



SIMBA
CEMENT
STRENGTH WITHIN

DATE: 02/05/2023

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 32.5N
Loss on Ignition (%)	10.87	
SiO ₂ (%)	16.79	
Al ₂ O ₃ (%)	4.76	
Fe ₂ O ₃ (%)	2.79	
CaO (%)	61.25	
MgO (%)	0.72	5.0 Max.
SO ₃ (%)	2.19	3.5 Max.
K ₂ O (%)	0.10	
Na ₂ O (%)	0.05	
Cl (%)	0.01	0.1 Max
TiO ₂ (%)	0.40	
P ₂ O ₅ (%)	0.07	
Total (%)	100.00	
Insoluble Residue (IR) (%)	2.53	
C3A (%)	7.90	
Free lime (CaO _f) (%)	1.97	
PHYSICAL TESTS:		
Air permeability - Blaine (cm ² /g)	4226	
Compressive Strength (N/mm ²):		
ISO 7days	26.9	≥16 N/mm ²
ISO 28days	36.7	≥32.5 N/mm ² ; ≤52.5 N/mm ²
Vicat test: Initial setting (minutes)	123	≥75 Minutes
Final setting (minutes)	149	-
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 2023.

PLANT MANAGER

QUALITY ASSURANCE MANAGER

TANGA CEMENT PLC

Head Office:

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

P Rutabanzibwa (Chairperson)*, R Swart (Managing)***, P de Jager (CFO)***, K Omar *, R Mbilinyi*

Company Secretary:

Quresh Ganijee *

* Tanzanian. ** South African




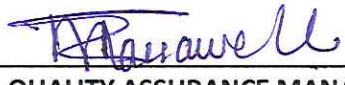


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Sampled and tested in accordance with the requirements of Tanzania Bureau of Standards 'No. TZS 760'

PARAMETER	TEST RESULTS	SPECIFICATION
		TZS 727-1 = EN 197-1
CHEMICAL TESTS:		CEM II/B-M 32.5R
Loss on Ignition (%)	10.36	
SiO ₂ (%)	17.01	
Al ₂ O ₃ (%)	4.88	
Fe ₂ O ₃ (%)	2.88	
CaO (%)	61.45	
MgO (%)	0.72	5.0 Max.
SO ₃ (%)	2.11	3.5 Max.
K ₂ O (%)	0.11	
Na ₂ O (%)	0.05	
Cl (%)	0.01	0.1 Max
TiO ₂ (%)	0.36	
P ₂ O ₅ (%)	0.05	
Total (%)	99.99	
Insoluble Residue (IR) (%)	2.52	
C3A (%)	8.06	
Freelime (CaO _f) (%)	2.07	
PHYSICAL TESTS:		
Air permeability - Blaine (cm ² /g)	4209	
Compressive Strength (Mpa): ISO 2days	14.4	≥10 N/mm ²
ISO 7days	28.7	-
ISO 28days	37.6	≥32.5 N/mm ² ; ≤52.5 N/mm ²
Vicat test: Initial setting (minutes)	129	≥75 Minutes
Final setting (minutes)	165	-
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 March 2023.		
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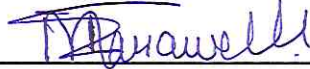


SIMBA
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STRENGTH WITHIN

DATE: 02/05/2023

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 (%)	9.44	
SiO ₂ (%)	17.44	
Al ₂ O ₃ (%)	4.97	
Fe ₂ O ₃ (%)	2.93	
CaO (%)	61.69	
MgO (%)	0.73	5.0 Max.
SO ₃ (%)	2.20	3.5 Max.
K ₂ O (%)	0.09	
Na ₂ O (%)	0.05	
Cl (%)	0.01	0.1 Max
TiO ₂ (%)	0.38	
P ₂ O ₅ (%)	0.07	
Total (%)	100.00	
Insoluble Residue (IR) (%)	2.50	
C3A (%)	8.22	
Free lime (CaO _f) (%)	2.12	
PHYSICAL TESTS:		
Air permeability - Blaine (cm ² /g)	4468	
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)	130	≥60 Minutes
Final setting (minutes)	167	-
Expansion (Lechatelier's) (mm)	1.0	10 Max.
Specific gravity (g/cc)	3.16	
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 2023.		
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