

#### **TASK Marek Tasiemski**

Attn: Mateusz Tasiemski ul. Dworcowa 28 62-280 Kiszkowo Poland

Reportnr.	720140 version 1		Disponent Number :	7 \
Product Specification Reference	: Hout/Wood/Bois/Holz/Madera : 6 mm wood pellet, bag ID: TASK-1 :		Sampling Date :16-Mar-2017 Samplesize (kg) :3,131	
AWB / BarCode Packing Sample Type	:%03000me13269300113206101528 :Plastic, ambient :BIS		Sealed / Seal Code : No / Sample Arrival Date : 23-Mar-2017 10:58 ReportDate Version : <b>31-Mar-2017 13:12</b>	
		$\sim$	Origin : Poland	

Disp. Remark

: TASK Marek Tasiemski, Mateusz Tasiemski, ul. Dworcowa28, 62-280 Kiszkowo Poland, Enplus test: physical & chemical parameters for TASK-1, PHYSICAL ONLY for TASK-2 in case of questions contact K. Stachura (email below)

#### position Determination

Parameter	Result (as received)	Result (on dry)	Result (as det)	Result (dry ash free			
Total Moisture	5,99				%	Q	
Moisture Airdry			6,30		%	Q	
Ash	0,24	0,26	0,24		%	Q	
Volatile matter incl. moisture.			86,78		%	Q	
Volatile matter Fixed Carbon	80,75 13,02	85,90 13,85	80,49	86,12	%		
Gross Calorific Value	4686,8	4985,4	4671,6	4998,2	kcal/kg	Q	
Nett Calorific Value (cV)	19,62 8436,2 4369,9 18,30	20,87 8973,7	19,56 8408,8	20,93 8996,7	GJ/mt B.T.U.'s/Lb kcal/kg GJ/mt		
Nett Calorific Value (cP)	7865,9 5,1 18,22				B.T.U.'s/Lb kWh/kg GJ/mt		
Emissionfactor CO2 (cV) Emissionfactor CO2 (cP)	97,42 97,83				t CO2/TJ t CO2/TJ		
Hydrogen	5,77	6,14	6,45	6,15	%	Q	
Carbon	48,61	51,70	48,45	51,84	%	Q	
Nitrogen.	0,09	0,10	0,09	0,10	%	Q	
S. (Sulfer)	< 0,01	< 0,01	< 0,01	< 0,01	%	Q	
Oxygen (by difference)				41,91	%		
omposition Determination							
Common							
Parameter	Result (as received)	Result (on dry)	Result (as det)				
AFT. (oxid) DT			1510		gr. C		
Diameter pellets (n=25)			6,1		mm	Q	
Length of pellets			10,5		mm	Q	
Sieve < 3,15 mm			0,1		%		

Demanded 23-Mar-2017 by TASK Marek Tasiemski Analyses according to annex Drs. ing. H. Janssens Director TLR International Laboratories



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Product recognized as       : Hout/We         Product Specification       : 6 mm w         Reference       : %03000         Packing       : Plastic,         Sample Type       : BIS	ood pellet, bag ID: TAS )me1326930011320610		· · · · · · · · · · · · · · · · · · ·	: 16-Mar-2017 : 3,131		Z
Metal and other elements						
Parameter	Result (as received)	Result (on dry)	Result (as det)			
Cd (Cadmium)	0,212	0,225	0,211	mg/kg	Q	
Pb (Lead)	0,05	0,05	0,05	mg/kg	Q	
As (Arsenic)	< 0,040	< 0,040	< 0,040	mg/kg	Q	
Hg (Mercury)	< 0,020	< 0,020	< 0,020	mg/kg	Q	
Ni (Nickel)	< 3,0	< 3,0	< 3,0	mg/kg	Q	
CI (Chlorine)	0,005	0,005	0,005	%	Q	
Cr.(Chromium)	< 5,0	< 5,0	< 5,0	mg/kg		
Cu.(Copper)	< 5,0	< 5,0	< 5,0	mg/kg		
Zn. (Zinc)	7,9	8,4	7,9	mg/kg		
Other Analysis						
Common						
Parameter	Result (as received)	Result (on dry)	Result (as det)			
Mechanical Durability			99,0	%	Q	
Bulk density			663	kg/m3	Q	
Preparation Common						
Parameter	Result (as received)	Result (on dry)	Result (as det)			
Preparation sample	Biomass prepar	ation according	NEN-EN14780		Q	
Q - Analyses ISO 17025 accred	ited by RyA (II AC)					

Demanded 23-Mar-2017 by TASK Marek Tasiemski Analyses according to annex Drs. ing. H. Janssens Director TLR International Laboratories

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	: 720140 version 1	Disponent Number		$\langle \rangle$
	: Hout/Wood/Bois/Holz/Madera :6 mm wood pellet, bag ID: TASK-1	Sampling Date	:16-Mar-2017	
Reference	:	Samplesize (kg)	:3,131	
AWB / BarCode	:%03000me13269300113206101528	Sealed / Seal Code		
	: Plastic, ambient	· · · ·	:23-Mar-2017 10:58	
Sample Type	BIS	ReportDate Version	:31-Mar-2017 13:12	
ANNEX				
Method Descriptions	$\sim \sim$			
<b>Composition Determ</b>	ination			
Common				
Method Description	m -		Method Code	
	sh; gravimetric method 71 Biomass : EN-14775; Secondary bio fue	els : NEN-EN-15403		
	arbon (C), nitrogen (N), hydrogen (H) with t 541, Biomass : NEN-EN 15104, Secondary			
Determination of fu	sibility of ash; acc EN-plus, ash formed (8	15°C), cube form	Own method	
Determination of gr value	ross caloric value by bombcaloric method a	and calculation of net caloric		
Coal: NEN-ISO 192	28, Solid Biofuels NEN-EN14918; secunda	iry biofuels NEN-EN15400		
	oisture in the analyse sample; gravimetric 722;Biomass: NEN-EN14774-3; Secondary			
Determination of pa of 3,15mm and bel	article size distribution; vibrating screen me ow	ethod using sieve apertures	Acc. NEN-EN 15149-2	
Determination of S	ulphur (S); NEN-EN 15289			
Determination of th	e length and diameter of the woodpellets		Eq. NEN-EN 16127:201	
	tal moisture in the sample; gravimetric me nasss: NEN-EN14774-1; Secondary bio fue			
	platile matter content; gravimetric method 2; Biomass: NEN-EN15148; secundairy bio	ofuels: NEN-EN 15402	· · · · · · · · · · · · · · · · · · ·	
Metal and other ele	ments			
Method Description	on 🔪 🗡		Method Code	
Deteminiation of Va	anadium (V), Cobalt (Co), Nickel (Ni)		eq.nen-en-iso16968	
	nloride (CI); g stuffs: bomb calorimetric method; analysi g EN-15289/DIN51727 Coal: Own method	s: Ion chromatography	$\overline{\rangle}$	
Determination of le	ad (Pb); ICP-MS,		eq. NEN-EN 15297	
Determination of m	ercury (Hg); GFAAS,		cf NEN EN 15297	
Determination of m	inor elements. As, Cd, Co, Cr, Cu, Hg, Mn	, Mo, Ni, Pb, Sb, V and Zn	eq.nen-en-iso16968	
Other Analysis				
Common				
Method Description	on		Method Code	
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Analyses according to a	annex		WTERNAL LABORATORIES	
Drs. ing. H. Janssens [	Director TLR International Laboratories			



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Product Specification Reference WB / BarCode Packing Pample Type	: Hout/Wood/Bois/Holz/Madera :6 mm wood pellet, bag ID: TASK-1 : %03000me13269300113206101528 : Plastic, ambient : BIS	Samplesize (kg) :: Sealed / Seal Code :: Sample Arrival Date :: ReportDate Version ::	23-Mar-2017 10:58 <b>31-Mar-2017 13:12</b>	X
	ulk density (poured) and/or tamped bulk density		Acc.NEN-EN-ISO 17828	
Determination of m	echanical durability of pellets	$\rightarrow$	acc. NEN-EN 15210-1	
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nalyses according to	7 by TASK Marek Tasiemski annex Director TLR International Laboratories		CA INTERNATIONAL LABORATORIES	Page 4 of 4

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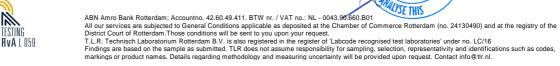
Analytical Report	<b>T</b> = = ! = # : = ! !						
TASK Marek							
Attn: Mateus							
ul. Dworcowa	a 28						
62-280 Kiszk	OWO						
Poland							
Reportnr. :720	139 version 1		Disponen	t Number :			7.5
Product recognized as : Hou							
Product Specification : 8 mi	m wood pellet, bag ID: TA	SK-2	Sampling		ar-2017		
Reference : WB / BarCode : %03	000me132693001132061	01529	Samplesi	ze (kg)			
	tic, ambient	01526		rrival Date : 23-M		a	
Sample Type :BIS			· · · · · · · · · · · · · · · · · · ·	te Version : 31-M			
		~	Origin	: Polar			
phys	K Marek Tasiemski, Mate sical & chemical paramete tachura (email below)	usz Tasiemski, ers for TASK-1, F	ul. Dworcowa2	8, 62-280 Kiszko LY for TASK-2 in	wo Poland, E case of ques	Enplus test: tions contact	
Composition Determinatio							
Composition Determination Parameter	Result	Result	Result	Result			
Farameter	(as received)	(on dry)	(as det)	(dry ash free)			
Total Moisture	6,28	(	(		%	Q	
Moisture Airdry	,z,		6,27		%	Q	
Composition Determination	$n \land \land$		-,		$\square$		
Common							
Parameter	Result	Result	Result				
	(as received)	(on dry)	(as det)				
Diameter pellets (n=25)		1	8,1	n n	nm	Q	
Length of pellets			11,8		nm /	Q	
Sieve < 3,15 mm			0,7	9	6		
Other Analysis							
Common							
Parameter	Result (as received)	Result (on dry)	Result (as det)				
Mechanical Durability			98,9	9		Q	
Bulk density			701	k	g/m3	Q	
Preparation							
Common		Descrit	. S. J				
Parameter	Result (as received)	Result (on dry)	Result (as det)				
Proparation comple		(on ary) aration according	、 ,			0	
Preparation sample		auon according	JINEIN-EIN14/8			Q	
Q - Analyses ISO 17025 acc	credited by RvA (ILAC)						
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Demanded 23-Mar-2017 by	TASK Marek Tasiemski						Page 1 of 2
Analyses according to annex					1	Didiat constant	1 490 1 01 2
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Reportnr. :720139 version 1	Disponent Number	:	$\langle \rangle$
Product recognized as :Hout/Wood/Bois/Holz/Madera Product Specification :8 mm wood pellet, bag ID: TASK-2	Sampling Date	:16-Mar-2017	
Reference :	Samplesize (kg)	:3,132	
WB / BarCode : %03000me13269300113206101528	Sealed / Seal Code		
Packing : Plastic, ambient		:23-Mar-2017 10:59	
Sample Type : BIS		31-Mar-2017 13:12	
		~	
ANNEX			
Method Descriptions			
Composition Determination			
Common			
Method Description		Method Code	
Determination of moisture in the analyse sample; gravimetric meth Coal: NEN-ISO 11722;Biomass: NEN-EN14774-3; Secondary bio			
Determination of particle size distribution; vibrating screen method of 3,15mm and below	I using sieve apertures	Acc. NEN-EN 15149-2	
Determination of the length and diameter of the woodpellets		Eq. NEN-EN 16127:201	
Determination of total moisture in the sample; gravimetric method Coal: ISO-589 biomasss: NEN-EN14774-1; Secondary bio fuels :	NEN-EN15414-1	$\sim \rightarrow \circ$	
Other Analysis			
Common			
Method Description		Method Code	
Determination of bulk density (poured) and/or tamped bulk density		Acc.NEN-EN-ISO 17828	
Determination of mechanical durability of pellets		acc. NEN-EN 15210-1	
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Demanded 23-Mar-2017 by TASK Marek Tasiemski			Page 2 of 2
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duct recognized as duct Specification ference /B / BarCode cking		s/Holz/Madera et, bag ID: TAS 5930011320610		Disponent Numbe Sampling Date Samplesize (kg) Sealed / Seal Cod Sample Arrival Da ReportDate Versic	: 16-Mar-2017 : 3,132	
p. Remark	TASK Marek Ta	isiemski, Mateu	sz Tasiemski, i	Origin ul. Dworcowa28, 62-28	: Poland 0 Kiszkowo Poland,	
omposition Determi	nation					
Common Parameter	$\sum -a$	Result as received)	Result (on dry)	Result (as det)		
Sieve < 3,15 mm		2		< 0,1	%	
					551 28	
					1 A Sall	$\mathbf{X}$
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Reportnr.	: <b>722757 version 1</b> : Hout/Wood/Bois/Holz/Madera		Disponent Number :	
	:8 mm wood pellet, bag ID: TASK-2 : : %03000me13269300113206101528		Sampling Date : 16-Mar-2017 Samplesize (kg) : 3,132 Sealed / Seal Code : No /	
Packing Sample Type	: Plastic, ambient : BIS		Sample Arrival Date : 23-Mar-2017 10:59 ReportDate Version : 11-Apr-2017 16:00	
ANNEX Method Description	s (	$\stackrel{\sim}{\succ}$		_

#### **Composition Determination**

#### Common

**Method Description** Method Code Determination of particle size distribution; vibrating screen method using sieve apertures Acc. NEN-EN 15149-2 of 3,15mm and below

Demanded 23-Mar-2017 by TASK Marek Tasiemski, Mateusz Tasiemska Analyses according to annex Drs. ing. H. Janssens Director TLR International Laboratories

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