DIN EN ISO 16993: 2016-11								% (w/w)	39.1	41.9
Sulphur	FR	F5	DIN EN ISO 16994: 2016-12		0.04		0.04		0.04	0.005	% (w/w)	0.014	0.015
Chlorine	FR	F5	DIN EN ISO 16994: 2016-12		0.02		0.02		0.03	0.005	% (w/w)	< 0.005	< 0.005

Explanations

LOQ - Limit of quantification

ar - as received

db - dry basis

Lab - Abbreviation of the performing laboratory

Accr. - Abbreviation of the accreditation of the performing laboratory

Comments for results

¹⁾ (qV, gr) gross calorific value at constant volume

²⁾ (qp, net) net calorific value at constant pressure

The parameters identified by FR have been performed by the laboratory Eurofins Umwelt Ost GmbH (Lindenstraße 11, Gewerbegebiet Freiberg Ost, Bobritzsch-Hilbersdorf). The accreditation code F5 identifies the parameters accredited according to DIN EN ISO/IEC 17025:2018 DAkkS D-PL-14081-01-00 .

Explanations regarding Limits

Analysis performed according to ENplus® ST 1001:2022, first edition 10/2022, Table 4.

³⁾ 3,15 - 40 mm; A maximum of 1% of the pellets may be longer than 40 mm. No pellets longer than 45 mm are allowed.

⁴⁾ 6 ± 1 mm, 8 ± 1 mm

⁵⁾ The limit value is 10.0 % (w/w).

⁶⁾ The required significance of the limit values 0.70/1.20/2.00 can not be represented with the prescribed analytical methode.

⁷⁾ The limit value is ≥ 98.0 % (w/w).

⁸⁾ Bulk: At company gate or when loading big bags or trucks for deliveries to end-users. Bags: $\leq 0,5$ At company gate, when filling bags (bagged pellets).

⁹⁾ Value to be stated.

¹⁰⁾ qp,net: net calorific value at constant pressure

¹¹⁾ Ash is produced at 815 °C. All characteristic temperatures listed in ISO 21404 shall be stated in the report.

The presentation of comparative values in the analytical report is a service provided by EUROFINS UMWELT. The cited comparative values (limit, guideline or other allocation values) are partially simplified and do not take into account all comments, ancillary provisions and/or exemptions of the corresponding regulations.