

Analytical Report

Comgoed biomasse B.V.

Attn: Dhr. T. van Hekke
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Netherlands

Reportnr. : 871649 version 2	Disponent Number : 0187-650004
Product recognized as : Hout/Wood/Bois/Holz/Madera	Sampling Date : 06-Sep-2018
Product Specification : houtpellets	Sample size (kg) : 15,26
Reference : 3258236	Sealed / Seal Code : Yes /
AWB / BarCode :	Sample Arrival Date : 08-Sep-2018 12:00
Packing : Plastic, ambient	ReportDate Version : 20-Sep-2018 14:39
Sample Type : BIS	

Composition Determination

Parameter	Result (as received)	Result (on dry)	Result (as det)	Result (dry ash free)		Q	R
Total Moisture	6,81			%		Q	R
Moisture Airdry			8,16	%		Q	R
Moisture Airdry			7,08	%		Q	R
Ash	0,34	0,37	0,34	%		Q	R
Volatile matter incl. moisture.			86,33	%		Q	R
Volatile matter	79,32	85,12	78,17	85,43 %			
Fixed Carbon	13,53	14,52		%			
Gross Calorific Value	4657,8	4998,1	4590,3	5016,6 kcal/kg		Q	R
	19,50	20,93	19,22	21,00 GJ/mt			
Nett Calorific Value (cV)	8384,0	8996,7	8262,6	9029,9 B.T.U.'s/Lb			
	4343,0			kcal/kg		Q	
	18,18			GJ/mt			
	7817,4			B.T.U.'s/Lb			
	5,1			kWh/kg			
Hydrogen	5,64	6,05	6,46	6,07 %		Q	R

Composition Determination

Common Parameter	Result (as received)	Result (on dry)	Result (as det)			Q	R
Sieve < 3,15 mm.			< 0,1	%			R

Other Analysis

Common Parameter	Result (as received)	Result (on dry)	Result (as det)			Q	R
Mechanical Durability			99,4	%		Q	R
Bulk density			686	kg/m3		Q	R

Q - Analyses ISO 17025 accredited by RvA (ILAC)
R - Carried out by TLR International Laboratories, location Rotterdam

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

Demanded 08-Sep-2018 by Comgoed biomasse B.V.
Analyses according to annex
Drs. ing. H. Janssens Director TLR International Laboratories



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ANNEX

Method Descriptions

Composition Determination

Common

Method Description

Method Code

Determination of ash; gravimetric method
Coal: NEN-ISO 1171 Biomass: NEN-EN15403; Secondary bio fuels: NEN-EN- ISO 18122 ..

Determination of carbon (C), nitrogen (N), hydrogen (H) with the element analyser
Coal : NEN-ISO29541, Biomass: NEN-EN-ISO 16948 : Secondary bio fuels NEN-EN 15407 ..

Determination of gross caloric value by bombcaloric method and calculation of net caloric value
Coal: NEN-ISO 1928, Solid Biofuels NEN-EN-ISO18125; secondary biofuels NEN-EN15400 ..

Determination of moisture in the analyse sample; gravimetric method
Coal: NEN-ISO 11722;Biomass: NEN-EN-ISO 18134-3; Secondary bio fuels : NEN-EN15414-3 ..

Determination of the amount of material passing through a sieve with 3,15 mm diameter round hole ISO 18846:2016 ..

Determination of total moisture in the sample; gravimetric method
Coal:NEN-ISO-589 MB biomasss: NEN-EN-ISO 18134-1; Secondary bio fuels : NPR-CEN/TS 15414-1 ..

Determination of volatile matter content; gravimetric method
Coal: NEN-ISO 562; Biomass: NEN-EN-ISO 18123; secondary biofuels: NEN-EN 15402 ..

Other Analysis

Common

Method Description

Method Code

Determination of bulk density (poured) bulk density
Acc.NEN-EN-ISO 17828

Determination of mechanical durability of pellets
NEN-EN-ISO 17831-1

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