

SUBJECT

Evaluation of "Coconut Shell Charcoal Briquette for Shisha" Sample for Self-Heating Substance Test

CLIENT

PT. Pandu Green Energi
Bellezza BSA 1st Floor SA1-06,
Jl. Letjen Soep Grogol Utara, Kebayoran Lama,
Kota ADM, Jakarta Selatan, DKI Jakarta

DATE OF RECEIVED SAMPLE

August 23th, 2022

DESCRIPTION OF SAMPLE

Coconut Shell Charcoal Briquette for Shisha

DATE OF TESTING

August 23th Up To August 26th, 2022

The below findings are based on sample/s only, which is/are submitted or supplied by client. This report is valid within 90 days from the date of testing.



This report is made and issued by the Company upon the Principal/Applicant's request and the analysis contained therein reflects the Company's findings on the sample(s) submitted by Principal/Applicant and/or sample(s) drawn by the Company at the time and place of performing the inspection/testing only. Company shall not be liable for any changes to the results herein due to effects of weather, transport, storage or other factors outside Company's control. Furthermore, the Company shall not be responsible to any parties on any business, financial and/or legal consequences for any transaction by using this report/analysis. Any unauthorised alteration or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. This document cannot be reproduced except in full, without prior approval of the Company.

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 33.3.1.3.3), 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 was the 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 140o 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 "Coconut Shell Charcoal Briquette for Shisha" Sample

Sample	Oven Temperature (°C)	Cube Size (mm)	Maximum Temperature Reached (°C)	Result
Coconut Shell Charcoal Briquette for Shisha	140	100	201.9	Positive
Coconut Shell Charcoal Briquette for Shisha	140	25	141.8	Negative
Coconut Shell Charcoal Briquette for Shisha	120	100	121	Negative

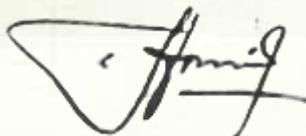
The above result showed that the "Coconut Shell Charcoal Briquette for Shisha" sample shall not be classified in self heating substances and the substance is to be contained in packages of not more than 3 m3.

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, August 31st, 2022

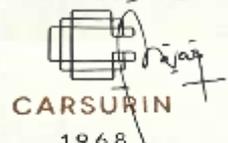
PT. CARSURIN



Dede Jemmi Supriadi

Head of Laboratory

PT. CARSURIN



Amran Lesmana

Head of Technical Charcoal



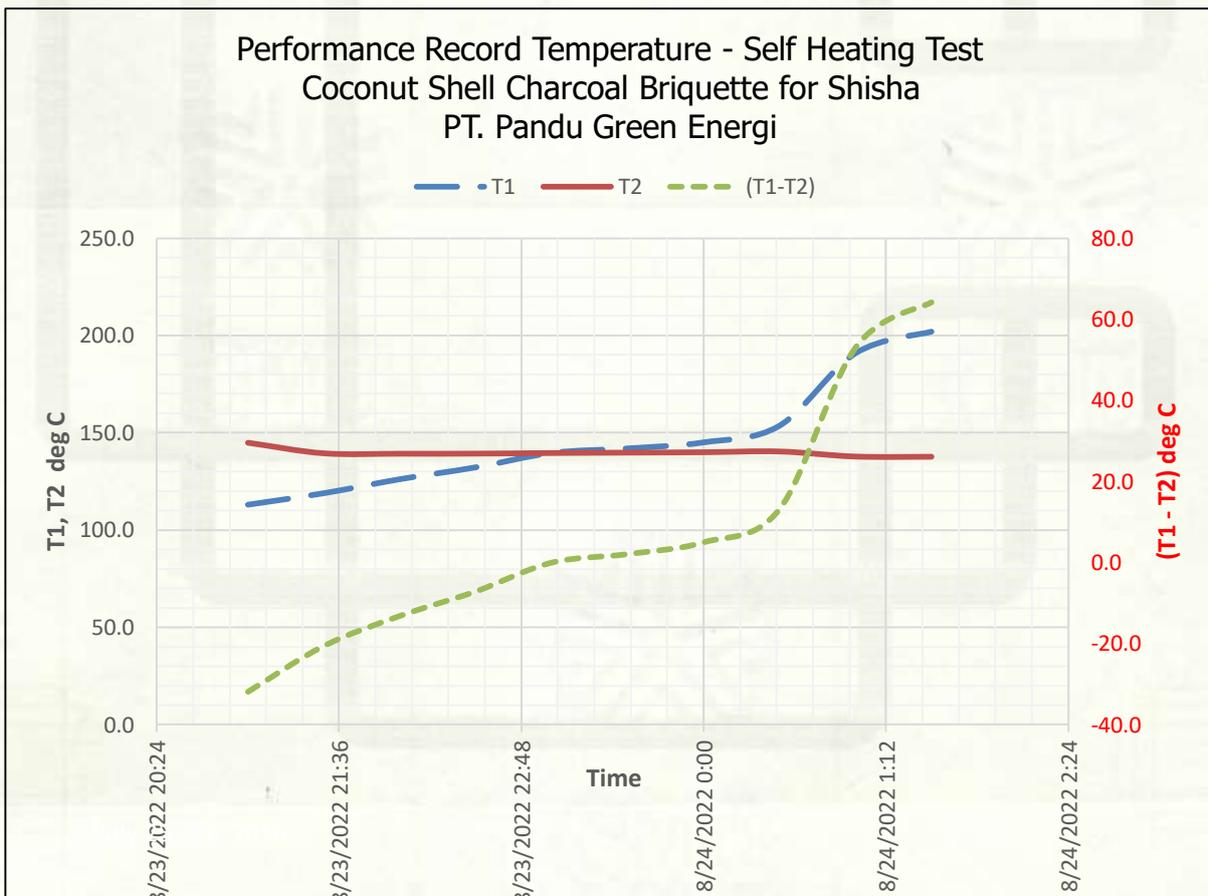
For verification of authenticity certificate or report, please e-mail to Charcoal@carsurin.com

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The Temperature Profile "Coconut Shell Charcoal Briquette for Shisha" at 140⁰ C (100mm cube)

Start Time : August 24th, 2022 21:00:00
 Stop Time : August 25th, 2022 01:30:00
 Elapsed Time : 04:30:00
 Interval : 0:30:00
 Total readings : 10
 Thermocouple Type : K
 Scaling : (none)

	Max Time Stamp	Max	Average	Min	Min Time Stamp
T1	8/24/2022 1:30	201.9	146.3	113.0	8/23/2022 21:00
T2	8/23/2022 21:00	144.9	139.9	137.8	8/23/2022 21:00
T1-T2	8/24/2022 1:30	64.2	6.4	-31.9	8/23/2022 21:00



Remark:

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

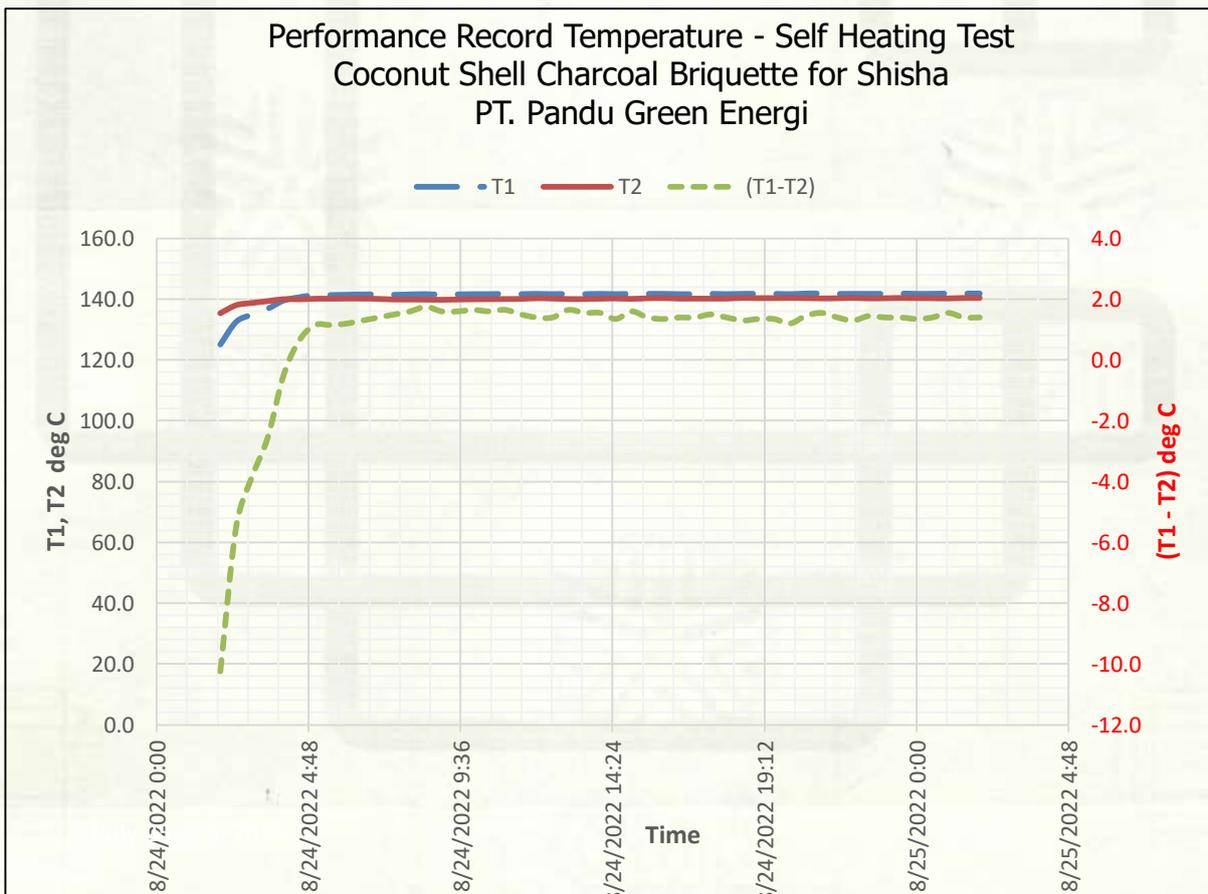


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24 Hours Temperature Profile "Coconut Shell Charcoal Briquette for Shisha" at 140^o C (25mm cube)

Start Time : August 24th, 2022 02:00:00
 Stop Time : August 25th, 2022 02:00:00
 Elapsed Time : 24:00:00
 Interval : 0:30:00
 Total readings : 49
 Thermocouple Type : K
 Scaling : (none)

	Max Time Stamp	Max	Average	Min	Min Time Stamp
T1	8/24/2022 13:00	141.8	140.8	125.1	8/24/2022 2:00
T2	8/24/2022 17:30	140.4	140.0	135.4	8/24/2022 2:00
T1-T2	8/25/2022 2:00	1.8	0.8	-10.3	8/24/2022 2:00



Remark:

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

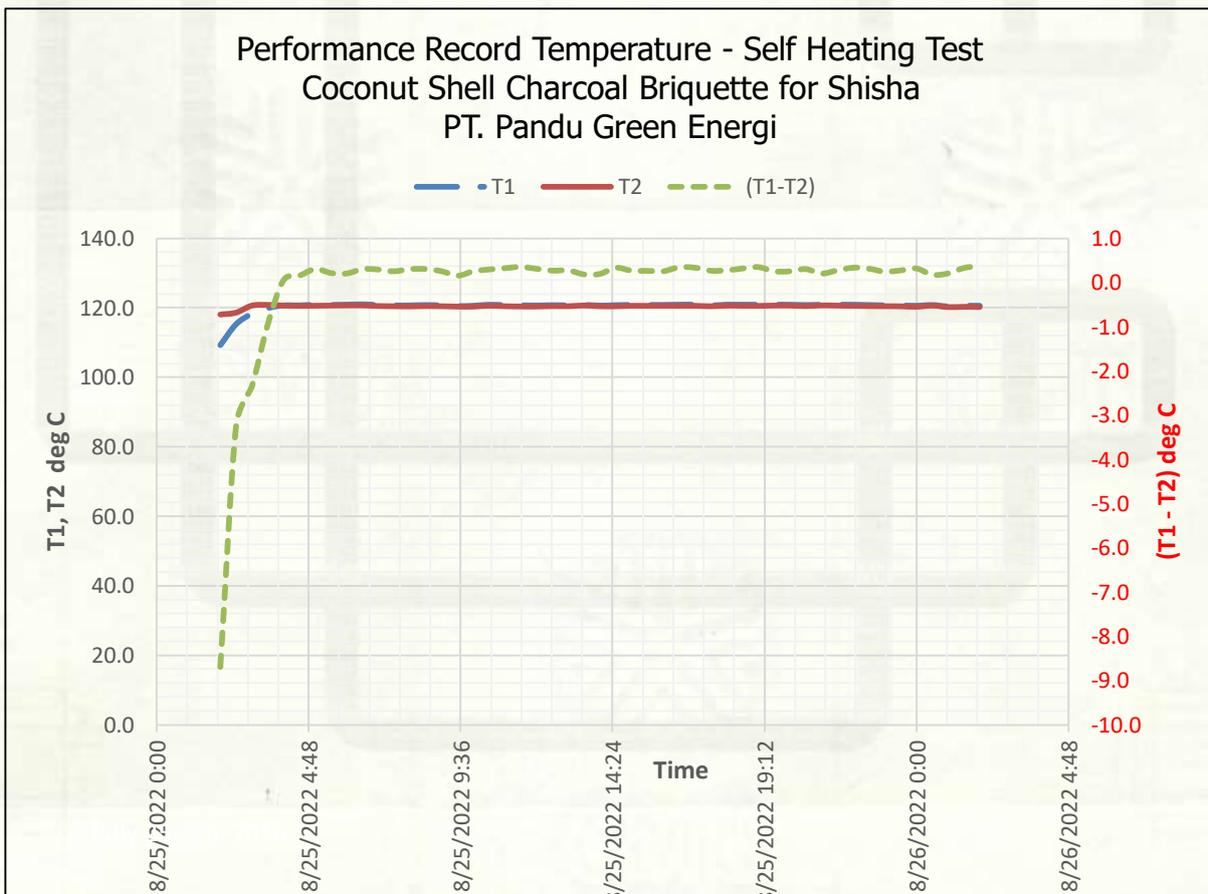


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24 Hours Temperature Profile "Coconut Shell Charcoal Briquette for Shisha" at 120^o C (100mm cube)

Start Time : August 25th, 2022 02:00:00
 Stop Time : August 26th, 2022 02:00:00
 Elapsed Time : 24:00:00
 Interval : 0:30:00
 Total readings : 49
 Thermocouple Type : K
 Scaling : (none)

	Max Time Stamp	Max	Average	Min	Min Time Stamp
T1	8/25/2022 6:00	121.0	120.4	109.3	8/25/2022 2:00
T2	8/25/2022 17:30	120.9	120.4	118.0	8/25/2022 2:00
T1-T2	8/25/2022 7:30	0.4	-0.1	-8.7	8/25/2022 2:00



Remark:

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2. The sample/s mentioned in this report is/are submitted or supplied by client.
3. Nothing in this report shall be interpreted to mean that PT. CARSURIN has verified or ascertained endorsement or marks from any other authority or bodies that August be found on that sample.
4. This report shall not be reproduced wholly or in parts and no reference shall be made by the client PT. CARSURIN in any advertisements or sales promotion
5. Unless otherwise stated, the tests were carried out in PT. CARSURIN Jl. Gaharu 1 Blok F2 No. 10 J, Multi Guna Niaga, Delta Silikon 3 Lippo Cikarang Bekasi



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REPORT OF ANALYSIS

Description : Coconut Shell Charcoal Briquette for Shisha
 Manufactured / Shipper : PT. Pandu Green Energi
 Bellezza BSA 1st Floor SA1-06,
 Jl. Letjen Soep Grogol Utara, Kebayoran Lama,
 Kota ADM, Jakarta Selatan, DKI Jakarta

Sample Weight : 3.00 Kgs
 Date of Received Sample : August 23th, 2022
 Date of Analysis : August 25th, 2022

Analysis

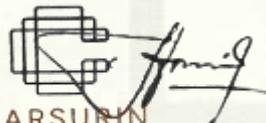
Analysis were performed at PT Carsurin Cikarang Laboratory (accreditation by KAN / National Accreditation Committee – Indonesia for ISO 17025:2017 Cert No. LP-415-IDN) in accordance with ASTM Standard.

The results of our analysis are as follows:

Parameter	Unit	Results		Method
		Wet Basic	Dry Basic	
Moisture	Pct	5.65	-	ASTM D1762-84 (REAPPROVED 2021)
Ash Content	Pct	5.01	5.31	ASTM D1762-84 (REAPPROVED 2021)
Volatile Matter	Pct	19.73	20.91	ASTM D1762-84 (REAPPROVED 2021)
Fixed Carbon	Pct	69.61	73.78	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, August 31st, 2022
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Dede Jemmi Supriadi

Head of Laboratory

For verification of authenticity certificate or report, please e-mail to Charcoal@carsurin.com

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