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09627 Bobritzsch-Hilbersdorf

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Title :	**Extract from (Batch): AR-25-FR-039234-01 (12526125)**
Test report number :	**EX-25-FR-001986-01**
Project name :	**HIJOS DE TOMÀS MARTÌN, S.L. 2018/0967/ENP/02**
Number of samples :	**2**
Sample type:	**wood pellets**
Sample Taker:	**not specified, sample(s) were delivered to lab**
Sample reception date :	**2025-06-18, 2025-06-17**
Sample processing time :	**2025-06-18 - 2025-07-02**

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, as well as for the customer information or calculation results based on it, is disclaimed. The results then apply to the sample as received. This test 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.

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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.

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Digitally signed 7/3/2025
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DAkkS Deutsche Akkreditierungsstelle D-PL-14081-01-00

						Description		0171932		0171929	
						Reception date		2025-06-18		2025-06-17	
				Limit values		Sample number		125090463		125093749	
Parameter	**Lab**	**Accr.**	**Method**	DIN Plus anl.	DIN Plus wf.	**LOQ**	**Unit**	**ar**	**db**	**ar**	**db**
Quality characteristics											
Length	FR	F5	DIN EN ISO 17829: 2016-03	3)				o.k.	-	-	-
Diameter	FR	F5	DIN EN ISO 17829: 2016-03	4)			mm	6.1	-	-	-
Moisture	FR	F5	DIN EN ISO 18134-2: 2017-05	10		0.1	% (w/w)	4.8	-	-	-
Ash content (550°C)	FR	F5	DIN EN ISO 18122: 2016-03		0.7	0.1	% (w/w)	0.4	0.5	-	-
Durability	FR	F5	DIN EN ISO 17831-1: 2016-05	≥ 98			% (w/w)	99.1	-	-	-
Fine portion < 3,15 mm	FR	F5	DIN EN ISO 5370: 2022-03 E	0.5 5)		0.1	% (w/w)	0.2	-	0.2	-
Coarse pellet fines, CPF > 3,15 - < 5,6 mm	FR	F5	DIN EN ISO 5370: 2022-03 E			0.1	% (w/w)	0.3	-	0.4	-
Bulk density	FR	F5	DIN EN ISO 17828: 2016-05	600 - 750			kg/m³	677	-	-	-
Particle density	FR	F5	DIN EN ISO 18847: 2016-12				g/cm³	1.27	-	-	-
Gross calorific value (qV,gr)	FR	F5	DIN EN ISO 18125: 2017-08			200	kJ/kg	19700 1)	20700 1)	-	-
Net calorific value (qp,net)	FR	F5	DIN EN ISO 18125: 2017-08	≥ 4.6		0.06	kWh/kg	5.09 2)	5.38 2)	-	-
Carbon	FR	F5	DIN EN ISO 16948: 2015-09			0.2	% (w/w)	49.1	51.6	-	-
Nitrogen	FR	F5	DIN EN ISO 16948: 2015-09		0.3	0.05	% (w/w)	0.12	0.12	-	-
Hydrogen	FR	F5	DIN EN ISO 16948: 2015-09			0.1	% (w/w)	5.8	6.1	-	-
Oxygen	FR	F5	DIN EN ISO 16993: 2016-11				% (w/w)	39.7	41.7	-	-
Sulphur	FR	F5	DIN EN ISO 16994: 2016-12		0.04	0.005	% (w/w)	0.011	0.012	-	-
Chlorine	FR	F5	DIN EN ISO 16994: 2016-12		0.02	0.005	% (w/w)	< 0.005	< 0.005	-	-

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Trace elements acc. to DIN EN ISO 16968: 2015-09											
Arsenic (As)	FR	F5	DIN EN ISO 17294-2 (E29): 2017-01		1	0.8	mg/kg	-	< 0.8	-	-
Lead (Pb)	FR	F5	DIN EN ISO 17294-2 (E29): 2017-01		10	2	mg/kg	-	< 2	-	-
Cadmium (Cd)	FR	F5	DIN EN ISO 17294-2 (E29): 2017-01		0.5	0.2	mg/kg	-	< 0.2	-	-
Chromium (Cr)	FR	F5	DIN EN ISO 17294-2 (E29): 2017-01		10	1	mg/kg	-	< 1	-	-
Copper (Cu)	FR	F5	DIN EN ISO 17294-2 (E29): 2017-01		10	1	mg/kg	-	< 1	-	-
Nickel (Ni)	FR	F5	DIN EN ISO 17294-2 (E29): 2017-01		10	1	mg/kg	-	< 1	-	-
Zinc (Zn)	FR	F5	DIN EN ISO 17294-2 (E29): 2017-01		100	1	mg/kg	-	7	-	-
Ash melting behaviour (ox. atmo.) 815°C											
Shrinkage start temp SST	FR	F5	DIN EN ISO 21404: 2020-06		6)		°C	-	1000	-	-
Deformation temp DT	FR	F5	DIN EN ISO 21404: 2020-06		≥ 1200		°C	-	1450	-	-
Hemisphere temp HT	FR	F5	DIN EN ISO 21404: 2020-06		7)		°C	-	1490	-	-
Flow temp FT	FR	F5	DIN EN ISO 21404: 2020-06		7)		°C	-	1500	-	-
Special analyses											
Plausibility check	FR							OK	-	-	-

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 DINplus (wood pellets) - edition February 2025 (2 PfG C 0444/02.25).

[3] 3,15 - 40 mm. Amount of pellets longer than 40 mm may be up to 1 % in mass. Maximum length 45 mm. Amount of pellets shorter than 10 mm, % in mass recommended to be stated.

[4] D06 or D08 pellets +/- 1mm

[5] In small bags (up to 20 kg) < 0,5; Bulk transport (at the time of loading) and in big bags (at time of packing) < 1,0.

[6] It is recommended to state all characteristic temperatures (shrinkage starting temperature (SST), deformation temperature (DT), hemisphere temperature (HT) and flow temperature (FT)) in oxidizing conditions. Pre-ashing temperature shall be 815 °C.

[7] It is recommended to state all characteristic temperatures (shrinkage starting temperature (SST), deformation temperature (DT), hemisphere temperature (HT) and flow temperature (FT)) in oxidizing conditions. Pre-ashing temperature shall be 815 °C.

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.