



CERTIFICATE OF ANALYSIS

Description : Wood Charcoal
Shipper : PT. Mitra Wood Sejahtera
Dsn. Tanggungan RT. 5 RW. 2, Ds. Wringinanom,
Kec. Wringinanom, Kab. Gresik, Jawa Timur, Indonesia
Sample Weight : 3.00 Kgs
Date of Sampling : 11 August 2023
Place of Sampling : PT. Mitra Wood Sejahtera, Warehouse
Date of Analysis : 13 August 2023

Sampling

Samples were taken and prepared in accordance with SNI 19-0428-1998.

Analysis

Analysis were performed at PT Carsurin Tbk. Semarang Laboratory (accreditation by KAN / National Accreditation Committee – Indonesia for ISO 17025:2017 Cert No. LP-415-IDN) in accordance with ASTM Standard. The results of our analysis are as follows:

Parameter	Unit	Results		Method
		Wet Basis	Dry Basis	
Moisture	Pct	5.27	-	ASTM D1762-84 (REAPPROVED 2021)
Ash Content	Pct	2.56	2.70	ASTM D1762-84 (REAPPROVED 2021)
Volatile Matter	Pct	22.57	23.83	ASTM D1762-84 (REAPPROVED 2021)
Fixed Carbon	Pct	69.60	73.47	By Calculation

This certificate refers solely to the analysis in accordance with the details described herein and does not certify any other matter, and is issued without prejudice.

Jakarta, 15 August 2023

PT. CARSURIN Tbk.

Dede Jenini Supriadi

Head of Laboratory

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The analysis results are based on representative samples which are taken based on applied standards (Ref SNI 19-0428-1998 *Petunjuk Pengambilan Contoh Padatan*) during the inspection (or audit). This report is valid within 90 days from the date of testing.



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Report No. : 231161.5429

SUBJECT

Evaluation of "Wood Charcoal" Sample for Self-Heating Substance Test

CUSTOMER

PT. Mitra Wood Sejahtera
Dsn. Tanggungan RT. 5 RW. 2, Ds. Wringinanom,
Kec. Wringinanom, Kab. Gresik, Jawa Timur, Indonesia

SAMPLING DATE

11 August 2023

DESCRIPTION OF SAMPLE

Wood Charcoal

DATE OF TESTING

13 August 2023 up to 15 August 2023

The analysis results are based on representative samples which are taken based on applied standards (Ref SNI 19-0428-1998 Petunjuk Pengambilan Contoh Padatan) during the inspection (or audit). This report is valid within 90 days from the date of testing.



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METHOD OF TEST

The self heating substances test was performed according to United Nations "Recommendations on the Transport Dangerous Good, Manual of Test and Criteria" (33.4.3.3.1) as per revised UN test manual 7th edition 2019. Self heating substances, using method of UN 33.4.6 "Test N.4: Test method self-heating substances".

A consignment of carbon if it passes the tests for self-heating substances as reflected in the United Nations Manual of Tests and Criteria (see 33.4.3.3), and is accompanied by a certificate from a laboratory accredited by the competent authority, stating that the product to be loaded has been correctly sampled by trained staff from that laboratory and that the sample was correctly tested and has passed the test.

The sample received was placed into a 100 mm cubic mesh sample container made of stainless steel. The container was then hung at the centre of the oven. The oven temperature was slowly raised to 140^o C and kept constant for 24 hours. The temperature at the centre of the sample and temperature between the container and oven were recorded continuously.

RESULT

Table 1: Analysis result for "Wood Charcoal" sample

Sample	Oven Temperature (°C)	Cube Size (mm)	Maximum Temperature Reached (°C)	Result
Wood Charcoal	140	100	201.1	Positive
Wood Charcoal	140	25	140.3	Negative
Wood Charcoal	120	100	130.6	Negative

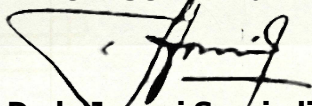
The above result showed that the "Wood Charcoal" sample shall not be classified in self heating substances and the substance is to be contained in packages of not more than 3 m³.

Remark

The temperature profiles were enclosed in next pages for your references. T1 represented temperature in the center of the sample. T2 represented temperature between the container and the oven wall.

Jakarta, 15 August 2023

PT. CARSURIN Tbk.



Dede Jemmi Supriadi
Head of Laboratory

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PT. CARSURIN Tbk.



Amran Lesmana
Head of Technical Charcoal



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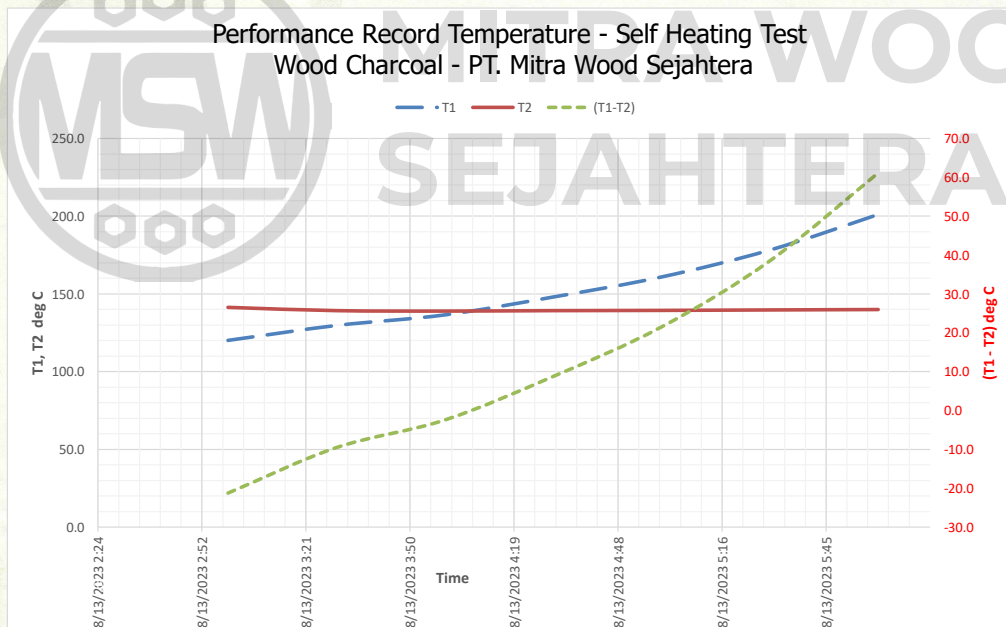
Temperature Profile "Wood Charcoal" at 140⁰ C (100mm cube)

Start Time : 13-Aug-23 3:00:00
Stop Time : 13-Aug-23 6:00:00
Elapsed Time : 3:00:00
Interval : 0:30:00
Total Readings : 7
Thermocouple Type : K
Scaling : (None)

Temperature	Max Time Stamp	Max	Average	Min	Min Time Stamp
T1	8/13/2023 6:00	201.1	153.5	120.1	8/13/2023 3:00
T2	8/13/2023 3:00	141.4	139.7	139.0	8/13/2023 4:00
T1-T2	8/13/2023 6:00	61.2	13.8	-21.3	8/13/2023 3:00

Remark:

T1 represented temperature in the centre of the sample. T2 represented temperature between the container and the oven wall.



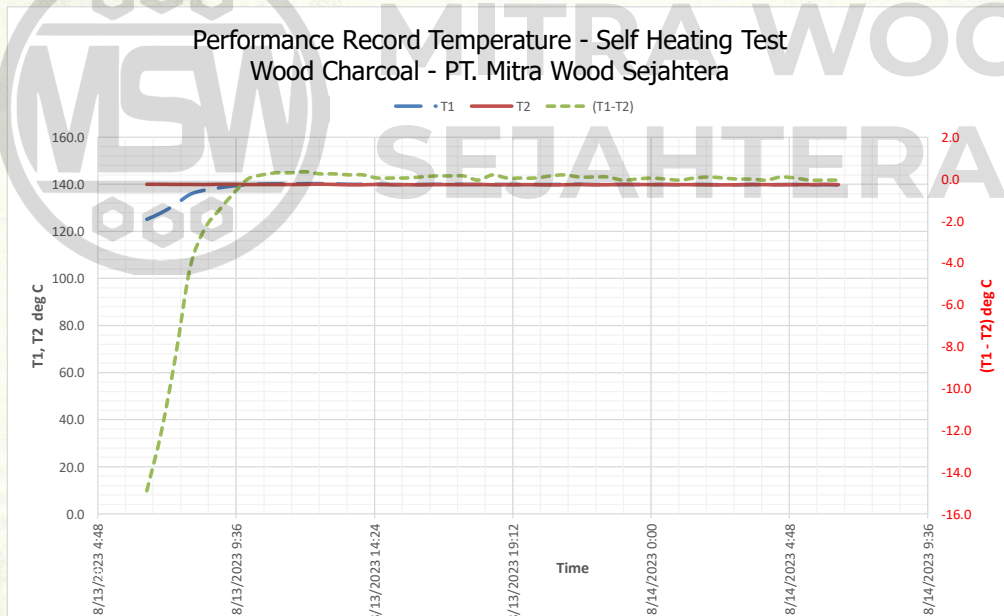
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24 Hours Temperature Profile "Wood Charcoal" at 140⁰ C (25mm cube)

Start Time : 13-Aug-23 6:30:00
 Stop Time : 14-Aug-23 6:30:00
 Elapsed Time : 24:00:00
 Interval : 0:30:00
 Total Readings : 49
 Thermocouple Type : K
 Scaling : (None)

Temperature	Max Time Stamp	Max	Average	Min	Min Time Stamp
T1	8/13/2023 12:00	140.3	139.1	125.1	8/13/2023 6:30
T2	8/13/2023 12:30	140.1	139.9	139.8	8/13/2023 13:30
T1-T2	8/13/2023 12:00	0.4	-0.8	-14.9	8/13/2023 6:30

Remark:
 T1 represented temperature in the centre of the sample. T2 represented temperature between the container and the oven wall.



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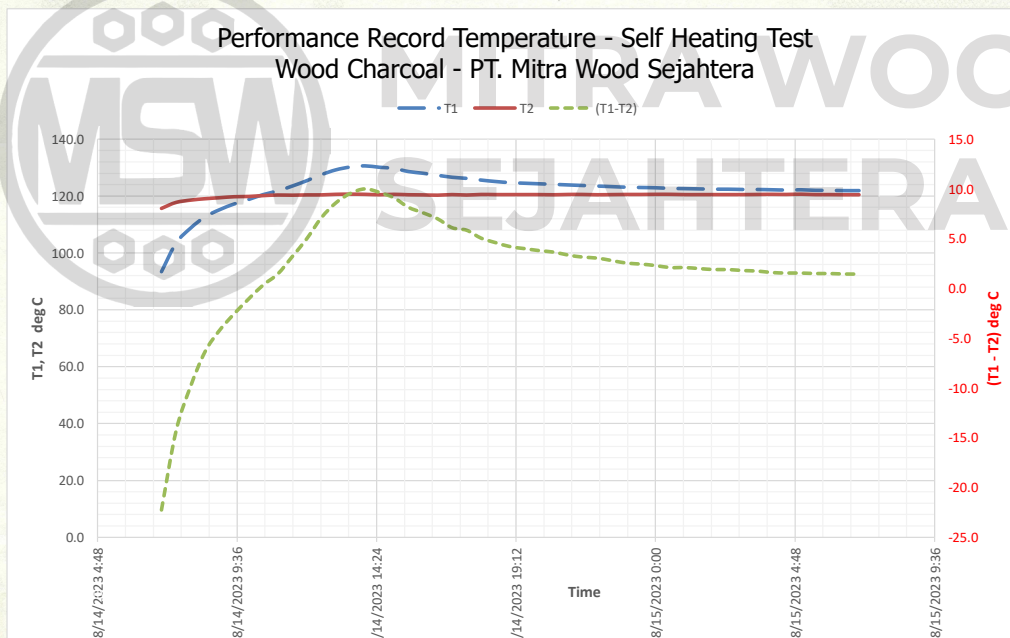
24 Hours Temperature Profile "Wood Charcoal" at 120⁰ C (100mm cube)

Start Time : 14-Aug-23 7:00:00
 Stop Time : 15-Aug-23 7:00:00
 Elapsed Time : 24:00:00
 Interval : 0:30:00
 Total Readings : 49
 Thermocouple Type : K
 Scaling : (None)

Temperature	Max Time Stamp	Max	Average	Min	Min Time Stamp
T1	8/14/2023 14:00	130.6	122.4	93.4	8/14/2023 7:00
T2	8/14/2023 13:30	120.7	120.2	115.7	8/14/2023 7:00
T1-T2	8/14/2023 14:00	10.0	2.2	-22.3	8/14/2023 7:00

Remark:

T1 represented temperature in the centre of the sample. T2 represented temperature between the container and the oven wall.



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