

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

Pellets Asturias, S.L.
Poligono Industrial La Curiscada
33877 Tineo - Asturias
SPAIN

Title : **Test report for order 12034952**
Test report number : **AR-20-FR-032586-01**

Project name : **analysis of pellets**

Number of samples : **1**
Sample type: **wood pellets**
Sample Taker: **Client**
Sampling Area: **Pellets de Asturias, S.L - 2011/0001/ENP/01**

Sample reception date : **2020-09-21**
Sample processing time : **2020-09-21 - 2020-10-01**

Comment: **AENOR 0171698**

The test results refer solely 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 test report is only valid with signature and may only be further published completely and unchanged. Extracts or changes require the authorisation of the EUROFINS UMWELT in each individual case.

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Accredited test laboratory according to DIN EN ISO/IEC 17025:2005 notification under the DAkkS German Accreditation System for Testing. The laboratory is according (D-PL-14081-01-00) accredited.

Dr. Ulrich Erler
Analytical Services Manager
Phone +49 37312076510

Digitally signed 10/1/2020
Dr. Ulrich Erler
Prüfleitung



Parameter	Lab	Accr.	Method	Limit values						Description		pellets	
				ENplus A1 ar	ENplus A1 db	ENplus A2 ar	ENplus A2 db	ENplus B ar	ENplus B db	Sample number		120131776	
										LOQ	Unit	ar	db
Quality characteristics													
Length	FR	JE02	DIN EN ISO 17829: 2016-03	1)		1)		1)				o.k.	-
Diameter	FR	JE02	DIN EN ISO 17829: 2016-03	2)		2)		2)			mm	6.1	-
Moisture	FR	JE02	DIN EN ISO 18134-2: 2017-05	10		10		10		0.1	% (w/w)	6.8	-
Ash content (550°C)	FR	JE02	DIN EN ISO 18122: 2016-03		0.7		1.2		2	0.1	% (w/w)	0.3	0.4
Durability	FR	JE02	DIN EN ISO 17831-1: 2016-05	≥ 98		≥ 97.5		≥ 97.5			% (w/w)	99.0	-
Fine portion < 3,15 mm	FR	JE02	DIN EN ISO 18846: 2016-12	1 ³⁾		1 ³⁾		1 ³⁾		0.1	% (w/w)	0.1	-
Bulk density	FR	JE02	DIN EN ISO 17828: 2016-05	600 - 750		600 - 750		600 - 750			kg/m ³	675	-
Gross calorific value (qV,gr)	FR	JE02	DIN EN ISO 18125: 2017-08							200	kJ/kg	19100	20400
Net calorific value (qp,net)	FR	JE02	berechnet nach DIN EN ISO 18125: 2017-08	≥ 4.6 ⁴⁾		≥ 4.6 ⁴⁾		≥ 4.6 ⁴⁾		0.06	kWh/kg	4.90	5.31
Carbon	FR	JE02	DIN EN ISO 16948: 2015-09							0.2	% (w/w)	48.0	51.5
Nitrogen	FR	JE02	DIN EN ISO 16948: 2015-09		0.3		0.5		1	0.05	% (w/w)	0.16	0.18
Hydrogen	FR	JE02	DIN EN ISO 16948: 2015-09							0.1	% (w/w)	5.7	6.1
Oxygen	FR	JE02	DIN EN ISO 16993: 2016-11								% (w/w)	39.0	41.9
Sulphur	FR	JE02	DIN EN ISO 16994: 2016-12		0.04		0.05		0.05	0.005	% (w/w)	0.006	0.006
Chlorine	FR	JE02	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

& - overlaid by strong volume magnification

The parameters identified by FR have been performed by the laboratory Eurofins Umwelt Ost GmbH (Bobritzsch-Hilbersdorf). The accreditation code JE02 identifies the parameters accredited according to DIN EN ISO/IEC 17025:2005 D-PL-14081-01-00 .

Explanations regarding Limits

Analysis performed according to EN plus (wood pellets) - edition August 2015.

- 1) 3,15 - 40 mm; up to 1 % of pellets can be longer than 40mm. Maximum length should be <45mm.
- 2) D06 or D08 pellets +/- 1mm
- 3) at the end of production or by loading vehicles for delivery to the customer ($\leq 0,5$ for filling in pellet bags or big bags)
- 4) qp,net: net calorific value at constant pressure
- 5) should be given

EUROFINS UMWELT assumes no responsibility for the legal liability of the cited limits.