



Accredited by Latvian National Accreditation Bureau

CERTIFICATE OF SAMPLING AND ANALYSIS

Vessel : M/V "KERSTI"
 Loading Port : Ventspils, Latvia
 Cargo (as declared) : WOOD PELLETS IN BULK
 Quantity (as per SGS D/S) : 4,500.000 Metric Tonnes
 Commenced Loading : 6 August 2020/ 16:45 LT
 Completed Loading : 7 August 2020/ 15:00 LT
 Our Principal : KURZEMES GRANULAS SIA
 SGS Reference No. : LV.20.20.0238

THIS IS TO REPORT that in accordance with instructions received from our Principal, to perform sampling and analysis of the above-mentioned shipment, we hereby report the following:

SAMPLING: MANUAL SAMPLING - SGS, performed as per EN ISO 18135*. Sampling occurred from freshly exposed surface while the material was in motion, on a systematic known-mass intervals basis, with fixed-increment mass. Manual Sampling method was agreed to with the SGS Principal, as sampling by more reliable methods that provide probability samples was not possible or was not selected by the SGS Principal. The suitability of this sampling method is defined by the sampling standard.

TEMPERATURE MEASUREMENTS: The actual temperature of the Material checking was performed on the Stockpile in the warehouse and on the surface of the cargo in the vessel's hold throughout the loading. The temperature of the Cargo was found to be from +21.0°C up to +37.6°C.

ANALYSIS: Reported results are based on a calculated weighted average of 2 Sub-lot(s) analysis results using weights and qualities on the same moisture basis, and composite analysis results where applicable. Analysis performed in accordance with EN Standards, except as noted.

We report the following weighted average:

Parameters	Methods	Units	As-Received basis	Dry basis
Nitrogen	LVS EN ISO 16948	% mass	0.11	0.12
Oxygen (excludes O in moisture)	LVS EN ISO 16993	% mass	40.00	42.82
Hydrogen (excludes H in moisture)	LVS EN ISO 16948	% mass	5.87	6.28
Total Carbon	LVS EN ISO 16948	% mass	46.86	50.16



SGS LATVIJA LIMITED

Katrinās iela 5
 LV-1045 Rīga
 t : (371) 67 326 163
 f : (371) 67 326 164

This document is issued by the Company subject to its General Conditions of Service (www.sgs.com/en/Terms-and-Conditions.aspx). Attention is drawn to the limitations of liability, indemnification and jurisdictional issues established therein. This document is to be treated as an original within the meaning of UCP 600. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. The authenticity of this document may be verified at <https://sgsonsite.sgs.com/en/v2/common/ecertificate/authenticateCertificate.jsp>.



<u>Parameters</u>	<u>Methods</u>	<u>Units</u>	<u>As-Received basis</u>	<u>Dry basis</u>
Total Moisture	LVS EN ISO 18134-2	% mass	6.58	-
Ash	LVS EN ISO 18122	% mass	0.57	0.61
Volatile Matter	LVS EN ISO 18123	% mass	79.24	84.82
Total Sulphur	LVS EN ISO 16994	% mass	0.01	0.01
Gross CV	LVS EN ISO 18125	kcal/kg	4,534	4,853
Gross CV	LVS EN ISO 18125	kJ/kg	18,982	20,319
Gross CV	LVS EN ISO 18125	MWh/ton	5.27	5.64
Net CV (constant volume)	LVS EN ISO 18125	kcal/kg	4,209	4,544
Net CV (constant volume)	LVS EN ISO 18125	kJ/kg	17,621	19,024
Net CV (constant volume)	LVS EN ISO 18125	MWh/ton	4.89	5.28
Net CV (constant pressure)	LVS EN ISO 18125	kcal/kg	4,190	4,526
Net CV (constant pressure)	LVS EN ISO 18125	kJ/kg	17,543	18,951
Net CV (constant pressure)	LVS EN ISO 18125	MWh/ton	4.87	5.26

We report the following on the Composite sample:

<u>Parameters</u>	<u>Methods</u>	<u>Units</u>	<u>Results</u>
Bulk Density	LVS EN ISO 17828	kg/m ³	690
Mechanical Durability	LVS EN ISO 17831-1	%	98.9

Particle Size Distribution (Pellets Component Size):

<u>Sieves</u>	<u>Units</u>	<u>Results</u>	<u>Method</u>
Over than 4.0 ¹ mm	% mass	0.11	MDCLAB-1.1.11 based on EN ISO 17830
Between 3.15 ¹ - 4.0 ¹ mm	% mass	0.55	
Between 2.8 - 3.15 ¹ mm	% mass	0.18	
Between 2.0 - 2.8 mm	% mass	0.96	
Between 1.4 - 2.0 mm	% mass	7.19	
Between 1.0 - 1.4 mm	% mass	15.42	
Between 0.5 - 1.0 mm	% mass	33.11	
Between 0.25 - 0.5 mm	% mass	22.33	
Less than 0.25 mm	% mass	20.15	

¹Round holes



SGS LATVIJA LIMITED

Katrinās iela 5
LV-1045 Rīga
t : (371) 67 326 163
f : (371) 67 326 164

This document is issued by the Company subject to its General Conditions of Service (www.sgs.com/en/Terms-and-Conditions.aspx). Attention is drawn to the limitations of liability, indemnification and jurisdictional issues established therein.
This document is to be treated as an original within the meaning of UCP 600. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.
The authenticity of this document may be verified at <https://sgsonsite.sgs.com/en/v2/common/ecertificate/authenticateCertificate.jsp>.



Particle Size Distribution (Dust Content)

Sieves	Units	Results	Method
Over than 3.15 ¹ mm	% mass	98.73	LVS EN ISO 17827-2
Between 2.8 - 3.15 ¹ mm	% mass	0.01	
Between 2.0 - 2.8 mm	% mass	0.10	
Between 1.4 - 2.0 mm	% mass	0.22	
Between 1.0 - 1.4 mm	% mass	0.27	
Between 0.5 - 1.0 mm	% mass	0.34	
Between 0.25 - 0.5 mm	% mass	0.18	
Less than 0.25 mm	% mass	0.15	

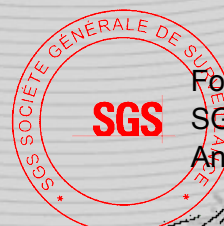
¹Round holes

Ash Melting Behaviour

Parameters	Units	Oxidizing Atmosphere	Method
Shrinkage starting temperature (SST)	°C	1,100	LVS CEN/TS 15370-1
Deformation Temperature (DT)	°C	1,480	
Hemisphere Temperature (HT)	°C	1,490	
Flow Temperature (FT)	°C	1,500	

This certificate reflects our findings at time and place of our intervention only and does not relieve the parties from their contractual responsibilities.

Signed and dated in Riga
13 August 2020



For and on behalf of
SGS Latvija Ltd
Andris Tumins



SGS LATVIJA LIMITED
Katrinas iela 5
LV-1045 Riga
t : (371) 67 326 163
f : (371) 67 326 164

This document is issued by the Company subject to its General Conditions of Service (www.sgs.com/en/Terms-and-Conditions.aspx). Attention is drawn to the limitations of liability, indemnification and jurisdictional issues established therein.
This document is to be treated as an original within the meaning of UCP 600. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.
The authenticity of this document may be verified at <https://sgsonsite.sgs.com/en/v2/common/ecertificate/authenticateCertificate.jsp>.