TESAF
LABORATORIO ANALISI BIOCOMBUSTIBILI

Università degli Studi di Padova
DIPARTIMENTO TERRITORIO E SISTEMI AGRO-FORESTALI
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TEST REPORT

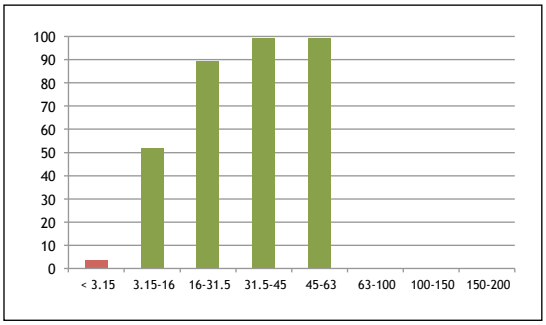
PAGE 1	Data 18.1.2016
Sample code	

SAMPLE ORIGIN AND SOURCE		
Producer or supplier		
Sample place and date		
Sampler		
Chipper	Jenz HEM 561	
Wood specie	Norway spruce and Fir	
Biomass origin	1.1.1.2	
Sampling method	Sampling from stationary stockpiles	
Total mass of test portion (g)	2191.0	

PARTICLES SIZE

Sieve	Class	Sample mass		
	mm	g	%	% cumulated
Fine < 3.15 mm	< 3.15	84.00	3.83	3.83
1st sieve (3.15 mm)	3.15-16	1055.00	48.15	51.99
2nd sieve (168 mm)	16-31.5	821.00	37.47	89,46
3rd sieve (31.5 mm)	31.5-45	213.00	9.72	99.18
4th sieve (45 mm)	45-63	6.00	0.27	99.45
5th sieve (63 mm)	63-100	0.00	0.00	0.00
Overlong	100-150	0.00	0.00	0.00
Overlong	150-200	0.00	0.00	0.00
Overlong	200-250	0.00	0.00	0.00
Overlong	250-300	0.00	0.00	0.00
Overlong	300-350	0.00	0.00	0.00
Overlong	350-400	0.00	0.00	0.00
Overlong	> 400	0.00	0.00	0.00
Total	All	2179.0	99.45	343.91
Difference between the total mass of test portion and the total mass of all fractions in percent of the total test portion of all fractions		0.55		

Cumulative size distribution



CLASSIFICATION	Classi	Valori	Unità
Particle size (P)*	P31S	-	-
Fines (F)*	F30+	3.83	% tal quale
Moisture content wet basis (M)	M25	20.75	% tal quale
Bulk density wet basis (BD)	BD200	230.00	kg/m3 stero
Ash dry basis (A)	A1.0	0.99	% sul secco
Gross calorific value dry basis (pcs0)	-	19.64	MJ/kg
		5.46	kWh/kg
Calculated net calorific value wet basis (pciM)	-	14.02	MJ/kg
		3.89	kWh/kg

NOTES

Standards			
Fuel specifications and classes	UNI EN ISO 17225-1:2014	*Particles size*	UNI EN 15149:2011
Moisture content	ISO 18134-1:2015	*Bulk density*	ISO 17828:2015
Ash	ISO 18122:2015	*Calorific vakue*	UNI EN 14918:2010

Laboratory technician Dott.ssa Rosa Greco

Responsible Prof. Raffaele Cavalli

The reported results are related to sample as received by the Laboratory which did not performed the sampling directly
The representativeness of the sample, and therefore of the results, is attributable solely to the mass of origin and given a proper sampling
The responsability for the declarations at arrival of the sample are upon the customer are nont verifiable by the Laboratory
The originality of the certificate, that cannot be reproduced in part, is proven by the signatures
In case of electronic submission modifications or alterations are strctly prohibited
* The sample of wood chips has been classified in accordance with UNI EN ISO 17225-1:2014; the analysis methods used are those provided by the UNI EN 14961, currently the only valid and enforceable until they will be updated or replaced