

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

ENAMA Servizi S.r.l.
Via Venafro 5
00159 Roma
ITALY

Title : **Test report for order 12043102**
Test report number : **AR-20-FR-041220-01**

Project name : **wood pellets PB82IH-A1**

Number of samples : **1**
Sample type: **wood pellets**
Date of sample taking : **2020-11-16**
Sample Taker: **Client**
Sampling Area: **SG Gradnja**

Sample reception date : **2020-11-25**
Sample processing time : **2020-11-25 - 2020-12-07**

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.

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.

Dr. Ulrich Erler
Analytical Services Manager
Phone +49 37312076510

Digitally signed 12/11/2020
Dr. Ulrich Erler
Prüfleitung



Parameter	Lab	Accr.	Method	Limit values						Description		PB82IH-A1	
				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	RE000 FY	DIN EN ISO 17829: 2016-03	1)		1)		1)				o.k.	-
Diameter	FR	RE000 FY	DIN EN ISO 17829: 2016-03	2)		2)		2)			mm	6.1	-
Moisture	FR	RE000 FY	DIN EN ISO 18134-2: 2017-05	10		10		10		0.1	% (w/w)	8.3	-
Ash content (550°C)	FR	RE000 FY	DIN EN ISO 18122: 2016-03		0.7		1.2		2	0.1	% (w/w)	0.7	0.8
Durability	FR	RE000 FY	DIN EN ISO 17831-1: 2016-05	≥ 98		≥ 97.5		≥ 97.5			% (w/w)	98.3	-
Fine portion < 3,15 mm	FR	RE000 FY	DIN EN ISO 18846: 2016-12	1 ³⁾		1 ³⁾		1 ³⁾		0.1	% (w/w)	0.3	-
Bulk density	FR	RE000 FY	DIN EN ISO 17828: 2016-05	600 - 750		600 - 750		600 - 750			kg/m ³	629	-
Gross calorific value (qV,gr)	FR	RE000 FY	DIN EN ISO 18125: 2017-08							200	kJ/kg	18100	19800
Net calorific value (qp,net)	FR	RE000 FY	berechnet nach DIN EN ISO 18125: 2017-08	≥ 4.6 ⁴⁾		≥ 4.6 ⁴⁾		≥ 4.6 ⁴⁾		0.06	kWh/kg	4.66	5.14
Carbon	FR	RE000 FY	DIN EN ISO 16948: 2015-09							0.2	% (w/w)	45.4	49.5
Nitrogen	FR	RE000 FY	DIN EN ISO 16948: 2015-09		0.3		0.5		1	0.05	% (w/w)	0.13	0.14
Hydrogen	FR	RE000 FY	DIN EN ISO 16948: 2015-09							0.1	% (w/w)	5.4	5.9
Oxygen	FR	RE000 FY	DIN EN ISO 16993: 2016-11								% (w/w)	40.1	43.7
Sulphur	FR	RE000 FY	DIN EN ISO 16994: 2016-12		0.04		0.05		0.05	0.005	% (w/w)	0.019	0.021
Chlorine	FR	RE000 FY	DIN EN ISO 16994: 2016-12		0.02		0.02		0.03	0.005	% (w/w)	0.014	0.015

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

The parameters identified by FR have been performed by the laboratory Eurofins Umwelt Ost GmbH (Bobritzsch-Hilbersdorf). The accreditation code RE000FY 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 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.