

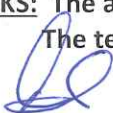
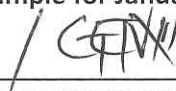


SIMBA
CEMENT
STRENGTH WITHIN

DATE: 06/03/2020

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 32.5N
Loss on Ignition (%)	8.57	
SiO ₂ (%)	20.47	
Al ₂ O ₃ (%)	5.27	
Fe ₂ O ₃ (%)	3.28	
CaO (%)	56.01	
MgO (%)	1.34	5.0 Max.
SO ₃ (%)	1.87	3.5 Max.
K ₂ O (%)	0.19	
Na ₂ O (%)	0.79	
Cl (%)	0.01	0.1 Max
TiO ₂ (%)	0.41	
P ₂ O ₅ (%)	0.08	
Total (%)	<u>99.99</u>	
C3A (%)	8.42	
Freelime (CaO _f) (%)	1.70	
PHYSICAL TESTS:		
Air permeability - Blaine (cm ² /g)	4458	
Compressive Strength (N/mm ²):		-
ISO 7days	26.0	≥16 N/mm ²
ISO 28days	39.7	≥32.5 N/mm ² ; ≤52.5 N/mm ²
Vicat test: Initial setting (minutes)	134	≥75 Minutes
Final setting (minutes)	164	-
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 January 2020.		
 _____ 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**, T Wagner**, R Mbilinyi~

Company Secretary: Quresh Ganjee

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

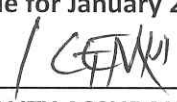


SIMBA
CEMENT
STRENGTH WITHIN

DATE: 06/03/2020

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 (%)	8.22	
SiO ₂ (%)	21.20	
Al ₂ O ₃ (%)	5.37	
Fe ₂ O ₃ (%)	3.62	
CaO (%)	55.22	
MgO (%)	1.44	5.0 Max.
SO ₃ (%)	1.76	3.5 Max.
K ₂ O (%)	0.20	
Na ₂ O (%)	0.79	
Cl (%)	0.01	0.1 Max
TiO ₂ (%)	0.48	
P ₂ O ₅ (%)	0.11	
Total (%)	100.00	
Insoluble Residue (IR) (%)	5.62	
C3A (%)	8.11	
Freelime (CaO _f) (%)	1.58	
PHYSICAL TESTS:		
Air permeability - Blaine (cm ² /g)	5025	
Compressive Strength (Mpa): ISO 2days	13.8	≥10 N/mm ²
ISO 7days	26.7	-
ISO 28days	40.2	≥32.5 N/mm ² ; ≤52.5 N/mm ²
Vicat test: Initial setting (minutes)	134	≥75 Minutes
Final setting (minutes)	162	-
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 January 2020.		
		
PLANT MANAGER		QUALITY ASSURANCE MANAGER



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Company Secretary:

Quresh Ganijee

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SIMBA
CEMENT
STRENGTH WITHIN

DATE: 06/03/2020

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	
CHEMICAL TESTS:			CEM II/A-L 42.5N	
Loss on Ignition (%)		8.24		
SiO ₂ (%)		18.86		
Al ₂ O ₃ (%)		4.99		
Fe ₂ O ₃ (%)		2.63		
CaO (%)		60.30		
MgO (%)		0.76		5.0 Max.
SO ₃ (%)		1.38		3.5 Max.
K ₂ O (%)		0.16		
Na ₂ O (%)		0.31		
Cl (%)		0.01		0.1 Max
TiO ₂ (%)		0.35		
P ₂ O ₅ (%)		0.03		
Total (%)		100.00		
Insoluble Residue (IR) (%)		4.59		
C3A (%)		8.78		
Freelime (CaO _f) (%)		1.98		
PHYSICAL TESTS:				
Air permeability - Blaine (cm ² /g)		5131		
Compressive Strength (Mpa):	ISO 2days	19.4		≥10 N/mm ²
	ISO 7days	36.5		-
	ISO 28days	53.9		≥42.5 N/mm ² ; ≤62.5 N/mm ²
Vicat test: Initial setting (minutes)		130		≥60 Minutes
	Final setting (minutes)	178		-
Expansion (Lechatelier's) (mm)		0.0		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 January 2020.				
				
PLANT MANAGER		QUALITY ASSURANCE MANAGER		



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