

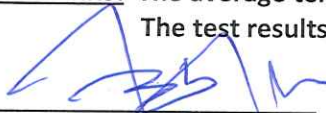
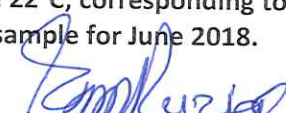


SIMBA
CEMENT
STRENGTH WITHIN

DATE: 03/08/2018

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 (%)	10.24	
SiO ₂ (%)	17.79	
Al ₂ O ₃ (%)	4.05	
Fe ₂ O ₃ (%)	2.65	
CaO (%)	62.21	
MgO (%)	1.14	5.0 Max.
SO ₃ (%)	1.98	3.5 Max.
K ₂ O (%)	0.02	
Na ₂ O (%)	0.40	
Cl (%)	0.01	0.1 Max
Total (%)	100.58	
PHYSICAL TESTS:		
Insoluble Residue (IR) (%)	5.38	
C3A (%)	6.25	
Freelime (CaO _f) (%)	2.29	
Air permeability - Blaine (cm ² /g)	4782	
Compressive Strength (Mpa): ISO 2days	12.1	≥10 N/mm ²
ISO 7days	24.8	-
ISO 28days	38.4	≥32.5 N/mm ² ; ≤52.5 N/mm ²
Vicat test: Initial setting (minutes)	90	≥75 Minutes
Final setting (minutes)	200	-
Expansion (Lechatelier's) (mm)	1.0	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 June 2018.		
 PLANT MANAGER		 QUALITY ASSURANCE MANAGER



TANGA CEMENT PLC

Head Office:

Pongwe Factory Area, P O Box 5053, Tanga, Tanzania
Tel: +255 27 2644 500-2 / 2610 600 / 784 644 500, Fax: +255 27 2646 148 / 2646 425

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

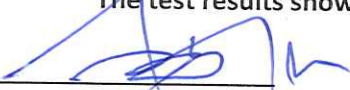
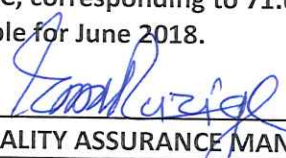


SIMBA
CEMENT
STRENGTH WITHIN

DATE: 03/08/2018

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 (%)	8.08		
SiO ₂ (%)	19.24		
Al ₂ O ₃ (%)	4.39		
Fe ₂ O ₃ (%)	2.76		
CaO (%)	61.74		
MgO (%)	1.24		5.0 Max.
SO ₃ (%)	2.01		3.5 Max.
K ₂ O (%)	0.11		
Na ₂ O (%)	0.15		
Cl (%)	0.01		0.1 Max
Total (%)	99.90		
Insoluble Residue (IR) (%)	4.59		
C3A (%)	6.97		
Freelime (CaO _f) (%)	2.18		
PHYSICAL TESTS:			
Air permeability - Blaine (cm ² /g)	4539		
Compressive Strength (Mpa):	ISO 2days	14.0	≥10 N/mm ²
	ISO 7days	27.2	-
	ISO 28days	47.2	≥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 June 2018.			
 PLANT MANAGER		 QUALITY ASSURANCE MANAGER	



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