

Analytical Report

Viridis Merchants

Attn: Mr. J. B. Harte
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Canada

Reportnr. : 457012 version 2	Disponent Number :
Product recognized as : Hout/Wood/Bois/Holz/Madera	Sampling Date : 24-Mar-2014
Product Specification : Woodpellets	Sample size (kg) : 15
Reference :	Sealed / Seal Code : No /
AWB / BarCode :	Sample Arrival Date : 24-Mar-2014 15:23
Packing : Plastic, ambient	ReportDate Version : 01-Apr-2014 10:22
Sample Type : BIS	

Composition Determination

Parameter	Amount (a.r.)	Amount (o.d.)	Amount (as det.)	Amount (d.a.f.)		
Total Moisture	4,31				%	Q
Moisture Airdry			4,97		%	Q
Ash	0,40	0,42	0,40		%	Q
Volatile matter incl. moisture.			84,02		%	Q
Volatile matter	79,60	83,18	79,05	83,53	%	
Fixed Carbon	15,69	16,40			%	
Gross Calorific Value	4729,8	4942,8	4697,0	4963,7	kcal/kg	Q
	19,80	20,69	19,67	20,78	GJ/mt	
Nett Calorific Value (cV)	4399,5	8897,1	8454,6	8934,6	B.T.U.'s/Lb	
	18,42				kcal/kg	
	7919,1				GJ/mt	
Nett Calorific Value (cP)	18,34				B.T.U.'s/Lb	
Emissionfactor CO2 (cV)	100,50				GJ/mt	
Emissionfactor CO2 (cP)	100,90				t CO2/TJ	
Hydrogen	6,23	6,51	6,74	6,54	%	Q
Carbon	50,50	52,77	50,15	53,00	%	Q
Nitrogen	0,13	0,14	0,13	0,14	%	Q
S. (Sulphur)	0,01	0,01	0,01	0,01	%	Q
Oxygen (by difference)				40,32	%	

Composition Determination

Common

Parameter	Amount (a.r.)	Amount (o.d.)	Amount (as det.)		
Diameter pellets (n=25)			5,6	mm	Q
Length of pellets			10,6	mm	Q
Length of pellets fraction >5*d <7,5			< 0,1	% (m/m)	Q
Length of pellets fraction >7,5*d			< 0,1	% (m/m)	
Sieve < 3,15 mm			0,7	%	

Other Analysis

Common

Parameter	Amount (a.r.)	Amount (o.d.)	Amount (as det.)		
Mechanical Durability			99,0	%	Q

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Analyses according to annex
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Bulk density	712,80	kg/m3	Q
Preparation Common			
Parameter	Amount (a.r.)	Amount (o.d.)	Amount (as det.)
Preparation sample	Biomass preparation according NEN-EN14780		Q

Q - Analysis accredited by RvA

This is version number 2 of the certificate. It cancels and replaces version number 1.

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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 fines; Sieve test on original material

Method Code

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Acc. NEN-EN 15149

Determination of gross calorific value by bombcaloric method and calculation of net calorific value

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Coal: NEN-ISO 1928, Solid Biofuels NEN-EN14918; secondary biofuels NEN-EN15400

Determination of length and Diameter of pellets

acc. NEN EN 16127

Determination of moisture in the analyse sample; gravimetric method

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Coal: NEN-ISO 11722;Biomass: NEN-EN14774-3; Secondary bio fuels : NEN-EN15414-3

Determination of Sulphur (S); NEN-EN 15289

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Determination of the length and diameter of the woodpellets

Eq. NEN-EN 16127:201

Determination of total moisture in the sample; gravimetric method

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Coal: ISO-589 biomass: NEN-EN14774-1; Secondary bio fuels : NEN-EN15414-1

Determination of volatile matter content; gravimetric method

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Coal: NEN-ISO 562; Biomass: NEN-EN15148; secondary biofuels: NEN-EN 15402

Other Analysis

Common

Method Description

Determination of bulk density (poured) and tamped bulk density

Method Code

Acc. NEN-EN-15103

Determination of mechanical durability of pellets

acc. EN 15210

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