

Analytical Report

TASK Marek Tasiemski

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

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

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)

Composition 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	80,75	85,90	80,49	86,12	%
Fixed Carbon	13,02	13,85		%	
Gross Calorific Value	4686,8	4985,4	4671,6	4998,2	kcal/kg Q
	19,62	20,87	19,56	20,93	GJ/mt
	8436,2	8973,7	8408,8	8996,7	B.T.U.'s/Lb
Nett Calorific Value (cV)	4369,9			kcal/kg	
	18,30			GJ/mt	
	7865,9			B.T.U.'s/Lb	
	5,1			kWh/kg	
Nett Calorific Value (cP)	18,22			GJ/mt	
Emissionfactor CO2 (cV)	97,42			t CO2/TJ	
Emissionfactor CO2 (cP)	97,83			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. (Sulfur)	< 0,01	< 0,01	< 0,01	< 0,01	% Q
Oxygen (by difference)				41,91	%

Composition 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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Sample Type	: BIS		

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
Cl (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 preparation according NEN-EN14780				Q

Q - Analyses ISO 17025 accredited by RvA (ILAC)

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Sample Type :	BIS		

ANNEX

Method Descriptions

Composition Determination

Common

Method Description

Determination of ash; gravimetric method
Coal: NEN-ISO 1171 Biomass : EN-14775; Secondary bio fuels : NEN-EN-15403
Determination of carbon (C), nitrogen (N), hydrogen (H) with the element analyser
Coal : NEN-ISO29541, Biomass : NEN-EN 15104, Secondary bio fuels NEN-EN 15407
Determination of fusibility of ash; acc EN-plus, ash formed (815°C), cube form
Determination of gross calorific value by bombcaloric method and calculation of net calorific value
Coal: NEN-ISO 1928, Solid Biofuels NEN-EN14918; secondary biofuels NEN-EN15400
Determination of moisture in the analyse sample; gravimetric method
Coal: NEN-ISO 11722; Biomass: NEN-EN14774-3; Secondary bio fuels : NEN-EN15414-3
Determination of particle size distribution; vibrating screen method using sieve apertures of 3,15mm and below
Determination of Sulphur (S); NEN-EN 15289
Determination of the length and diameter of the woodpellets
Determination of total moisture in the sample; gravimetric method
Coal: ISO-589 biomass: NEN-EN14774-1; Secondary bio fuels : NEN-EN15414-1
Determination of volatile matter content; gravimetric method
Coal: NEN-ISO 562; Biomass: NEN-EN15148; secondary biofuels: NEN-EN 15402

Method Code

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Own method
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Acc. NEN-EN 15149-2
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Eq. NEN-EN 16127:201
..
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Metal and other elements

Method Description

Determination of Vanadium (V), Cobalt (Co), Nickel (Ni)
Determination of chloride (Cl);
Destruction feeding stuffs: bomb calorimetric method; analysis: Ion chromatography
Biomass: according EN-15289/DIN51727 Coal: Own method
Determination of lead (Pb); ICP-MS,
Determination of mercury (Hg); GFAAS,
Determination of minor elements. As, Cd, Co, Cr, Cu, Hg, Mn, Mo, Ni, Pb, Sb, V and Zn

Method Code

eq.nen-en-iso16968
..
eq. NEN-EN 15297
cf NEN EN 15297
eq.nen-en-iso16968

Other Analysis

Common

Method Description

Method Code

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Sample Type	: BIS		

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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Analytical Report

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Poland

Reportnr.	: 720139 version 1	Disponent Number	:
Product recognized as	: Hout/Wood/Bois/Holz/Madera	Sampling Date	: 16-Mar-2017
Product Specification	: 8 mm wood pellet, bag ID: TASK-2	Samplesize (kg)	: 3,132
Reference	:	Sealed / Seal Code	: No /
AWB / BarCode	: %03000me13269300113206101528	Sample Arrival Date	: 23-Mar-2017 10:59
Packing	: Plastic, ambient	ReportDate Version	: 31-Mar-2017 13:12
Sample Type	: BIS	Origin	: Poland
Disp. Remark	: TASK Marek Tasiemski, Mateusz Tasiemski, ul. Dworcowa28, 62-280 Kiszczowo Poland, Enplus test: physical & chemical parameters for TASK-1, PHYSICAL ONLY for TASK-2 in case of questions contact K. Stachura (email below)		

Composition Determination

Parameter	Result (as received)	Result (on dry)	Result (as det)	Result (dry ash free)	
Total Moisture	6,28			%	Q
Moisture Airdry			6,27	%	Q

Composition Determination

Common

Parameter	Result (as received)	Result (on dry)	Result (as det)		
Diameter pellets (n=25)			8,1	mm	Q
Length of pellets			11,8	mm	Q
Sieve < 3,15 mm			0,7	%	

Other Analysis

Common

Parameter	Result (as received)	Result (on dry)	Result (as det)		
Mechanical Durability			98,9	%	Q
Bulk density			701	kg/m3	Q

Preparation

Common

Parameter	Result (as received)	Result (on dry)	Result (as det)		
Preparation sample	Biomass preparation according NEN-EN14780				Q

Q - Analyses ISO 17025 accredited by RvA (ILAC)

Analytical Report

Reportnr.	: 720139 version 1	Disponent Number	:
Product recognized as	: Hout/Wood/Bois/Holz/Madera	Sampling Date	: 16-Mar-2017
Product Specification	: 8 mm wood pellet, bag ID: TASK-2	Samplesize (kg)	: 3,132
Reference	:	Sealed / Seal Code	: No /
AWB / BarCode	: %03000me13269300113206101528	Sample Arrival Date	: 23-Mar-2017 10:59
Packing	: Plastic, ambient	ReportDate Version	: 31-Mar-2017 13:12
Sample Type	: BIS		

ANNEX

Method Descriptions

Composition Determination

Common

Method Description

Determination of moisture in the analyse sample; gravimetric method
Coal: NEN-ISO 11722; Biomass: NEN-EN14774-3; Secondary bio fuels : NEN-EN15414-3
Determination of particle size distribution; vibrating screen method using sieve apertures of 3,15mm and below
Determination of the length and diameter of the woodpellets
Determination of total moisture in the sample; gravimetric method
Coal: ISO-589 biomass: NEN-EN14774-1; Secondary bio fuels : NEN-EN15414-1

Method Code

..
Acc. NEN-EN 15149-2
Eq. NEN-EN 16127:201
..

Other Analysis

Common

Method Description

Determination of bulk density (poured) and/or tamped bulk density
Determination of mechanical durability of pellets

Method Code

Acc.NEN-EN-ISO 17828
acc. NEN-EN 15210-1



Analytical Report

TASK Marek Tasiemski, Mateusz Tasiemski

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Poland

Reportnr.	: 722757 version 1	Disponent Number	:
Product recognized as	: Hout/Wood/Bois/Holz/Madera	Sampling Date	: 16-Mar-2017
Product Specification	: 8 mm wood pellet, bag ID: TASK-2	Sample size (kg)	: 3,132
Reference	:	Sealed / Seal Code	: No /
AWB / BarCode	: %03000me13269300113206101528	Sample Arrival Date	: 23-Mar-2017 10:59
Packing	: Plastic, ambient	ReportDate Version	: 11-Apr-2017 16:00
Sample Type	: BIS		

Origin : Poland

Disp. Remark : TASK Marek Tasiemski, Mateusz Tasiemski, ul. Dworcowa28, 62-280 Kiszkowo Poland,

Composition Determination

Common

Parameter

Result
(as received)

Result
(on dry)

Result
(as det)

%

Sieve < 3,15 mm

< 0,1

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Product Specification	: 8 mm wood pellet, bag ID: TASK-2	Sample size (kg)	: 3,132
Reference	:	Sealed / Seal Code	: No /
AWB / BarCode	: %03000me13269300113206101528	Sample Arrival Date	: 23-Mar-2017 10:59
Packing	: Plastic, ambient	ReportDate Version	: 11-Apr-2017 16:00
Sample Type	: BIS		

ANNEX

Method Descriptions

Composition Determination

Common

Method Description

Determination of particle size distribution; vibrating screen method using sieve apertures of 3,15mm and below

Method Code

Acc. NEN-EN 15149-2

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