


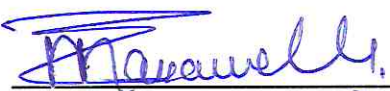


**SIMBA**  
**CEMENT**  
STRENGTH WITHIN

**DATE: 01/08/2022**

**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'

PARAMETER	TEST RESULTS	SPECIFICATION
		TZS 727-1 = EN 197-1
<b>CHEMICAL TESTS:</b>		CEM II/B-M 32.5R
Loss on Ignition (%)	8.52	
SiO <sub>2</sub> (%)	18.21	
Al <sub>2</sub> O <sub>3</sub> (%)	5.53	
Fe <sub>2</sub> O <sub>3</sub> (%)	2.76	
CaO (%)	61.25	
MgO (%)	0.85	5.0 Max.
SO <sub>3</sub> (%)	2.11	3.5 Max.
K <sub>2</sub> O (%)	0.11	
Na <sub>2</sub> O (%)	0.26	
Cl (%)	0.01	0.1 Max
TiO <sub>2</sub> (%)	0.35	
P <sub>2</sub> O <sub>5</sub> (%)	0.04	
<b>Total (%)</b>	<b>99.99</b>	
Insoluble Residue (IR) (%)	2.64	
C3A (%)	9.99	
Freelime (CaO <sub>f</sub> ) (%)	1.76	
<b>PHYSICAL TESTS:</b>		
Air permeability - Blaine (cm <sup>2</sup> /g)	4182	
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)	141	≥75 Minutes
Final setting (minutes)	157	-
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 2022.		
 <b>PLANT MANAGER</b>		 <b>QUALITY ASSURANCE MANAGER</b>



**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\*\*, R. Mbilinyi\*

**Company Secretary:** Quresh Ganijee\*

\*Tanzanian, \*\*South African



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

**DATE: 01/08/2022**

## CERTIFICATE OF CHEMICAL & PHYSICAL TESTS (SIMBA Brand Portland Composite Cement)

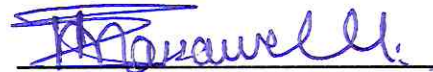
Sampled and tested in accordance with the requirements of Tanzania Bureau of Standards 'No. TZS 760'

PARAMETER	TEST RESULTS		SPECIFICATION
			TZS 727-1 = EN 197-1
<b>CHEMICAL TESTS:</b>			CEM II/B-M 32.5N
Loss on Ignition (%)		8.46	
SiO <sub>2</sub> (%)		18.10	
Al <sub>2</sub> O <sub>3</sub> (%)		5.50	
Fe <sub>2</sub> O <sub>3</sub> (%)		2.79	
CaO (%)		61.39	
MgO (%)		0.87	5.0 Max.
SO <sub>3</sub> (%)		2.14	3.5 Max.
K <sub>2</sub> O (%)		0.11	
Na <sub>2</sub> O (%)		0.25	
Cl (%)		0.01	0.1 Max
TiO <sub>2</sub> (%)		0.35	
P <sub>2</sub> O <sub>5</sub> (%)		0.03	
<b>Total (%)</b>		<b>99.99</b>	
Insoluble Residue (IR) (%)		2.62	
C3A (%)		9.86	
Freelime (CaO <sub>f</sub> ) (%)		1.84	
<b>PHYSICAL TESTS:</b>			
Air permeability - Blaine (cm <sup>2</sup> /g)		4158	
Compressive Strength (N/mm <sup>2</sup> ):			-
ISO 7days		27.8	≥16 N/mm <sup>2</sup>
ISO 28days		38.2	≥32.5 N/mm <sup>2</sup> ; ≤52.5 N/mm <sup>2</sup>
Vicat test: Initial setting (minutes)		136	≥75 Minutes
Final setting (minutes)		151	-
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 June 2022.



PLANT MANAGER



QUALITY ASSURANCE MANAGER



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\*Tanzanian, \*\*South African







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

DATE: 01/08/2022

## 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'

PARAMETER	TEST RESULTS	SPECIFICATION
		TZS 727-1 = EN 197-1
<b>CHEMICAL TESTS:</b>		CEM II/A-L 42.5N
Loss on Ignition (%)	9.93	
SiO <sub>2</sub> (%)	18.05	
Al <sub>2</sub> O <sub>3</sub> (%)	5.53	
Fe <sub>2</sub> O <sub>3</sub> (%)	2.66	
CaO (%)	60.15	
MgO (%)	0.72	5.0 Max.
SO <sub>3</sub> (%)	2.25	3.5 Max.
K <sub>2</sub> O (%)	0.10	
Na <sub>2</sub> O (%)	0.24	
Cl (%)	0.01	0.1 Max
TiO <sub>2</sub> (%)	0.34	
P <sub>2</sub> O <sub>5</sub> (%)	0.04	
<b>Total (%)</b>	<b><u>100.01</u></b>	
Insoluble Residue (IR) (%)	2.10	
C3A (%)	10.16	
Freelime (CaO <sub>f</sub> ) (%)	1.99	
<b>PHYSICAL TESTS:</b>		
Air permeability - Blaine (cm <sup>2</sup> /g)	4468	
Compressive Strength (Mpa): ISO 2days	18.0	≥10 N/mm <sup>2</sup>
ISO 7days	35.6	-
ISO 28days	49.5	≥42.5 N/mm <sup>2</sup> ; ≤62.5 N/mm <sup>2</sup>
Vicat test: Initial setting (minutes)	143	≥60 Minutes
Final setting (minutes)	169	-
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 2022.		
 _____ PLANT-MANAGER	 _____ QUALITY ASSURANCE MANAGER	



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