


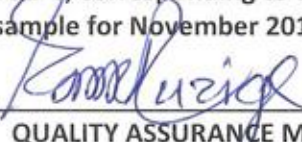


SIMBA
CEMENT
STRENGTH WITHIN

DATE: 09/01/2020

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 (%)		3.82	
SiO ₂ (%)		23.82	
Al ₂ O ₃ (%)		5.80	
Fe ₂ O ₃ (%)		4.59	
CaO (%)		58.41	
MgO (%)		0.73	5.0 Max.
SO ₃ (%)		1.41	3.5 Max.
K ₂ O (%)		0.22	
Na ₂ O (%)		0.27	
Cl (%)		0.01	0.1 Max
Total (%)		101.46	
Insoluble Residue (IR) (%)		5.48	
C3A (%)		7.61	
Freelime (CaO _f) (%)		1.47	
PHYSICAL TESTS:			
Air permeability - Blaine (cm ² /g)		4329	
Compressive Strength (Mpa):	ISO 2days	11.6	≥10 N/mm ²
	ISO 7days	23.4	-
	ISO 28days	42.4	≥32.5 N/mm ² ; ≤52.5 N/mm ²
Vicat test: Initial setting (minutes)		141	≥75 Minutes
	Final setting (minutes)	144	-
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 2019.			
 _____ PLANT MANAGER		 _____ QUALITY ASSURANCE MANAGER	



TANGA CEMENT PLC

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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 Mbillyni-

Company Secretary:

Quresh Ganjjee

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


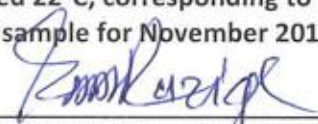


SIMBA
CEMENT
STRENGTH WITHIN

DATE: 09/01/2020

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 (%)	5.22	
SiO ₂ (%)	22.85	
Al ₂ O ₃ (%)	5.20	
Fe ₂ O ₃ (%)	4.06	
CaO (%)	58.91	
MgO (%)	0.89	5.0 Max.
SO ₃ (%)	1.61	3.5 Max.
K ₂ O (%)	0.19	
Na ₂ O (%)	0.27	
Cl (%)	0.01	0.1 Max
Total (%)	101.62	
C3A (%)	6.92	
Freelime (CaO _f) (%)	1.61	
PHYSICAL TESTS:		
Air permeability - Blaine (cm ² /g)	4786	
Compressive Strength (N/mm ²):		
ISO 7days	24.6	≥16 N/mm ²
ISO 28days	42.0	≥32.5 N/mm ² ; ≤52.5 N/mm ²
Vicat test: Initial setting (minutes)	132	≥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 November 2019.		
		
PLANT MANAGER		QUALITY ASSURANCE MANAGER



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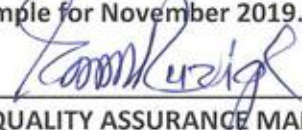


SIMBA
CEMENT
STRENGTH WITHIN

DATE: 09/01/2020

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 (%)	8.63			
SiO ₂ (%)	18.73			
Al ₂ O ₃ (%)	4.56			
Fe ₂ O ₃ (%)	2.96			
CaO (%)	61.40			
MgO (%)	0.85		5.0 Max.	
SO ₃ (%)	1.15		3.5 Max.	
K ₂ O (%)	0.14			
Na ₂ O (%)	0.07			
Cl (%)	0.01		0.1 Max	
Total (%)	101.27			
Insoluble Residue (IR) (%)	4.32			
C3A (%)	7.08			
Freelime (CaO _f) (%)	2.37			
PHYSICAL TESTS:				
Air permeability - Blaine (cm ² /g)	4671			
Compressive Strength (Mpa):	ISO 2days	15.0	≥10 N/mm ²	
	ISO 7days	25.0	-	
	ISO 28days	47.3	≥42.5 N/mm ² ; ≤62.5 N/mm ²	
Vicat test: Initial setting (minutes)	124		≥60 Minutes	
Final setting (minutes)	151		-	
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 2019.				
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