



SIMBA
CEMENT
STRENGTH WITHIN

DATE: 01/02/2023

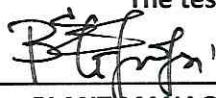
CERTIFICATE OF CHEMICAL & PHYSICAL TESTS (SIMBA Brand Portland Limestone Cement)

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
CHEMICAL TESTS:		CEM II/A-L 42.5N
Loss on Ignition (%)	8.77	
SiO ₂ (%)	18.05	
Al ₂ O ₃ (%)	5.19	
Fe ₂ O ₃ (%)	3.32	
CaO (%)	61.21	
MgO (%)	0.60	5.0 Max.
SO ₃ (%)	2.25	3.5 Max.
K ₂ O (%)	0.05	
Na ₂ O (%)	0.04	
Cl (%)	0.01	0.1 Max
TiO ₂ (%)	0.45	
P ₂ O ₅ (%)	0.06	
Total (%)	100.00	
Insoluble Residue (IR) (%)	2.45	
C3A (%)	8.14	
Free lime (CaO _f) (%)	2.18	
PHYSICAL TESTS:		
Air permeability - Blaine (cm ² /g)	4496	
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)	126	≥60 Minutes
	Final setting (minutes)	139
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 December 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:

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

Company Secretary:

Quresh Ganijee *

* 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
		CEM II/B-M 32.5R
CHEMICAL TESTS:		
Loss on Ignition (%)	9.32	
SiO ₂ (%)	17.74	
Al ₂ O ₃ (%)	5.25	
Fe ₂ O ₃ (%)	3.22	
CaO (%)	61.02	
MgO (%)	0.71	5.0 Max.
SO ₃ (%)	2.14	3.5 Max.
K ₂ O (%)	0.06	
Na ₂ O (%)	0.04	
Cl (%)	0.01	0.1 Max
TiO ₂ (%)	0.42	
P ₂ O ₅ (%)	0.07	
Total (%)	100.00	
Insoluble Residue (IR) (%)	2.54	
C3A (%)	8.47	
Freelime (CaO _f) (%)	2.08	
PHYSICAL TESTS:		
Air permeability - Blaine (cm ² /g)	4259	
Compressive Strength (Mpa):	ISO 2days	14.0
	ISO 7days	28.2
	ISO 28days	37.3
		≥10 N/mm ²
		-
		≥32.5 N/mm ² ; ≤52.5 N/mm ²
Vicat test: Initial setting (minutes)	116	≥75 Minutes
Final setting (minutes)	129	-
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 December 2022.		
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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 (%)	9.17		
SiO ₂ (%)	17.69		
Al ₂ O ₃ (%)	5.23		
Fe ₂ O ₃ (%)	3.34		
CaO (%)	61.10		
MgO (%)	0.70		5.0 Max.
SO ₃ (%)	2.12		3.5 Max.
K ₂ O (%)	0.07		
Na ₂ O (%)	0.05		
Cl (%)	0.01		0.1 Max
TiO ₂ (%)	0.46		
P ₂ O ₅ (%)	0.06		
Total (%)	100.00		
Insoluble Residue (IR) (%)	2.56		
C3A (%)	8.21		
Free lime (CaO _f) (%)	2.08		
PHYSICAL TESTS:			
Air permeability - Blaine (cm ² /g)	4139		
Compressive Strength (N/mm ²):			
ISO 7days	27.3	≥16 N/mm ²	
ISO 28days	36.5	≥32.5 N/mm ² ; ≤52.5 N/mm ²	
Vicat test: Initial setting (minutes)	101	≥75 Minutes	
Final setting (minutes)	139	-	
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.
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