



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

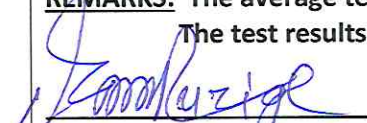
DATE: 01/03/2023

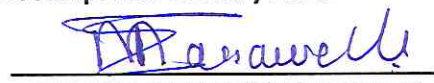
## CERTIFICATE OF CHEMICAL & PHYSICAL TESTS (SIMBA Brand Portland Composite Cement)

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 (%)	9.89		
SiO <sub>2</sub> (%)	17.58		
Al <sub>2</sub> O <sub>3</sub> (%)	5.25		
Fe <sub>2</sub> O <sub>3</sub> (%)	3.28		
CaO (%)	60.74		
MgO (%)	0.68		5.0 Max.
SO <sub>3</sub> (%)	1.98		3.5 Max.
K <sub>2</sub> O (%)	0.06		
Na <sub>2</sub> O (%)	0.04		
Cl (%)	0.01		0.1 Max
TiO <sub>2</sub> (%)	0.42		
P <sub>2</sub> O <sub>5</sub> (%)	0.07		
<b>Total (%)</b>	<b>100.00</b>		
Insoluble Residue (IR) (%)	2.55		
C3A (%)	8.37		
Free lime (CaO <sub>f</sub> ) (%)	2.03		
<b>PHYSICAL TESTS:</b>			
Air permeability - Blaine (cm <sup>2</sup> /g)	4220		
Compressive Strength (N/mm <sup>2</sup> ):			
	ISO 7days	27.6	≥16 N/mm <sup>2</sup>
	ISO 28days	37.8	≥32.5 N/mm <sup>2</sup> ; ≤52.5 N/mm <sup>2</sup>
Vicat test: Initial setting (minutes)	111		≥75 Minutes
Final setting (minutes)	130		-
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 January 2023.

  
PLANT MANAGER

  
QUALITY ASSURANCE MANAGER



### TANGA CEMENT PLC

Head Office:

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Directors:

P Rutabanzibwa (Chairperson)\*, R Swart (Managing)\*\*, P de Jager (CFO)\*\*, K Omar \*,  
Rob Wassels\*\*, R Mbilinyi\*

Company Secretary:

Quresh Ganjee \*

\* Tanzanian. \*\* South African

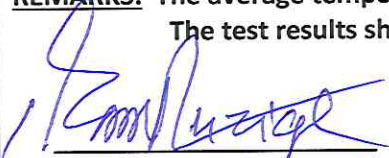
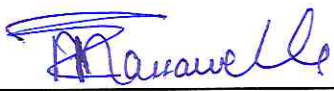


**SIMBA**  
**CEMENT**  
STRENGTH WITHIN

DATE: 01/03/2023

## 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 (%)	9.32		
SiO <sub>2</sub> (%)	17.80		
Al <sub>2</sub> O <sub>3</sub> (%)	5.32		
Fe <sub>2</sub> O <sub>3</sub> (%)	3.30		
CaO (%)	60.96		
MgO (%)	0.70		5.0 Max.
SO <sub>3</sub> (%)	2.03		3.5 Max.
K <sub>2</sub> O (%)	0.06		
Na <sub>2</sub> O (%)	0.04		
Cl (%)	0.01		0.1 Max
TiO <sub>2</sub> (%)	0.40		
P <sub>2</sub> O <sub>5</sub> (%)	0.06		
<b>Total (%)</b>	<b>100.00</b>		
Insoluble Residue (IR) (%)	2.50		
C3A (%)	8.52		
Freelime (CaO <sub>f</sub> ) (%)	2.11		
<b>PHYSICAL TESTS:</b>			
Air permeability - Blaine (cm <sup>2</sup> /g)	4350		
Compressive Strength (Mpa):	ISO 2days	14.5	≥10 N/mm <sup>2</sup>
	ISO 7days	29.3	-
	ISO 28days	37.6	≥32.5 N/mm <sup>2</sup> ; ≤52.5 N/mm <sup>2</sup>
Vicat test: Initial setting (minutes)	112		≥75 Minutes
Final setting (minutes)	133		-
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 January 2023.			
 PLANT MANAGER		 QUALITY ASSURANCE MANAGER	



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**Company Secretary:** Quresh Ganijee \*

\* Tanzanian. \*\* South African



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## 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 CEM II/A-L 42.5N
<b>CHEMICAL TESTS:</b>		
Loss on Ignition (%)	9.20	
SiO <sub>2</sub> (%)	17.99	
Al <sub>2</sub> O <sub>3</sub> (%)	5.22	
Fe <sub>2</sub> O <sub>3</sub> (%)	3.16	
CaO (%)	61.16	
MgO (%)	0.55	5.0 Max.
SO <sub>3</sub> (%)	2.08	3.5 Max.
K <sub>2</sub> O (%)	0.06	
Na <sub>2</sub> O (%)	0.06	
Cl (%)	0.01	0.1 Max
TiO <sub>2</sub> (%)	0.44	
P <sub>2</sub> O <sub>5</sub> (%)	0.06	
<b>Total (%)</b>	<b>99.99</b>	
Insoluble Residue (IR) (%)	2.45	
C3A (%)	8.49	
Free lime (CaO <sub>f</sub> ) (%)	2.10	
<b>PHYSICAL TESTS:</b>		
Air permeability - Blaine (cm <sup>2</sup> /g)	4501	
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)	124	≥60 Minutes
Final setting (minutes)	140	-
Expansion (Lechatelier's) (mm)	1.0	10 Max.
Specific gravity (g/cc)	3.16	

**REMARKS:** The average temperature during the test did not exceed 22°C; corresponding to 71.6°F.

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