

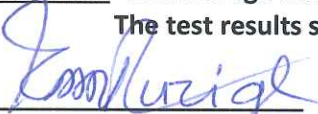



**SIMBA  
CEMENT**  
STRENGTH WITHIN

**DATE: 03/02/2022**

## 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 (%)	8.07	
SiO <sub>2</sub> (%)	19.19	
Al <sub>2</sub> O <sub>3</sub> (%)	5.30	
Fe <sub>2</sub> O <sub>3</sub> (%)	2.85	
CaO (%)	60.23	
MgO (%)	0.84	5.0 Max.
SO <sub>3</sub> (%)	2.36	3.5 Max.
K <sub>2</sub> O (%)	0.13	
Na <sub>2</sub> O (%)	0.10	
Cl (%)	0.01	0.1 Max
TiO <sub>2</sub> (%)	0.33	
P <sub>2</sub> O <sub>5</sub> (%)	0.04	
<b>Total (%)</b>	<b>99.60</b>	
Insoluble Residue (IR) (%)	2.39	
C3A (%)	9.23	
Freelime (CaO <sub>f</sub> ) (%)	2.05	
<b>PHYSICAL TESTS:</b>		
Air permeability - Blaine (cm <sup>2</sup> /g)	4128	
Compressive Strength (N/mm <sup>2</sup> ):		-
ISO 7days	23.0	≥16 N/mm <sup>2</sup>
ISO 28days	35.9	≥32.5 N/mm <sup>2</sup> ; ≤52.5 N/mm <sup>2</sup>
Vicat test: Initial setting (minutes)	117	≥75 Minutes
Final setting (minutes)	149	-
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 December 2021.		
 <b>PLANT MANAGER</b>	 <b>QUALITY ASSURANCE MANAGER</b>	



### TANGA CEMENT PLC

**Head Office:**

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**Directors:**

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P. de Jager (CFO)\*\*, K. Omar\*, Rob Wessels\*\*, R. Mbilinyi\*

**Company Secretary:**

Quresh Ganijee\*

\*Tanzanian, \*\*South African

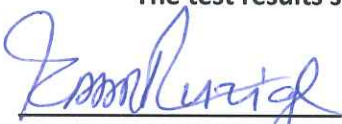
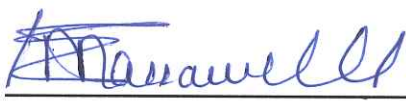


**SIMBA**  
**CEMENT**  
STRENGTH WITHIN

**DATE: 03/02/2022**

**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 (%)	9.11		
SiO <sub>2</sub> (%)	18.75		
Al <sub>2</sub> O <sub>3</sub> (%)	5.21		
Fe <sub>2</sub> O <sub>3</sub> (%)	2.78		
CaO (%)	61.01		
MgO (%)	0.90		5.0 Max.
SO <sub>3</sub> (%)	2.33		3.5 Max.
K <sub>2</sub> O (%)	0.14		
Na <sub>2</sub> O (%)	0.17		
Cl (%)	0.01		0.1 Max
TiO <sub>2</sub> (%)	0.32		
P <sub>2</sub> O <sub>5</sub> (%)	0.05		
<b>Total (%)</b>	<b>99.59</b>		
Insoluble Residue (IR) (%)	2.96		
C3A (%)	9.11		
Freelime (CaO <sub>f</sub> ) (%)	1.84		
<b>PHYSICAL TESTS:</b>			
Air permeability - Blaine (cm <sup>2</sup> /g)	4052		
Compressive Strength (Mpa):	ISO 2days	14.0	≥10 N/mm <sup>2</sup>
	ISO 7days	26.8	-
	ISO 28days	39.5	≥32.5 N/mm <sup>2</sup> ; ≤52.5 N/mm <sup>2</sup>
Vicat test: Initial setting (minutes)	110		≥75 Minutes
Final setting (minutes)	145		-
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 December 2021.			
			
PLANT MANAGER		QUALITY ASSURANCE MANAGER	



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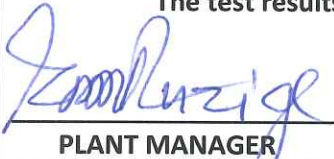
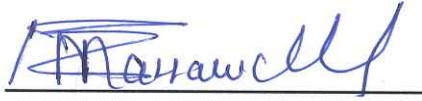


**SIMBA**  
**CEMENT**  
STRENGTH WITHIN

DATE: 03/02/2022

## 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 (%)	6.24	
SiO <sub>2</sub> (%)	18.86	
Al <sub>2</sub> O <sub>3</sub> (%)	5.23	
Fe <sub>2</sub> O <sub>3</sub> (%)	2.83	
CaO (%)	62.14	
MgO (%)	0.90	5.0 Max.
SO <sub>3</sub> (%)	2.36	3.5 Max.
K <sub>2</sub> O (%)	0.13	
Na <sub>2</sub> O (%)	0.12	
Cl (%)	0.01	0.1 Max
TiO <sub>2</sub> (%)	0.33	
P <sub>2</sub> O <sub>5</sub> (%)	0.04	
<b>Total (%)</b>	<b>99.19</b>	
Insoluble Residue (IR) (%)	2.68	
C3A (%)	9.08	
Freelime (CaO <sub>f</sub> ) (%)	1.74	
<b>PHYSICAL TESTS:</b>		
Air permeability - Blaine (cm <sup>2</sup> /g)	4316	
Compressive Strength (Mpa):	ISO 2days	18.6
	ISO 7days	36.2
	ISO 28days	49.5
		≥10 N/mm <sup>2</sup> - ≥42.5 N/mm <sup>2</sup> ; ≤62.5 N/mm <sup>2</sup>
Vicat test: Initial setting (minutes)	120	≥60 Minutes
Final setting (minutes)	166	-
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 December 2021.		
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