


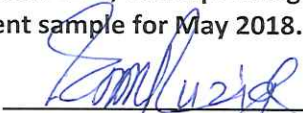


SIMBA
CEMENT
STRENGTH WITHIN

DATE: 04/07/2018

CERTIFICATE OF CHEMICAL & PHYSICAL TESTS
(SIMBA Brand Portland Composite Cement)

Sampled and tested in accordance with the requirements of Tanzania Bureau of Standards 'No. TZS 760 : 2002''

PARAMETER	TEST RESULTS	SPECIFICATION
		TZS 727-1:2002 = EN 197-1:2000
CHEMICAL TESTS:		CEM II/B-M 32.5R
Loss on Ignition (%)	10.17	
SiO ₂ (%)	18.39	
Al ₂ O ₃ (%)	4.41	
Fe ₂ O ₃ (%)	2.82	
CaO (%)	60.42	
MgO (%)	1.29	5.0 Max.
SO ₃ (%)	2.20	3.5 Max.
K ₂ O (%)	0.14	
Na ₂ O (%)	0.12	
Cl (%)	0.01	0.1 Max
Total (%)	99.97	
Insoluble Residue (IR) (%)	5.33	
C3A (%)	6.13	
Freelime (CaO _f) (%)	2.15	
PHYSICAL TESTS:		
Air permeability - Blaine (cm ² /g)	4769	
Compressive Strength (Mpa):	ISO 2days	≥10 N/mm ²
	ISO 7days	-
	ISO 28days	≥32.5 N/mm ² ; ≤52.5 N/mm ²
Vicat test: Initial setting (minutes)	90	≥75 Minutes
Final setting (minutes)	210	-
Expansion (Lechatelier's) (mm)	2.0	10 Max.
REMARKS: The average temperature during the test did not exceed 22°C; corresponding to 71.6°F. The test results shown are monthly composite cement sample for May 2018.		
 PLANT MANAGER		 QUALITY ASSURANCE MANAGER



TANGA CEMENT PLC

Head Office:

Pongwe Factory Area, P O Box 5053, Tanga, Tanzania
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Directors:

L. Masha~ (Chairperson), P. Rutabanzibwa~ (Deputy Chairperson), R. Swart (Managing)**,
P. de Jager (CFO)**, K. Omar~, Rob. Wessels#**, T. Wagner#**, R. Mbilinyi~

Company Secretary:

Quresh Ganijee

**South African,

~ Independent Non-executive

Non-executive

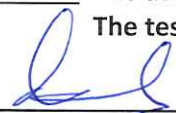
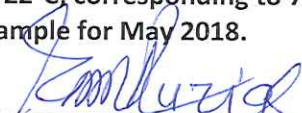


SIMBA
CEMENT
STRENGTH WITHIN

DATE: 04/07/2018

CERTIFICATE OF CHEMICAL & PHYSICAL TESTS (SIMBA Brand Portland Limestone Cement)

Sampled and tested in accordance with the requirements of Tanzania Bureau of Standards 'No. TZS 760 : 2002''

PARAMETER	TEST RESULTS	SPECIFICATION	
		TZS 727-1:2002 = EN 197-1:2000	
CHEMICAL TESTS:		CEM II/A-L 42.5N	
Loss on Ignition (%)	9.55		
SiO ₂ (%)	18.16		
Al ₂ O ₃ (%)	4.48		
Fe ₂ O ₃ (%)	2.71		
CaO (%)	60.60		
MgO (%)	1.14	5.0 Max.	
SO ₃ (%)	2.74	3.5 Max.	
K ₂ O (%)	0.16		
Na ₂ O (%)	0.14		
Cl (%)	0.01	0.1 Max	
Total (%)	99.69		
Insoluble Residue (IR) (%)	4.62		
C3A (%)	7.29		
Freelime (CaO _f) (%)	2.20		
PHYSICAL TESTS:			
Air permeability - Blaine (m ² /kg)	4544		
Compressive Strength (Mpa):	ISO 2days	14.1	≥10 N/mm ²
	ISO 7days	26.0	-
	ISO 28days	44.6	≥42.5 N/mm ² ; ≤62.5 N/mm ²
Vicat test: Initial setting (minutes)	100	≥60 Minutes	
Final setting (minutes)	200	-	
Expansion (Lechatelier's) (mm)	2.0	10 Max.	
Specific gravity (g/cc)	3.0		
REMARKS: The average temperature during the test did not exceed 22°C; corresponding to 71.6°F. The test results shown are monthly composite cement sample for May 2018.			
 PLANT MANAGER		 QUALITY ASSURANCE MANAGER	



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