

**COPY****CERTIFICATE OF ANALYSIS No.01-362/20Q**

Material : SUNFLOWER HUSK PELLETS in bulk. Shipment quantity 2,801.800 m/t (as per DSR No.1362/2020LV)
Vessel : m/v "LUMEN" under Antigua Barbuda (AG) flag.
Shipper : CM Biomass Partners A/S. Pakhus 48 Klubiensvej 22 2150 Nordhavn. Denmark.
Consignee : To order.
Notify : CM Biomass Partners A/S. Pakhus 48 Klubiensvej 22 2150 Nordhavn. Denmark.
Place of sampling : Berth No.43. LASKANA terminal. Port Liepaja, Latvia.
Date of sampling : 12+13-th of September, 2020.

This to certify that as per instruction received inspectors of Independent Surveyors SKS-F Ltd performed manual sampling of above material during it loading into the vessel's holds accordingly standard LVS EN ISO 18135:2017. Composite samples preparation performed according to standard LVS EN ISO 14780:2017. One composite / representative specimen was sent in duly certified laboratory for the quality analyses as per LVS EN ISO International Standards.

Obtained test results for the next parameters:

Nr.	Characteristics verification	Unit	Standard	Actual result	Uncertainty
1.	Moisture content, Mar	%	LVS EN ISO 18134-1	8,2	+/- 0,2
2.	Analytical /inherent moisture content, Ma	%	LVS EN ISO 18134-3	8,2	+/- 0,2
3.	Volatile matters as received, Var	%	LVS EN ISO 18123	69,7	+/- 0,4
4.	Ash content as received, 550°C	%	LVS EN ISO 18122	2,77	+/- 0,07
5.	Gross Calorific Value at constant volume Q gr ar, V=const.	MJ/kg Kcal/kg Mwh/t	EN ISO 18125	18,75 4479 5,21	+/- 1,0 %
6.	Net Calorific Value at constant pressure, Q net ar, P=const.	MJ/kg Kcal/kg Mwh/t	EN ISO 18125	17,34 4143 4,82	+/- 1,0 %
7.	Sulphur content as received, S	%	LVS EN ISO 16994	0,194	+/- 0,032
8.	Nitrogen content, N	%	LVS EN ISO 16948	0,70	+/- 0,06
9.	Carbon content, C	%	LVS EN ISO 16948	45,4	+/- 0,5
10.	Hydrogen content, H	%	LVS EN ISO 16948	5,56	+/- 0,04
11.	Oxygen content, O	%	LVS EN ISO 16993	37,1	+/- 0,5
12.	Chlorine content, Cl	%	LVS EN ISO 16994	0,041	+/- 0,006
13.	Bulk density, BD	Kg/m ³	LVS EN ISO 17828	600	+/-20,0
14.	Mechanical Durability, DU	%	LVS EN ISO 17831-1	97,3	+/- 0,5
15.	Average Diameter of pellets, D av	mm	LVS EN ISO 17829	8,5	0,2
16.	Length of pellets, (fraction) ≤ 50 mm	%	LVS EN ISO 17829	100,0	+/- 0,1
17.	Length of pellets, (fraction) ≤ 40 mm	%		100,0	
18.	Pellets material size distribution /Dry sieve test - fraction (over) > 3,15 mm - fraction 2,8+3,15 mm - fraction 2,0+2,8 mm - fraction 1,4+2,0 mm - fraction 1,0+1,4 mm - fraction 0,5+1,0 mm - fraction 0,25+0,5 mm - fraction less < 0,25mm Fines (less) < 3,15 mm	% mass	LVS EN ISO 17827-2 EN ISO 18846	93,75 0,00 0,61 1,30 1,51 1,75 1,05 0,03 6,25	+/- 0,09

19.	Pellets material particle sizing /Wet sieve test/ < 4,0 mm < 3,15 mm < 2,0 mm < 1,0 mm < 0,5 mm < 0,085 mm	% mass	LVS EN ISO 17830	99,4 97,8 96,3 73,0 28,3 0,3	+/-0,1
20.	Ash melting behaviour oxidizing atmosphere - Deformation temperature, DT - Hemisphere temperature, HT - Flow temperature, FT	°C	LVS CEN/TS 15370-1 /Fuse process phenomena/	1430 >1500 >1500	+/- 10
21.	Chemical Elements Content in dry material			Concentration	+/-
	- Arsenic (Arsenicum), As	mg/kg	ISO /TS 16996; ISO 16968; ISO 16967	≤ 0,1	-
	- Aluminium, Al	mg/kg		18	2
	- Cadmium, Cd	mg/kg		≤ 0,1	-
	- Calcium, Ca	mg/kg		3002	240
	- Chromium (Cromium), Cr	mg/kg		0,3	0,1
	- Copper (Cuprum), Cu	mg/kg		7,5	0,6
	- Iron (Ferrum), Fe	mg/kg		45	3
	- Lead (Plumbum), Pb	mg/kg		≤ 0,1	-
	- Magnesium, Mg,	mg/kg		1539	155
	- Manganese, Mn	mg/kg		6,3	0,3
	- Mercury (Hydrargyrum), Hg	mg/kg		≤ 0,1	-
	- Nickel (Niccolum), Ni	mg/kg		0,8	0,1
	- Potassium (Kalium), K	mg/kg		6824	688
	- Phosphours (Phosphor), P	mg/kg		605	48
	- Silicon (Silicium), Si	mg/kg		130	8
	- Sodium (Natrium), Na	mg/kg		101	22
	- Tin (Stannum), Sn	mg/kg		≤ 0,1	-
	- Titanium, Ti	mg/kg	1,8	0,1	
	- Vanadium, V	mg/kg	≤ 0,3	-	
	- Zink (Zincum), Zn	mg/kg	10,2	0,8	

Representative specimen No. 01/WP-Composite/DPB seal No.1375681 had been tested at the local laboratory in period of the 14+16.09.2020. Remain of representative/composite/ samples 3 (three) to be retained for minimum of 6 (six) months unless written instructions was received to the contrary. Certificate is issued amenably the Virsma, Testesanas Parskats/ test report No.1-434.1-20 dated 16.09.2020 of the laboratory accredited in accordance with LVS ISO 17025 standard, at Riga Latvia.

This inspection performed in accordance with the Principals instructions. This Certificate was issued to the best of our ability and knowledge for the time and place of inspection, within limitation of instructions received, but without prejudice and without releasing Shippers and/or other parties involved from their contractual obligations.

Issued and dated at Riga,
16-th of September, 2020.



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