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TEST REPORT

INVESTIGATION OF CLAY BRICKS FROM OCON BRICKS

Date:	9 February 2017
Client:	Ocon Bricks
Attention:	Piet Gouws
Address:	Ocon Bricks PO Box 263657 Three Rivers 1935
Contract/Order Number:	Piet Gouws
Material:	40 x Ocon JEM Blocks FBA Bricks
Description of Tests:	<ul style="list-style-type: none"> • SANS 227: 2007 which includes: <ul style="list-style-type: none"> ○ Shape, appearance and colour ○ dimensions ○ warpage ○ water absorption ○ efflorescence ○ compressive strength ○ soundness
Report no.	C16-245 C
Lab Reference cr. No/s.	C16-245 C (C1 – C40)

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Technical Signatory:
M B Berger

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Laboratory Manager:
P du Toit

Date:

Date:

C16 – 245 C INVESTIGATION OF CLAY JEM BLOCKS FOR OCON BRICKS

1. INTRODUCTION

Ocon Bricks supplied Cermalab with 40 FBA JEM blocks for SANS 227 testing.

2. METHODS

Shape, appearance, texture and colour is done according to MSM-LM-WP-328, dimensions according to MSM-LM-WP-331, compressive strength according to MSM-LM-WP-330, efflorescence according to MSM-LM-WP-324, soundness according to MSM-LM-WP-327, warpage according to MSM-LM-WP-326 and water absorption according to MSM-LM-WP-325, testing are done all according to SANS 227:2007 with no deviations from test method.

These tests were based on SANS 227: 2007, which is a SANAS accredited procedure for this laboratory. These results pertain only to the material tested. Opinions and interpretations, where expressed, fall outside the SANAS scope of accreditation of this laboratory. The results form an integral part of this report and cannot be copied or duplicated without approval by Cermalab.

3. TEST RESULTS

Name	Class	Condition
JEM Block	FBA	Good

JEM Block FBA (Face Brick Aesthetic) – Units that are selected or produced for their durability and aesthetic effect deriving from nonuniformity of size, shape or colour.

3.1 Shape

All samples are rectangular, with two round perforations. There are no cavities or frogs.

3.2 Appearance

Sample name	Appearance
JEM Block	The samples are well fired with slight damage to the edges and corners. There are large sized pebbles present with no expansive particles of lime.
Average weight (kg)	3.24

3.3 Texture and colour

The texture of all samples is smooth. The colour of all samples are not uniform and were not compared to a sample panel.

3.4 Dimensions

Sample name	Dimensions	Stated work size (mm)	SABS requirement Individual size tolerances (mm)	Average size 32 units (mm)	SABS requirement Average size tolerances (mm)	Pass / Fail
JEM Block	Length	218	No requirement	218.55	No requirement	Pass
	Width	139	No requirement	139.13	No requirement	Pass
	Height	73	No requirement	73.37	No requirement	Pass

3.5 Efflorescence

Sample name	Number of units that exhibit efflorescence					
	Degrees of efflorescence					
	Nil	Slight	Moderate	Heavy	Serious	Pass/Fail
JEM Block	3	17	0	0	0	Pass
SABS Standard		20	0	0		



Figure 3.5.1: Samples after efflorescence testing

3.6 Soundness

Sample name	Pop out 2-5 mm	Pop out 5-10 mm	Pop out > 10 mm	Pass / Fail
JEM Block	0	0	0	Pass
SABS Standard	2 samples x 2 pop-outs	OR 1 sample x 2 pop-outs		

3.7 Cold Compressive Strength

	Length (mm)	Breadth (mm)	CCS (MPa)	JEM BLOCKS	
1	219.50	139.50	37.05	Average CCS (MPa)	29.98
2	219.50	139.50	19.05	Std dev	5.71
3	217.00	140.50	30.09	Max CCS (MPa)	37.05
4	218.50	142.00	26.94	Min CCS (MPa)	19.05
5	221.50	141.00	22.51	SABS Nominal requirement	12.5
6	218.00	141.00	35.71	Pass/Fail	Pass
7	217.50	139.50	24.21	SABS Average requirement	17.0
8	217.50	138.50	35.48	Pass/Fail	Pass
9	219.50	140.00	33.81		
10	217.50	133.50	30.20		
11	218.00	139.00	31.29		
12	216.50	139.50	33.39		



Figure 3.7.1: Samples as received and numbered for reference on CCS

3.8 Warpage

Warpage	JEM Block
Batch size	2.930
Average (mm)	1.032
STD deviation (mm)	4.750
Maximum (mm)	0.750
Minimum (mm)	2.930
SABS Requirement (mm)	No requirement (Agreed between supplier and purchaser)
Pass / Fail	Pass

3.9 Water absorption

Sample name	Water absorption 24 hrs (%)	Water absorption 5 hrs boil (%)	Saturation coefficient
JEM Block	14.43	17.65	0.82
SABS Requirement	No requirement (agreed between supplier and purchaser)	No requirement (agreed between supplier and purchaser)	No requirement (agreed between supplier and purchaser)

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