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EUROFINS Umwelt Ost GmbH · Niederlassung Freiberg
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AENOR
Cl Genova 6
28004 Madrid
SPANIEN

Title:	**Test report to order 11705479**
Test report:	**No. 1008328091**
Project:	**No. 1008328**
Title of project:	**AENOR REFERENCE 0108921, COMPANY NATURPELLET**
Number of samples:	**1 sample**
Sample type:	**wood pellets**
Sampler:	**client**
Receipt of samples:	**2017-03-16**
Test period:	**2017-03-16 - 2017-03-23**

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 notification under the DAkkS German Accreditation System for Testing. The accreditation shall apply for the tests listed in the certificate.

Freiberg, 2017-03-23

Dipl.-Chem. A. Ulbricht
Head of Laboratory

DAkkS Deutsche Akkreditierungsstelle D-PL-14081-01-00

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Project: AENOR REFERENCE 0108921, COMPANY NATURPELLET

Analysis according to EN plus edition august 2015						Sample designation	0108921
			limits			Lab-ID#	117019776
Parameter	**Unit**	**LOQ**	**EN Plus-A1**	**EN Plus-A2**	**EN Plus-B**	**Method**	
Quality characteristics							
diameter, D	mm ar		6±1 or 8±1	6±1 or 8±1	6±1 or 8±1	DIN EN ISO 17829 (FR-JE02)	6,0
length, L	mm ar		3,15 ≤ L ≤ 40	3,15 ≤ L ≤ 40	3,15 ≤ L ≤ 40	DIN EN ISO 17829 (FR-JE02)	according
water content, M	% w/w ar	0,1	≤ 10	≤ 10	≤ 10	DIN EN ISO 18134-2 (FR-JE02)	4,7
ash content, A (550°C)	% w/w db	0,1	≤ 0,7	≤ 1,2	≤ 2,0	DIN EN ISO 18122 (FR-JE02)	0,36
mechanical durability, DU	% w/w ar		≥ 98,0	≥ 97,5	≥ 97,5	DIN EN ISO 17831-1 (FR-JE02)	99,0
fine portion, F (< 3,15 mm)	% w/w ar	0,1	≤ 1,0 [1] or ≤ 0,5 [2]	≤ 1,0 [1] or ≤ 0,5 [2]	≤ 1,0 [1] or ≤ 0,5 [2]	DIN EN ISO 18846 (FR-JE02)	0,1
bulk density, BD	kg/m³ ar		600 ≤ BD ≤ 750	600 ≤ BD ≤ 750	600 ≤ BD ≤ 750	DIN EN ISO 17828 (FR-JE02)	620
net calorific value, Q (H u,p)	MJ/kg ar	0,2	≥ 16,5	≥ 16,5	≥ 16,5	DIN EN ISO 18125 (FR-JE02)	18,34
nitrogen total, N	% w/w db	0,05	≤ 0,3	≤ 0,5	≤ 1,0	DIN EN ISO 16948 (FR-JE02)	0,11
sulfur total, S	% w/w db	0,005	≤ 0,04	≤ 0,05	≤ 0,05	DIN EN ISO 16994 (FR-JE02)	0,005
chlorine total, Cl	% w/w db	0,005	≤ 0,02	≤ 0,02	≤ 0,03	DIN EN ISO 16994 (FR-JE02)	< 0,005
Determination of minor elements							
arsenic, As	mg/kg db	0,8	≤ 1	≤ 1	≤ 1	DIN EN ISO 16968 (FR-JE02)	< 0,8
lead, Pb	mg/kg db	2	≤ 10	≤ 10	≤ 10	DIN EN ISO 16968 (FR-JE02)	< 2
cadmium, Cd	mg/kg db	0,2	≤ 0,5	≤ 0,5	≤ 0,5	DIN EN ISO 16968 (FR-JE02)	< 0,2
chromium total, Cr	mg/kg db	1	≤ 10	≤ 10	≤ 10	DIN EN ISO 16968 (FR-JE02)	< 1
copper, Cu	mg/kg db	1	≤ 10	≤ 10	≤ 10	DIN EN ISO 16968 (FR-JE02)	1
nickel, Ni	mg/kg db	1	≤ 10	≤ 10	≤ 10	DIN EN ISO 16968 (FR-JE02)	< 1
mercury, Hg	mg/kg db	0,07	≤ 0,1	≤ 0,1	≤ 0,1	DIN EN ISO 16968 (FR-JE02)	< 0,05
zinc, Zn	mg/kg db	1	≤ 100	≤ 100	≤ 100	DIN EN ISO 16968 (FR-JE02)	8

Project: AENOR REFERENCE 0108921, COMPANY NATURPELLET

Analysis according to EN plus edition august 2015			limits			Sample designation	0108921
						Lab-ID#	117019776
Parameter	**Unit**	**LOQ**	**EN Plus-A1**	**EN Plus-A2**	**EN Plus-B**	**Method**	
Ash melting behaviour (oxidizing atmosphere) on ash 815°C							
shrinkage start temperature, SST	°C		can be given	can be given	can be given	DIN CEN/TS 15370-1 (FR-JE02)	1170
deformation temperature, DT	°C		≥ 1200	≥ 1100	≥ 1100	DIN CEN/TS 15370-1 (FR-JE02)	1360
hemisphere temperature, HT	°C		can be given	can be given	can be given	DIN CEN/TS 15370-1 (FR-JE02)	1380*
flow temperature, FT	°C		can be given	can be given	can be given	DIN CEN/TS 15370-1 (FR-JE02)	1430

comment:
additive: (limits: ≤ 1,8 % w/w during production + 0,2 % w/w after production - sort and amount must be specified)
Information given by the customer: no information.

length: up to 1 % of pellets can be longer than 40mm. Maximum length for pellets is 45mm.

fine portion: 1) at the end of production or by loading vehicles for delivery to the customer
2) for filling in pellet bags or big bags

mechanical durability: by loading for transport (vehicle, ship) after production

length: up to 1 % of pellets can be longer than 40mm. Maximum length should be <45mm.

Hu,p: net calorific value at constant pressure

ar: as received
db: dry basis

*: no definite hemisphere (hill-like form)
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EUROFINS UMWELT is not liable for acuracy of the cited limits.

Explanations on Locations and Accreditations
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.

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