



# INSTYTUT TECHNOLOGII DREWNA

WOOD TECHNOLOGY INSTITUTE INSTITUT FÜR HOLZTECHNOLOGIE INSTITUT DE TECHNOLOGIE DU BOIS  
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## CERTIFICATE

№ 37/BOŚ-U-248/2010

- Product name:** Fuel granulate (pellets) made of wood particles
- Customer:** EKOPAL Sp. z o.o.  
Jagodne, ul. Jagodna 3  
PL-12-200 Pisz  
Poland
- Contract no.:** U-248-BOŚ/2010
- The object of the assessment:** The object of the assessment was solid biofuel in the form of pellets. The diameter of the pellets is 6 mm.
- Basis for the assessment:** Wood Technology Institute own procedures on the basis of the standard ÖNORM M 7135
- Test results:** For the details of the test results see description on page 2.
- Opinion:** On the basis of test results it is concluded that the tested sample of fuel granulate (pellets) made of wood particles meets the requirements which are described in standard ÖNORM M 7135 for formed fuels of natural wood. Abrasion was not determined.
- Author of the opinion:** Małgorzata WALKOWIAK, M.Sc.
- Validity period:** 25.10.2011
- Enclosed documents:** Test report no. 28/2010
- Date:** 25.10.2010

*Pieczęć Instytutu*

*Kierownik Zakładu*  
**KIEROWNIK**  
Zakładu Oceny Środowiska  
Chemii Drewna  
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*Dyrektor Instytutu*  
**DYREKTOR**  
*doc. dr Władysław Strykowski*

**Copying and publication:** Only upon the consent of **EKOPAL Sp. z o.o.** seated in Jagodne near Pisz.  
The certificate cannot be copied in parts, but only in its entire form.

**Comparison of the properties of fuel granulate (“pellets”) of diameter of  
 6 mm produced from wood particles by EKOPAL Sp. z o.o.  
 seated in Jagodne near Pisz**

No.	Type of determined property	Unit	Requirements ÖNORM M 7135	Obtained results
1.	Combustion heat $Q_s^a$	kJ/kg	–	19 897
2.	Calorific value $Q_i^d$ (dry basis)	kJ/kg	> 18 000	19 640
3.	Humidity	%	< 10	5,64
4.	Ash content (815°C)	%	< 0.5	0,47
5.	Specific gravity (weight density)	kg/dm <sup>3</sup>	> 1.12	1,2
6.	Elementary substances:			
6.1.	Carbon	%	–	50,75
6.2.	Hydrogen	%	–	6,25
6.3.	Nitrogen	%	< 0.3	0,03
6.4.	Sulphur	%	< 0.04	not detected
6.5.	Chlorine	%	< 0.02	< 0.0020
7.	Length	mm	< 5×D*	≤ 20
8.	Abrasion	%	< 2.3	not determined

\*D – diameter of pellets