



SIMBA
CEMENT
STRENGTH WITHIN

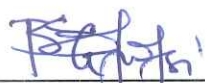
DATE: 02/05/2022

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'

PARAMETER	TEST RESULTS	SPECIFICATION
		TZS 727-1 = EN 197-1 CEM II/A-L 42.5N
CHEMICAL TESTS:		
Loss on Ignition (%)	9.10	
SiO ₂ (%)	17.70	
Al ₂ O ₃ (%)	5.20	
Fe ₂ O ₃ (%)	2.66	
CaO (%)	61.39	
MgO (%)	0.72	5.0 Max.
SO ₃ (%)	2.47	3.5 Max.
K ₂ O (%)	0.09	
Na ₂ O (%)	0.28	
Cl (%)	0.01	0.1 Max
TiO ₂ (%)	0.34	
P ₂ O ₅ (%)	0.04	
Total (%)	100.00	
Insoluble Residue (IR) (%)	2.65	
C3A (%)	9.28	
Freelime (CaO _f) (%)	1.85	
PHYSICAL TESTS:		
Air permeability - Blaine (cm ² /g)	5176	
Compressive Strength (Mpa):	ISO 2days	≥10 N/mm ²
	ISO 7days	-
	ISO 28days	≥42.5 N/mm ² ; ≤62.5 N/mm ²
Vicat test: Initial setting (minutes)	105	≥60 Minutes
Final setting (minutes)	125	-
Expansion (Lechatelier's) (mm)	1.0	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 March 2022.



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**, R. Mbiliiny*

Company Secretary:

Ouresh Ganjee*

*Tanzanian, **South African


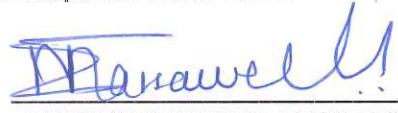


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CERTIFICATE OF CHEMICAL & PHYSICAL TESTS (SIMBA Brand Portland Composite Cement)

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

PARAMETER	TEST RESULTS	SPECIFICATION
		TZS 727-1 = EN 197-1
CHEMICAL TESTS:		CEM II/B-M 32.5R
Loss on Ignition (%)	8.59	
SiO ₂ (%)	17.84	
Al ₂ O ₃ (%)	5.19	
Fe ₂ O ₃ (%)	2.76	
CaO (%)	61.75	
MgO (%)	0.78	5.0 Max.
SO ₃ (%)	2.29	3.5 Max.
K ₂ O (%)	0.09	
Na ₂ O (%)	0.29	
Cl (%)	0.01	0.1 Max
TiO ₂ (%)	0.35	
P ₂ O ₅ (%)	0.04	
Total (%)	99.97	
Insoluble Residue (IR) (%)	2.72	
C3A (%)	9.09	
Freelime (CaO _f) (%)	2.01	
PHYSICAL TESTS:		
Air permeability - Blaine (cm ² /g)	4574	
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)	105	≥75 Minutes
Final setting (minutes)	125	-
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 March 2022.		
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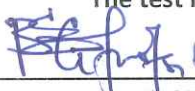
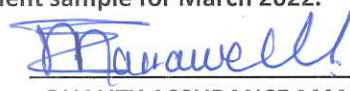


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PARAMETER	TEST RESULTS	SPECIFICATION
		TZS 727-1 = EN 197-1
CHEMICAL TESTS:		CEM II/B-M 32.5N
Loss on Ignition (%)	8.21	
SiO ₂ (%)	17.95	
Al ₂ O ₃ (%)	5.17	
Fe ₂ O ₃ (%)	2.76	
CaO (%)	62.03	
MgO (%)	0.78	5.0 Max.
SO ₃ (%)	2.32	3.5 Max.
K ₂ O (%)	0.10	
Na ₂ O (%)	0.28	
Cl (%)	0.01	0.1 Max
TiO ₂ (%)	0.35	
P ₂ O ₅ (%)	0.04	
Total (%)	<u>100.00</u>	
Insoluble Residue (IR) (%)	2.68	
C3A (%)	9.04	
Freelime (CaO _f) (%)	1.96	
PHYSICAL TESTS:		
Air permeability - Blaine (cm ² /g)	4574	
Compressive Strength (N/mm ²):		-
ISO 7days	29.8	≥16 N/mm ²
ISO 28days	39.9	≥32.5 N/mm ² ; ≤52.5 N/mm ²
Vicat test: Initial setting (minutes)	110	≥75 Minutes
Final setting (minutes)	139	-
Expansion (Lechatelier's) (mm)	1.0	10 Max.
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