

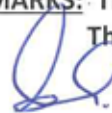
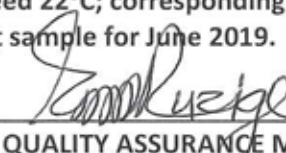


**SIMBA**  
**CEMENT**  
STRENGTH WITHIN

DATE: 30/07/2019

## 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
<b>CHEMICAL TESTS:</b>		CEM II/B-M 32.5N
Loss on Ignition (%)	10.77	
SiO <sub>2</sub> (%)	18.02	
Al <sub>2</sub> O <sub>3</sub> (%)	4.19	
Fe <sub>2</sub> O <sub>3</sub> (%)	2.72	
CaO (%)	61.12	
MgO (%)	0.72	5.0 Max.
SO <sub>3</sub> (%)	1.97	3.5 Max.
K <sub>2</sub> O (%)	0.12	
Na <sub>2</sub> O (%)	0.03	
Cl (%)	0.01	0.1 Max
<b>Total (%)</b>	<b>99.67</b>	
C3A (%)	6.51	
Freelime (CaO <sub>f</sub> ) (%)	2.68	
<b>PHYSICAL TESTS:</b>		
Air permeability - Blaine (cm <sup>2</sup> /g)	4729	
Compressive Strength (N/mm <sup>2</sup> ):		-
ISO 7days	25.7	≥16 N/mm <sup>2</sup>
ISO 28days	38.0	≥32.5 N/mm <sup>2</sup> ; ≤52.5 N/mm <sup>2</sup>
Vicat test: Initial setting (minutes)	80.0	≥75 Minutes
Final setting (minutes)	180.0	-
Expansion (Lechatelier's) (mm)	1.0	10 Max.
<b>REMARKS:</b> 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 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 Mbiliyi~

**Company Secretary:**

Quresh Ganijee

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

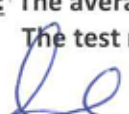
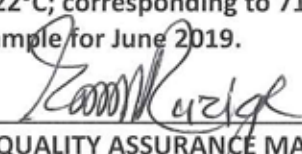


**SIMBA**  
**CEMENT**  
STRENGTH WITHIN

DATE: 30/07/2019

**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 32.5R
<b>CHEMICAL TESTS:</b>		
Loss on Ignition (%)	9.23	
SiO <sub>2</sub> (%)	19.71	
Al <sub>2</sub> O <sub>3</sub> (%)	4.60	
Fe <sub>2</sub> O <sub>3</sub> (%)	2.80	
CaO (%)	59.94	
MgO (%)	0.71	5.0 Max.
SO <sub>3</sub> (%)	2.02	3.5 Max.
K <sub>2</sub> O (%)	0.11	
Na <sub>2</sub> O (%)	0.02	
Cl (%)	0.01	0.1 Max
<b>Total (%)</b>	<b>99.15</b>	
<b>PHYSICAL TESTS:</b>		
Insoluble Residue (IR) (%)	5.83	
C3A (%)	7.46	
Freelime (CaO <sub>f</sub> ) (%)	2.73	
Air permeability - Blaine (cm <sup>2</sup> /g)	4766	
Compressive Strength (Mpa):	ISO 2days	≥10 N/mm <sup>2</sup>
	ISO 7days	-
	ISO 28days	≥32.5 N/mm <sup>2</sup> ; ≤52.5 N/mm <sup>2</sup>
Vicat test: Initial setting (minutes)	90.0	≥75 Minutes
Final setting (minutes)	190.0	-
Expansion (Lechatelier's) (mm)	1.0	10 Max.
<b>REMARKS:</b> 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 2019.		
 PLANT MANAGER		 QUALITY ASSURANCE MANAGER



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Quresh Ganjee

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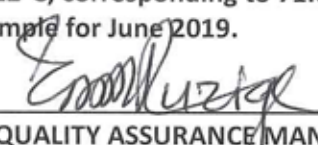


**SIMBA**  
**CEMENT**  
STRENGTH WITHIN

DATE: 30/07/2019

## 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
<b>CHEMICAL TESTS:</b>		CEM II/A-L 42.5N
Loss on Ignition (%)	8.28	
SiO <sub>2</sub> (%)	19.38	
Al <sub>2</sub> O <sub>3</sub> (%)	4.72	
Fe <sub>2</sub> O <sub>3</sub> (%)	3.00	
CaO (%)	60.92	
MgO (%)	0.67	5.0 Max.
SO <sub>3</sub> (%)	1.94	3.5 Max.
K <sub>2</sub> O (%)	0.16	
Na <sub>2</sub> O (%)	0.12	
Cl (%)	0.03	0.1 Max
<b>Total (%)</b>	<b>99.22</b>	
Insoluble Residue (IR) (%)	4.61	
C3A (%)	7.44	
Freelime (CaO <sub>f</sub> ) (%)	2.78	
<b>PHYSICAL TESTS:</b>		
Air permeability - Blaine (cm <sup>2</sup> /g)	4613	
Compressive Strength (Mpa):	ISO 2days	≥10 N/mm <sup>2</sup>
	ISO 7days	-
	ISO 28days	≥42.5 N/mm <sup>2</sup> ; ≤62.5 N/mm <sup>2</sup>
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	
<b>REMARKS:</b> 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 2019.		
 _____ <b>PLANT MANAGER</b>		 _____ <b>QUALITY ASSURANCE MANAGER</b>



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