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Your ceramics technology partner

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Pages including cover:		7	

31 May 2021

Dear Albert,

Here is your report on the investigation of the Face Brick Aesthetic (FBA) bricks which we received on the 13 May 2021. This work was carried out as requested and has been allocated Cermalab project number C21-002A.

Please contact me if you have any questions.

Regards,


Compiled by:
Dries van Vuuren
(Operations Manager)

Cermalab Materials Testing Laboratory


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TEST REPORT

INVESTIGATION OF CLAY BRICKS FROM NAMCLAY BRICKS AND PAVERS

Date:	31 May 2021
Client:	Namclay Bricks & Pavers
Attention:	Albert Weitz
Address:	Main Road Uis Namibia
Contract/order number	Albert Weitz
Material:	40 x Clay Face bricks (FBA)
Description of Tests:	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.	C21-002A
Lab Reference cr. No/s.	C21-002A


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Technical Signatory:
M B Berger

Date: 31/05/2021


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Operations Manager:
D van Vuuren

Date: 31/05/2021

1. INTRODUCTION

Namclay Bricks & Pavers provided Cermalab with 40 Clay Face bricks (FBA) for SANS 227 testing.

2. METHODS

Shape, appearance, texture and colour is done according to CER-WP-328 (Rev. 0), dimensions according to CER-WP-331 (Rev. 0), compressive strength according to CER-WP-330 (Rev. 0), efflorescence according to CER-WP-324 (Rev. 0), soundness according to CER-WP-327 (Rev. 0), warpage according to CER-WP-326 (Rev. 0) and water absorption according to CER-WP-325 (Rev. 0). Testing is done according to SANS 227:2007 with no deviation from test methods. These procedures are SANAS accredited for this laboratory. The tests were carried out between the 13th May 2021 and the 31st May 2021.

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
Face Brick (FBA)	FBA	Good

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

3.1 Shape

All samples are rectangular, without perforations, cavities or frogs.

3.2 Appearance

Sample name	Appearance
Face Brick (FBA)	The samples are well fired. It has slight damage to some of the edges and corners. There are no large sized pebbles present and there are no expansive particles of lime.
Average weight (kg)	2,7

3.3 Texture and colour

The texture of all samples is satin (smooth). The colours of the samples are not uniform and they were not compared to a sample panel.

3.4 Dimensions

Sample name	Dimensions	Stated work size (mm)	SANS requirement Individual size tolerances (mm)	Average size 32 units (mm)	SANS requirement Average size tolerances (mm)	Pass / Fail
Face Brick (FBA)	Length	217,0	No requirement	217,1	No requirement	Pass
	Width	107,0	No requirement	107,5	No requirement	Pass
	Height	73,0	No requirement	73,6	No requirement	Pass

3.5 Efflorescence

Sample name	Number of units that exhibit efflorescence					
	Degrees of efflorescence					
	Nil	Slight	Moderate	Heavy	Serious	Pass/Fail
Face Brick (FBA)	13	7	0	0	0	Pass
SANS Standard		10	10			



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
Face Brick (FBA)	0	0	0	Pass
SANS 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)	Face Brick (FBA)	
1	219,0	108,5	44,32	Average CCS (MPa)	43,2
2	216,5	108,5	30,26	Std dev	10,24
3	214,5	106,0	31,88	Max CCS (MPa)	58,11
4	220,0	109,5	29,68	Min CCS (MPa)	29,68
5	216,5	105,0	51,86	SANS Individual requirement	12,5
6	218,0	108,0	58,11	Pass/Fail	Pass
7	217,0	110,0	57,18	SANS Average requirement	17,0
8	219,5	105,5	54,26	Pass/Fail	Pass
9	214,5	105,0	40,04		
10	217,5	110,5	38,34		
11	217,5	107,5	38,34		
12	217,5	106,0	43,90		



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

3.8 Warpage

Warpage	Face Brick (FBA)
Batch size	32
Average (mm)	1,1
STD deviation (mm)	0,52
Maximum (mm)	2,25
Minimum (mm)	0,00
SANS 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
Face Brick (FBA)	9,6	13,1	0,73
SANS Requirement	No requirement (agreed between supplier and purchaser)	No requirement (agreed between supplier and purchaser)	No requirement (agreed between supplier and purchaser)

These results pertain only to the material tested.

----- END OF REPORT -----