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Test report

no. DBL-2026-3741-01-BLS of 09.04.2026

AB 053

SUBJECT OF THE ORDER	Quality testing of wood pellets – Pellet-Energy LLC (A1)
ORDER NUMBER	A/DBL/BLS/3741/2026
NAME AND ADDRESS OF ORDERING PARTY	**ORDERING PARTY** Control Union Certifications Ukraine LLC Sholudenka St. 3 Business Center "Cubic", office 308, 04116 Kyiv

TESTED OBJECT	
Name	Wood pellets
Producer	Pellet-Energy LLC Soborna str.2, 11201, Yemilchyne Zviahel district, Zhytomyr region, Ukraine
EN*plus*® ID/ Sample No.	UA004/A1US/1112

IDENTIFICATION OF TESTED OBJECTS	
DATE OF ACCEPTANCE OF OBJECTS FOR TESTS	23.02.2026
PERFORMANCE DATE	13.03 - 09.04.2026
TESTING LOCATION	Laboratory headquarters
OPERATORS	Dawid Matusiak, M.Sc.Eng Jacek Pawłowski, M.Sc. Dariusz Radoński, B.Eng. Klaudia Sikorska, B.Eng.

	FULL NAME POSITION	**DATE, SIGNATURE**
Authorized by	Małgorzata Walkowiak, M.Sc.Eng. Chief Specialist - Deputy Manager for Environmental Research	09.04.2026

Test results relate only to the objects tested.
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1. TEST METHODS

Name of the test	Document	Method status (A/NA)*
Total moisture	EN ISO 18134-2:2024	A
Analytical moisture	EN ISO 18134-3:2023	A
Ash content	EN ISO 18122:2022	A
Calorific value	EN ISO 18125:2017	A
Content of carbon, hydrogen and nitrogen	EN ISO 16948:2015	A
Content of sulfur and chlorine	EN ISO 16994:2016	A
Particle density of pellets	EN ISO 18847:2024	A
Bulk density	EN ISO 17828:2016	A
Fines content	EN ISO 5370:2023	A
Coarse fines	EN ISO 5370:2023	A
Mechanical durability of pellets	EN ISO 17831-1:2016	A
Length and diameter of pellets	EN ISO 17829:2016	A
Minor elements	EN ISO 16968:2015	A
Ash melting behaviour	EN ISO 21404:2020	A

*A – accredited method; NA – non-accredited method

2. EQUIPMENT OF THE TEST STANDS

Name	Type	Producer	ID No.
Analytical balance	LE26P-0CE	SARTORIUS	M7/2
Analytical balance	CPA225D-0CE	SARTORIUS	M8/57
Laboratory balance	PS 6000/C/2	RADWAG	M3/50
Laboratory drier	RF115	BINDER	M1/48
Calorimeter	C6000	IKA	M6/83
Elemental analyzer	Flash EA 1112	Thermo ELECTRON CORPORATION	M7/8
Furnace	FCF 7SM/pl	CZYLOK	M2/4
Ionic chromatograph	ICS-1100	Thermo Scientific	M8/54
Laboratory balance	WLC 6/F1/R	RADWAG	M9/46
Pellets durability tester	TUMBLER 3000	BIOENERGY ANLAGENPLANUNG	M10/42
Sieve 3.15 mm	-	RETSCH	M9/34
Sieve 5.6 mm	-	Haver&Boecker	M9/128
Measuring container 5 dm^3	-	ANDRITZ	M4/26
Caliper	SD-10	BAKER	M3/14
Microwave oven	MARS 6	CEM CORPORATION	M13/80
Atomic Absorption Spectrometer	280FS AA	AGILENT TECHNOLOGIES	M13/66
Atomic Absorption Spectrometer	280Ze AA	AGILENT TECHNOLOGIES	M13/67
Mercury analyzer	DMA80	Milestone	M13/117
System for determination of ash melting behaviour	PR-37/1600	Radio Research Institute	M14/88
Sieve 0.075 mm	-	ATEST	M14/91

3. DESCRIPTION OF TEST SAMPLE

The object of the assessment was the sample of pellets with the diameter of 6 mm, described by the customer as pellets made of post-production chemically uncontaminated sawdust. Sample number: UA004/A1US/1112.

The sample was taken by the customer and delivered to the laboratory of Łukasiewicz Research Network - Poznań Institute of Technology on 23rd February 2026.

Identification number:: A-3741/2026.

4. TEST RESULTS

Tests results are presented in Record No. 1/3741/2026.

5. ADDITIONAL INFORMATION

1. In the case of samples taken by the client, the Laboratory is not responsible for the identification and representativeness of the object, method and place of collection.
2. The expanded uncertainty was determined for coverage factor k = 2 and 95% confidence level. The measurement uncertainty does not take into account the uncertainty component associated with the sampling.

Record No. 1/3741/2026

Sample Name: Wood pellets

Name of Producer:: Pellet-Energy LLC
Soborna str.2, 11201, Yemilchyne
Zviahel district, Zhytomyr region, Ukraine

ENplus® ID/ Sample No.: UA004/A1US/1112

Origin:	1. Woody biomass
Traded form:	Wood pellets
Classification of origin according to EN ISO 17225-1:2021	1.2.1 Chemically untreated by-products and residues from the wood processing industry

Parameter	Unit	Value	Uncertainty [±] [1]	Threshold values acc. to ENplus® ST 1001:2022		
				A1	A2	B
Diameter	mm	6.0	0.1	6 ± 1 / 8 ± 1		
Length	mm	13.9	8.5	3.15 ≤ L ≤ 40		
Moisture	w-% $_{ar}$	3.3	0.1	≤ 10		
Ash	w-% $_{d}$	0.63	0.03	≤ 0.70	≤ 1.20	≤ 2.00
Mechanical durability	w-% $_{ar}$	98.4	0.1	≥ 98.0	≥ 97.5	
Fines (< 3.15 mm)	w-% $_{ar}$	0.29	0.03	≤ 1.0 (≤ 0.5%) [2]		
Coarse fines (3.15 < CPF < 5.6 mm)	w-% $_{ar}$	0.13	0.02	Value to be stated		
Gross calorific value	MJ/kg $_{d}$	20.47	0.05	-		
Net calorific value	MJ/kg $_{ar}$ kWh/kg $_{ar}$	18.33 5.09	0.07 0.02	≥ 16.5 ≥ 4.6		
Bulk density	kg/m^3 $_{ar}$	680	10	600 ≤ BD ≤ 750		
Particle density	g/cm^3 $_{ar}$	1.27	0.04	Value to be stated		

Carbon	w-% $_d$	50.6	0.1	-		
Hydrogen	w-% $_d$	6.60	0.23	-		
Nitrogen	w-% $_d$	0.14	0.02	≤ 0.3	≤ 0.5	≤ 1.0
Sulfur	w-% $_d$	0.009	0.002	≤ 0.04		
Chlorine	w-% $_d$	0.009	0.001	≤ 0.02		≤ 0.03
Ash shrinkage temperature SST [3, 4]	°C	1340	80	Value to be stated		
Ash deformation temperature DT [3, 4]	°C	1500	50	≥ 1200		≥ 1100
Ash hemisphere temperature HT [3, 4]	°C	> 1500	-	Value to be stated		
Ash flow temperature FT [3, 4]	°C	> 1500	-	Value to be stated		
Arsenic	mg/kg $_d$	< 0.1	-	≤ 1		
Cadmium	mg/kg $_d$	0.13	0.01	≤ 0.5		
Chromium	mg/kg $_d$	0.74	0.10	≤ 10		
Copper	mg/kg $_d$	1.17	0.02	≤ 10		
Lead	mg/kg $_d$	< 0.5	-	≤ 10		
Mercury	mg/kg $_d$	0.0029	0.0004	≤ 0.1		
Nickel	mg/kg $_d$	< 0.5	-	≤ 10		
Zinc	mg/kg $_d$	7.96	0.35	≤ 100		

$_d$ dry $_{ar}$ as received

1. the expanded uncertainty was determined for coverage factor k = 2 and 95% confidence level
2. at factory gate, at the end of production or when loading truck for deliveries to end-users (< 0.5% when filling pellet bags or sealed big bags)
3. characteristic ash melting temperature determined in an oxidizing atmosphere
4. ash received at 815°C

--- END OF REPORT ---