




SIMBA
CEMENT
STRENGTH WITHIN

DATE: 03/08/2021

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
CHEMICAL TESTS:		CEM II/A-L 42.5N
Loss on Ignition (%)	6.50	
SiO ₂ (%)	19.86	
Al ₂ O ₃ (%)	5.25	
Fe ₂ O ₃ (%)	2.76	
CaO (%)	60.85	
MgO (%)	0.73	5.0 Max.
SO ₃ (%)	2.49	3.5 Max.
K ₂ O (%)	0.13	
Na ₂ O (%)	0.04	
Cl (%)	0.01	0.1 Max
TiO ₂ (%)	0.34	
P ₂ O ₅ (%)	0.05	
Total (%)	<u>99.01</u>	
Insoluble Residue (IR) (%)	3.01	
C3A (%)	9.25	
Freelime (CaO _f) (%)	2.48	
PHYSICAL TESTS:		
Air permeability - Blaine (cm ² /g)	4048	
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)	124	≥60 Minutes
Final setting (minutes)	139	-
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 June 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. Mbilinyi*

Company Secretary:

Quresh Ganjee*

*Tanzanian, **South African



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PARAMETER	TEST RESULTS	SPECIFICATION
		TZS 727-1 = EN 197-1
CHEMICAL TESTS:		CEM II/B-M 32.5R
Loss on Ignition (%)	10.13	
SiO ₂ (%)	18.79	
Al ₂ O ₃ (%)	4.83	
Fe ₂ O ₃ (%)	2.82	
CaO (%)	58.80	
MgO (%)	0.75	5.0 Max.
SO ₃ (%)	2.25	3.5 Max.
K ₂ O (%)	0.13	
Na ₂ O (%)	0.11	
Cl (%)	0.01	0.1 Max
TiO ₂ (%)	0.33	
P ₂ O ₅ (%)	0.08	
Total (%)	99.03	
Insoluble Residue (IR) (%)	2.87	
C3A (%)	8.03	
Freelime (CaO _f) (%)	2.36	
PHYSICAL TESTS:		
Air permeability - Blaine (cm ² /g)	3849	
Compressive Strength (Mpa): ISO 2days	12.8	≥10 N/mm ²
ISO 7days	22.9	-
ISO 28days	38.5	≥32.5 N/mm ² ; ≤52.5 N/mm ²
Vicat test: Initial setting (minutes)	113	≥75 Minutes
Final setting (minutes)	140	-
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 June 2021.		
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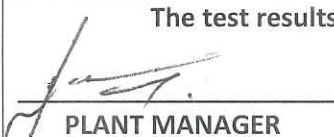



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			TZS 727-1 = EN 197-1
CHEMICAL TESTS:			CEM II/B-M 32.5N
Loss on Ignition (%)		7.28	
SiO ₂ (%)		18.84	
Al ₂ O ₃ (%)		4.80	
Fe ₂ O ₃ (%)		2.69	
CaO (%)		61.71	
MgO (%)		0.77	5.0 Max.
SO ₃ (%)		2.53	3.5 Max.
K ₂ O (%)		0.13	
Na ₂ O (%)		0.03	
Cl (%)		0.01	0.1 Max
TiO ₂ (%)		0.32	
P ₂ O ₅ (%)		0.05	
Total (%)		99.15	
Insoluble Residue (IR) (%)		1.97	
C3A (%)		8.17	
Freelime (CaO _f) (%)		2.55	
PHYSICAL TESTS:			
Air permeability - Blaine (cm ² /g)		3937	
Compressive Strength (N/mm ²):			-
	ISO 7days	23.6	≥16 N/mm ²
	ISO 28days	35.8	≥32.5 N/mm ² ; ≤52.5 N/mm ²
Vicat test: Initial setting (minutes)		113	≥75 Minutes
	Final setting (minutes)	137	-
Expansion (Lechatelier's) (mm)		3.0	10 Max.
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