



SIMBA
CEMENT
STRENGTH WITHIN

DATE: 06/04/2021

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 (%)	8.09	
SiO ₂ (%)	19.03	
Al ₂ O ₃ (%)	5.07	
Fe ₂ O ₃ (%)	2.69	
CaO (%)	61.18	
MgO (%)	0.83	5.0 Max.
SO ₃ (%)	2.35	3.5 Max.
K ₂ O (%)	0.11	
Na ₂ O (%)	0.00	
Cl (%)	0.01	0.1 Max
TiO ₂ (%)	0.33	
P ₂ O ₅ (%)	0.05	
Total (%)	99.74	
Insoluble Residue (IR) (%)	3.24	
C3A (%)	8.89	
Freelime (CaO _f) (%)	2.11	
PHYSICAL TESTS:		
Air permeability - Blaine (cm ² /g)	3662	
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)	120	≥75 Minutes
Final setting (minutes)	149	-
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 February 2021.		
 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. Mbiliyi*

Company Secretary: Quresh Ganjee*
*Tanzanian, **South African



SIMBA
CEMENT
STRENGTH WITHIN

DATE: 06/04/2021

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 (%)	6.70	
SiO ₂ (%)	19.42	
Al ₂ O ₃ (%)	5.23	
Fe ₂ O ₃ (%)	2.92	
CaO (%)	61.83	
MgO (%)	0.85	5.0 Max.
SO ₃ (%)	2.53	3.5 Max.
K ₂ O (%)	0.12	
Na ₂ O (%)	0.00	
Cl (%)	0.01	0.1 Max
TiO ₂ (%)	0.34	
P ₂ O ₅ (%)	0.05	
Total (%)	100.00	
Insoluble Residue (IR) (%)	2.54	
C3A (%)	8.92	
Freelime (CaO _f) (%)	1.62	
PHYSICAL TESTS:		
Air permeability - Blaine (cm ² /g)	4436	
Compressive Strength (Mpa):	ISO 2days	16.4
	ISO 7days	30.5
	ISO 28days	48.5
		≥10 N/mm ²
		-
		≥42.5 N/mm ² ; ≤62.5 N/mm ²
Vicat test: Initial setting (minutes)	149	≥60 Minutes
Final setting (minutes)	183	-
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 February 2021.		
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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 32.5N
Loss on Ignition (%)	10.20	
SiO ₂ (%)	18.01	
Al ₂ O ₃ (%)	4.81	
Fe ₂ O ₃ (%)	2.60	
CaO (%)	59.95	
MgO (%)	0.80	5.0 Max.
SO ₃ (%)	2.44	3.5 Max.
K ₂ O (%)	0.12	
Na ₂ O (%)	0.04	
Cl (%)	0.01	0.1 Max
TiO ₂ (%)	0.31	
P ₂ O ₅ (%)	0.04	
Total (%)	99.33	
Insoluble Residue (IR) (%)	3.58	
C3A (%)	8.35	
Freelime (CaO _f) (%)	2.52	
PHYSICAL TESTS:		
Air permeability - Blaine (cm ² /g)	4067	
Compressive Strength (N/mm ²):		-
ISO 7days	24.0	≥16 N/mm ²
ISO 28days	36.8	≥32.5 N/mm ² ; ≤52.5 N/mm ²
Vicat test: Initial setting (minutes)	120	≥75 Minutes
Final setting (minutes)	159	-
Expansion (Lechatelier's) (mm)	2.0	10 Max.
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