

### TEST REPORT

Test Report Issued To:

**BARAK VALLEY INFRASTRUCTURE**

6TH FLOOR, SRI KAMAKHYA TOWER BEHIND, SOHUM  
SHOPPE, CHRISTIAN BASTI, G.S.ROAD, GUWAHATI,  
ASSAM, INDIA, 781005,

Test Report No: N190806021;N190806021-1

Date of Issue: 4-Sep-2019



Sample Booking/Receipt Date: 06-Aug-2019

Date of Start of Testing: 07-Aug-2019

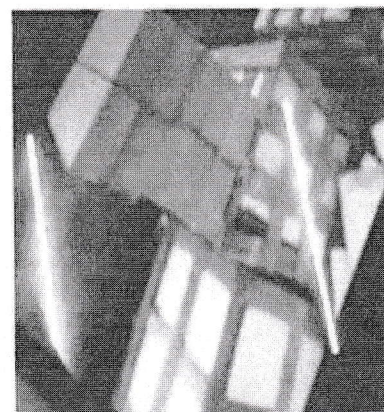
Date of Completion of Test: 04-Sep-2019

Customer Relationship Number

55582

Sample Description :

AAC BLOCK



Customer Reference No :

Kind Attention : MS. PRARTHANA SHARMA

E-Mail: prarthana.sharma@kdindia.com

Contact No: 8789708637

Sample Condition : NA

Sample Quantity (Approx) : NA

Sample Size (Approx) : NA

SAMPLE NOT DRAWN BY OUR LABORATORY. THE RESULTS RELATE ONLY TO THE ITEMS TESTED

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Report Issued by

Authenticity of report can be verified by mail at [verification@spectrolab.in](mailto:verification@spectrolab.in)

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Spectro Analytical Labs Limited - S-1, GNEPIP, Surajpur Industrial Area, Phase V, Kasna, Greater Noida-201308 (India)

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**ID: N 190806021-1****AAC BLOCK (Autoclave cellular Aerated concrete blocks)**

PARTICULARS OF THE SAMPLE SUBMITTED	AAC (AUTOCLAVED AREATED CONCRETE) BLOCKS
a) Nature of Sample	
b) Grade/Variety/Type/Class/Size etc.	Grade 1, Density: 551 to 650 kg/m <sup>3</sup>
c) Declared values, if any	600 x 200 x 100 MM
d) Code No. / Make	---
e) Batch No. & Date of Manufacture	---
f) Quantity	24 Nos.
g) Date of Receipt in Lab	06.08.2019
j) Any other information/ Expiry date, if any	N/A
k) Date of start of testing	07.08.2019
l) Date of Completion of testing	29.08.2019

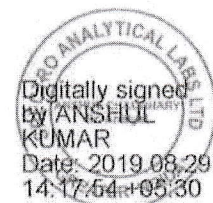
**SUMMARY OF TESTING**

S. No.	Measurement/ Testing	Total No of Tests	No. of tests Passed	Page No.
1.	Chemical Requirement	N/A	N/A	N/A
2.	Physical Requirement	7	7	3-7

Total No. of test to be conducted: 07

No. of test for which sample passed: 07

Abbreviations used: P = Pass, F = Fail, N/A = Not Applicable

  
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Cl. 8.1	General	P
Test Method: IS 2185 (P-3):1984 Cl. 8.1 & 8.1.1		
General Observations	All the blocks are sound and free from cracks	
Specific Requirements as per Cl. 8.1 of IS 2185 (P-3): 1984	All units shall be sound and free of cracks or other defects which interfere with the proper placing of unit or impair the strength or performance of the construction. Minor chipping resulting from the customary methods of handling during delivery, shall not be deemed grounds for rejection.	
General Observation (Where units are to be used in exposed wall construction)	N/A	
Specific Requirements as per Cl. 8.1.1 of IS 2185 (P-3): 1984	Where units are to be used in exposed wall construction, the face or faces that are to be expelled shall be free of chips, cracks, or other imperfections, except that if not more than 5 percent of a consignment contains slight cracks or small chippings not larger than 25 mm, this shall not be deemed grounds for rejection.	

Cl. 3.3	Observation	P
Test Method: IS 2185 (P-3):1984 Cl. 3.3		
Observations	The faces of the AAC blocks are flat and rectangular, opposite faces are parallel and all arises are square. The bedding surfaces are at right angles to the faces of the blocks.	
Specific Requirements as per Cl. 3.3 of IS 2185 (P-3): 1984	The faces of masonry units shall be flat and rectangular, opposite faces shall be parallel, and all arises shall be square. The bedding surfaces shall be at right angles to the faces of the blocks.	

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Cl. 8.2	Dimensions, mm								P
	Test Method: IS 2185 (P-3):1984 (Cl. 3.2.1 & 3.2.3)								
Length, mm	Sam-1	Sam-2	Sam-3	Sam-4	Sam-5	Sam-6	Sam-7	Sam-8	Avg.
	600.3	600.8	600.8	600.8	600.8	600.5	600.8	600.8	
	Sam-9	Sam-10	Sam-11	Sam-12	Sam-13	Sam-14	Sam-15	Sam-16	601
	600.5	600.5	600.5	600.5	600.3	600.3	600.8	600.5	
	Sam-17	Sam-18	Sam-19	Sam-20	Sam-21	Sam-22	Sam-23	Sam-24	
600.5	601.0	600.8	600.8	600.5	600.3	600.0	600.5		
Specific Requirements as per Cl. 3.2.1 of IS 2185 (P-3): 1984								600	
Specific Tolerance as per Cl. 3.2.3 of IS 2185 (P-3):1984								± 5 mm	
Height, mm	Sam-1	Sam-2	Sam-3	Sam-4	Sam-5	Sam-6	Sam-7	Sam-8	Avg.
	200.2	199.8	200.0	200.8	200.2	200.2	200.5	200.2	
	Sam-9	Sam-10	Sam-11	Sam-12	Sam-13	Sam-14	Sam-15	Sam-16	200
	200.5	200.7	200.7	200.2	200.8	200.2	200.5	200.7	
	Sam-17	Sam-18	Sam-19	Sam-20	Sam-21	Sam-22	Sam-23	Sam-24	
200.3	200.7	200.3	200.5	200.2	200.5	200.0	200.3		
Specific Requirements as per Cl. 3.2.1 of IS 2185 (P-3): 1984								200	
Specific Tolerance as per Cl. 3.2.3 of IS 2185 (P-3):1984								± 3 mm	
Width, mm	Sam-1	Sam-2	Sam-3	Sam-4	Sam-5	Sam-6	Sam-7	Sam-8	Avg.
	99.7	99.7	99.7	99.4	99.4	99.6	99.7	99.6	
	Sam-9	Sam-10	Sam-11	Sam-12	Sam-13	Sam-14	Sam-15	Sam-16	100
	99.7	99.4	99.1	99.7	99.6	99.9	99.9	99.9	
	Sam-17	Sam-18	Sam-19	Sam-20	Sam-21	Sam-22	Sam-23	Sam-24	
99.9	100.0	99.7	99.4	99.7	99.6	99.9	99.7		
Specific Requirements as per Cl. 3.2.1 of IS 2185 (P-3): 1984								100	
Specific Tolerance as per Cl. 3.2.3 of IS 2185 (P-3):1984								± 3 mm	

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Cl. 8.3	<b>Block Density, kg/m<sup>3</sup></b>										P
Test Method: IS 6441 (P-1):1972 (RA-2012)											
<b>Moisture Content %</b>	Sam-1	Sam-2	Sam-3	Sam-4	Sam-5	Sam-6	Sam-7	Sam-8	Sam-9	Avg (Ȳ)	
Individual Readings	26.93	23.11	24.27	25.80	22.13	23.14	22.47	25.71	26.70	-	
Average (Test Series)	24.77			23.69			23.07			24.5	
<b>Block Density, kg/m<sup>3</sup></b>	Sam-1	Sam-2	Sam-3	Sam-4	Sam-5	Sam-6	Sam-7	Sam-8	Sam-9	Avg (Ȳ)	
Individual Readings	600.78	631.41	621.01	613.37	624.34	595.57	594.48	630.20	627.47	-	
Average (Test Series)	617.73			611.09			626.08			615	
Specific Requirements as per Cl. 8.3 of IS 2185 (P-3): 1984								551-650			
Criteria of conformity as per Cl. 11.2 of IS 2185 (P-3): 1984								Ȳ within a range of 551-650			

Cl. 8.4	<b>Compressive Strength, N/mm<sup>2</sup></b>										P
Test Method: IS 6441 (P-5):1972 (RA-2012)											
<b>Sample No.</b>	Sam-1	Sam-2	Sam-3	Sam-4	Sam-5	Sam-6	Sam-7	Sam-8	Sam-9		
<b>Moisture Content, %</b> (Individual Readings)	10.2	10.5	10.3	11.2	10.5	10.5	11.0	10.7	10.1		
<b>Bulk Density, kg/m<sup>3</sup></b> (Individual Readings)	618	616	616	622	621	621	618	615	618		
<b>Compressive Strength,</b> (Individual Readings)	4.17	4.65	4.34	4.35	4.39	4.39	4.12	4.18	4.42		
Average Compressive Strength (Test Series)	4.39			4.38			4.24				
<b>Sample No.</b>	Sam-10	Sam-11	Sam-12	Sam-13	Sam-14	Sam-15	Sam-16	Sam-17	Sam-18		
<b>Moisture Content, %</b> (Individual Readings)	10.2	9.9	10.1	10.3	10.5	10.9	10.1	11.1	11.1		
<b>Bulk Density, kg/m<sup>3</sup></b> (Individual Readings)	615	619	617	617	615	618	616	616	614		
<b>Compressive Strength,</b> (Individual Readings)	4.87	4.34	4.85	4.38	4.86	4.73	4.84	4.44	4.39		
Average Compressive Strength (Test Series)	4.69			4.66			4.56				

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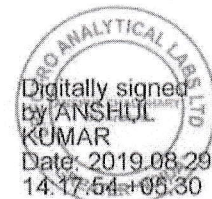
Cl. 8.4	<b>Compressive Strength, N/mm<sup>2</sup></b>									P
Test Method: IS 6441 (P-5):1972 (RA-2012)										
<b>Sample No.</b>	Sam-19	Sam-20	Sam-21	Sam-22	Sam-23	Sam-24	Sam-25	Sam-26	Sam-27	
<b>Moisture Content, % (Individual Readings)</b>	10.9	10.6	10.9	11.1	10.9	10.9	11.2	9.9	9.7	
<b>Bulk Density, kg/m<sup>3</sup> (Individual Readings)</b>	615	617	616	622	616	614	617	616	618	
<b>Compressive Strength, (Individual Readings)</b>	4.43	4.14	4.56	4.25	4.56	4.42	4.62	4.13	4.17	
<b>Average Compressive Strength (Test Series)</b>	4.37			4.41			4.31			
<b>Sample No.</b>	Sam-28	Sam-29	Sam-30	Sam-31	Sam-32	Sam-33	Sam-34	Sam-35	Sam-36	
<b>Moisture Content, % (Individual Readings)</b>	9.6	10.9	10.5	10.7	10.6	10.8	10.5	10.3	10.1	
<b>Bulk Density, kg/m<sup>3</sup> (Individual Readings)</b>	618	618	617	616	614	616	615	615	616	
<b>Compressive Strength, (Individual Readings)</b>	4.34	4.54	4.43	4.36	4.86	4.56	4.32	4.44	4.84	
<b>Average Compressive Strength (Test Series)</b>	4.43			4.59			4.53			
<b>Average Moisture Content, %</b>										10.5
<b>Average Bulk Density, kg/m<sup>3</sup></b>										617
<b>Average Compressive Strength, N/mm<sup>2</sup></b>										4.46
Average Compressive Strength as per Cl. 8.4 of IS 2185 (P-3):1984							4.0 Min			
Criteria of conformity as per Cl. 11.3 of IS 2185 (P-3): 1984							X-0.6R ≥ 4.0			

Cl. 8.6	<b>Drying Shrinkage, %</b>									P
Test Method: IS 6441 (P-2):1972 (RA-2012)										
<b>Drying Shrinkage, %</b>	Sam-1	Sam-2	Sam-3	Sam-4	Sam-5	Sam-6	Sam-7	Sam-8	Sam-9	<b>Avg</b>
	0.029	0.028	0.027	0.028	0.026	0.026	0.029	0.030	0.030	0.028
Specific Requirements as per Cl. 8.6 of IS 2185 (P-3): 1984								0.05		
Criteria of conformity as per Cl. 11.5 of IS 2185 (P-3): 1984								Yes		

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<b>Cl. 8.5</b>	<b>Thermal Conductivity in air dry condition, W/mK</b>			<b>P</b>
	<b>Test Method: IS 3346:1980</b>			
		<b>Sample-1</b>	<b>Sample-2</b>	<b>Sample-3</b>
Thickness of the specimen tested (Mean of Two Specimens), mm		25	25	25
Mass after drying of the two specimens used for the test (Total mass), gm		774	790	786
Temperature of drying, °C (oven dry Method)		105	105	105
Density, before test just after placing the samples in the apparatus, of the two specimens used for the test (mean for two specimens), kg/m <sup>3</sup>		605	618	615
Moisture as received, in the two specimens used for the test (mean for two specimens), %		10.3	10.1	10.2
Moisture regain, during test, of the two specimens used for the test (mean for two specimens), %		1.0	0.98	1.08
Hot face Temperature (mean for two specimens), °C		75	75	75
Cold face temperature (mean for two cold faces), °C		25	25	25
Mean temperature of the test (arithmetic mean of the hot and cold face temperature), °C		50	50	50
Orientation of plane of specimen ( Horizontal)		Horizontal	Horizontal	Horizontal
Thermal Conductivity in air dry Condition, W/mK		0.20	0.20	0.21
<b>Average Thermal Conductivity in air dry Condition, W/mK</b>		<b>0.20</b>		

-- End of Test Report --



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