

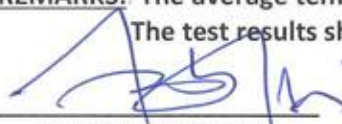
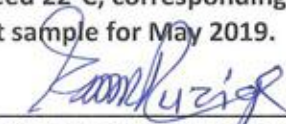


**SIMBA**  
**CEMENT**  
STRENGTH WITHIN

DATE: 03/07/2019

**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 32.5N
<b>CHEMICAL TESTS:</b>		
Loss on Ignition (%)	8.44	
SiO <sub>2</sub> (%)	20.42	
Al <sub>2</sub> O <sub>3</sub> (%)	4.76	
Fe <sub>2</sub> O <sub>3</sub> (%)	3.37	
CaO (%)	57.04	
MgO (%)	1.95	5.0 Max.
SO <sub>3</sub> (%)	2.07	3.5 Max.
K <sub>2</sub> O (%)	0.13	
Na <sub>2</sub> O (%)	0.08	
Cl (%)	0.02	0.1 Max
<b>Total (%)</b>	<b>98.26</b>	
C3A (%)	6.92	
Freelime (CaO <sub>f</sub> ) (%)	1.98	
<b>PHYSICAL TESTS:</b>		
Air permeability - Blaine (cm <sup>2</sup> /g)	4736	
Compressive Strength (N/mm <sup>2</sup> ):		
ISO 7days	27.0	≥16 N/mm <sup>2</sup>
ISO 28days	44.0	≥32.5 N/mm <sup>2</sup> ; ≤52.5 N/mm <sup>2</sup>
Vicat test: Initial setting (minutes)	90	≥75 Minutes
Final setting (minutes)	190	-
Expansion (Lechatelier's) (mm)	0.0	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 May 2019.		
 PLANT MANAGER		 QUALITY ASSURANCE MANAGER



**TANGA CEMENT PLC**

**Head Office:**

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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

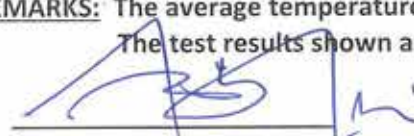
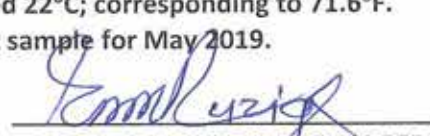


**SIMBA**  
**CEMENT**  
STRENGTH WITHIN

DATE: 03/07/2019

**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 (%)	8.39	
SiO <sub>2</sub> (%)	21.00	
Al <sub>2</sub> O <sub>3</sub> (%)	4.75	
Fe <sub>2</sub> O <sub>3</sub> (%)	3.49	
CaO (%)	57.25	
MgO (%)	1.17	5.0 Max.
SO <sub>3</sub> (%)	1.97	3.5 Max.
K <sub>2</sub> O (%)	0.13	
Na <sub>2</sub> O (%)	0.09	
Cl (%)	0.01	0.1 Max
<b>Total (%)</b>	<b>98.24</b>	
<b>PHYSICAL TESTS:</b>		
Insoluble Residue (IR) (%)	5.92	
C3A (%)	6.69	
Freelime (CaO <sub>f</sub> ) (%)	2.01	
Air permeability - Blaine (cm <sup>2</sup> /g)	4772	
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)	100	≥75 Minutes
Final setting (minutes)	190	-
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 May 2019.		
 <b>PLANT MANAGER</b>		 <b>QUALITY ASSURANCE MANAGER</b>



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**Company Secretary:** Quresh Ganijee

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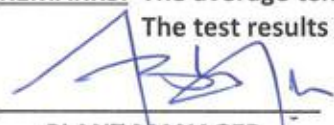
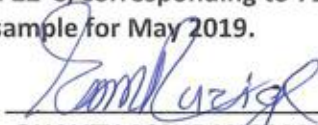


**SIMBA**  
**CEMENT**  
STRENGTH WITHIN

DATE: 03/07/2019

## 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 (%)	8.91	
SiO <sub>2</sub> (%)	19.12	
Al <sub>2</sub> O <sub>3</sub> (%)	4.48	
Fe <sub>2</sub> O <sub>3</sub> (%)	2.83	
CaO (%)	60.44	
MgO (%)	0.76	5.0 Max.
SO <sub>3</sub> (%)	1.97	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>98.64</b>	
Insoluble Residue (IR) (%)	4.72	
C3A (%)	7.09	
Freelime (CaO <sub>f</sub> ) (%)	2.18	
<b>PHYSICAL TESTS:</b>		
Air permeability - Blaine (cm <sup>2</sup> /g)	4385	
Compressive Strength (Mpa): ISO 2days	17.4	≥10 N/mm <sup>2</sup>
ISO 7days	33.8	-
ISO 28days	53.8	≥42.5 N/mm <sup>2</sup> ; ≤62.5 N/mm <sup>2</sup>
Vicat test: Initial setting (minutes)	100	≥60 Minutes
Final setting (minutes)	200	-
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 May 2019.		
 PLANT MANAGER		 QUALITY ASSURANCE MANAGER



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