

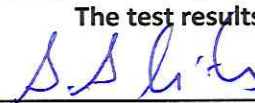
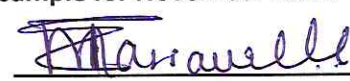


SIMBA
CEMENT
STRENGTH WITHIN

DATE: 02/01/2023

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 (%)	7.42	
SiO ₂ (%)	18.26	
Al ₂ O ₃ (%)	5.05	
Fe ₂ O ₃ (%)	3.60	
CaO (%)	62.18	
MgO (%)	0.70	5.0 Max.
SO ₃ (%)	2.01	3.5 Max.
K ₂ O (%)	0.06	
Na ₂ O (%)	0.11	
Cl (%)	0.01	0.1 Max
TiO ₂ (%)	0.53	
P ₂ O ₅ (%)	0.07	
Total (%)	100.00	
Insoluble Residue (IR) (%)	2.50	
C3A (%)	7.30	
Freelime (CaO _f) (%)	2.72	
PHYSICAL TESTS:		
Air permeability - Blaine (cm ² /g)	4512	
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)	123	≥60 Minutes
Final setting (minutes)	146	-
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 November 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

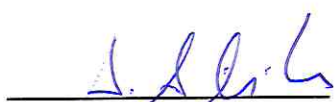
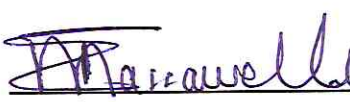


SIMBA
CEMENT
STRENGTH WITHIN

DATE: 02/01/2023

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 32.5R
Loss on Ignition (%)	9.06	
SiO ₂ (%)	17.39	
Al ₂ O ₃ (%)	5.21	
Fe ₂ O ₃ (%)	3.66	
CaO (%)	61.25	
MgO (%)	0.70	5.0 Max.
SO ₃ (%)	1.92	3.5 Max.
K ₂ O (%)	0.07	
Na ₂ O (%)	0.09	
Cl (%)	0.01	0.1 Max
TiO ₂ (%)	0.53	
P ₂ O ₅ (%)	0.08	
Total (%)	100.00	
Insoluble Residue (IR) (%)	2.58	
C3A (%)	7.62	
Freelime (CaO _f) (%)	2.72	
PHYSICAL TESTS:		
Air permeability - Blaine (cm ² /g)	4264	
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)	131	≥75 Minutes
Final setting (minutes)	154	-
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 November 2022.		
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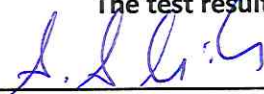
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CERTIFICATE OF CHEMICAL & PHYSICAL TESTS (SIMBA Brand Portland Composite Cement)

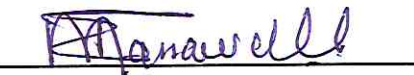
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PARAMETER	TEST RESULTS		SPECIFICATION
			TZS 727-1 = EN 197-1
CHEMICAL TESTS:			CEM II/B-M 32.5N
Loss on Ignition (%)	8.89		
SiO ₂ (%)	17.14		
Al ₂ O ₃ (%)	5.23		
Fe ₂ O ₃ (%)	3.55		
CaO (%)	61.86		
MgO (%)	0.69		5.0 Max.
SO ₃ (%)	1.90		3.5 Max.
K ₂ O (%)	0.06		
Na ₂ O (%)	0.08		
Cl (%)	0.01		0.1 Max
TiO ₂ (%)	0.53		
P ₂ O ₅ (%)	0.06		
Total (%)	100.00		
Insoluble Residue (IR) (%)	2.60		
C3A (%)	7.86		
Freelime (CaO _f) (%)	2.49		
PHYSICAL TESTS:			
Air permeability - Blaine (cm ² /g)	4182		
Compressive Strength (N/mm ²):			
ISO 7days	27.2	≥16 N/mm ²	
ISO 28days	37.0	≥32.5 N/mm ² ; ≤52.5 N/mm ²	
Vicat test: Initial setting (minutes)	122	≥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 November 2022.



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