

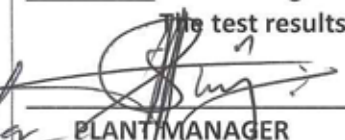
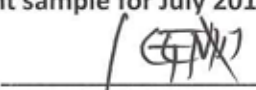


SIMBA
CEMENT
STRENGTH WITHIN

DATE: 11/09/2019

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 : 2002''

PARAMETER	TEST RESULTS	SPECIFICATION
		TZS 727-1:2002 = EN 197-1:2000 CEM II/B-M 32.5N
CHEMICAL TESTS:		
Loss on Ignition (%)	11.57	
SiO ₂ (%)	17.79	
Al ₂ O ₃ (%)	4.21	
Fe ₂ O ₃ (%)	2.79	
CaO (%)	61.10	
MgO (%)	0.78	5.0 Max.
SO ₃ (%)	2.05	3.5 Max.
K ₂ O (%)	0.12	
Na ₂ O (%)	0.03	
Cl (%)	0.01	0.1 Max
Total (%)	100.45	
C3A (%)	6.44	
Freelime (CaO _f) (%)	1.91	
PHYSICAL TESTS:		
Air permeability - Blaine (cm ² /g)	4692	
Compressive Strength (N/mm ²):		
ISO 7days	24.1	≥16 N/mm ²
ISO 28days	36.9	≥32.5 N/mm ² ; ≤52.5 N/mm ²
Vicat test: Initial setting (minutes)	90.0	≥75 Minutes
Final setting (minutes)	210.0	-
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 July 2019.		
 PLANT MANAGER		 QUALITY ASSURANCE MANAGER



TANGA CEMENT PLC

Head Office:

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

L. Masha~ (Chairperson), P Rutabanzibwa~ (Deputy Chairperson), R Swart (Managing)**,
P de Jager (CFO)**, K Omar~, Rob Wessels**, T Wagner**, R Mbilinyi~

Company Secretary:

Quresh Ganijee

**South African, ~ Independent Non-executive # Non-executive





SIMBA
CEMENT
STRENGTH WITHIN

DATE: 11/2019

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 : 2002''

PARAMETER	TEST RESULTS		SPECIFICATION
			TZS 727-1:2002 = EN 197-1:2000
CHEMICAL TESTS:			CEM II/B-M 32.5R
Loss on Ignition (%)		11.11	
SiO ₂ (%)		18.61	
Al ₂ O ₃ (%)		4.33	
Fe ₂ O ₃ (%)		2.83	
CaO (%)		60.43	
MgO (%)		0.76	5.0 Max.
SO ₃ (%)		1.96	3.5 Max.
K ₂ O (%)		0.12	
Na ₂ O (%)		0.02	
Cl (%)		0.01	0.1 Max
Total (%)		100.18	
Insoluble Residue (IR) (%)		5.64	
C3A (%)		6.69	
Freelime (CaO _f) (%)		1.83	
PHYSICAL TESTS:			
Air permeability - Blaine (cm ² /g)		4781	
Compressive Strength (Mpa):	ISO 2days	11.00	≥10 N/mm ²
	ISO 7days	23.33	-
	ISO 28days	36.6	≥32.5 N/mm ² ; ≤52.5 N/mm ²
Vicat test: Initial setting (minutes)		90.0	≥75 Minutes
	Final setting (minutes)	200.0	-
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 July 2019.			
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SIMBA
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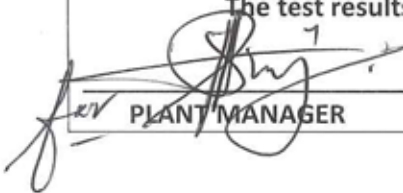
DATE: 11/09/2019

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 : 2002'

PARAMETER	TEST RESULTS	SPECIFICATION
		TZS 727-1:2002 = EN 197-1:2000 CEM II/A-L 42.5N
CHEMICAL TESTS:		
Loss on Ignition (%)	7.84	
SiO ₂ (%)	19.83	
Al ₂ O ₃ (%)	4.64	
Fe ₂ O ₃ (%)	2.92	
CaO (%)	62.20	
MgO (%)	0.74	5.0 Max.
SO ₃ (%)	2.04	3.5 Max.
K ₂ O (%)	0.11	
Na ₂ O (%)	0.02	
Cl (%)	0.02	0.1 Max
Total (%)	100.36	
Insoluble Residue (IR) (%)	4.61	
C3A (%)	7.44	
Freelime (CaO _f) (%)	2.78	
PHYSICAL TESTS:		
Air permeability - Blaine (cm ² /g)	4613	
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)	90.0	≥60 Minutes
Final setting (minutes)	180.0	-
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.
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PLANT MANAGER


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