


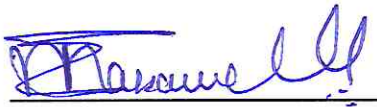


**SIMBA**  
**CEMENT**  
STRENGTH WITHIN

**DATE: 04/07/2022**

## 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 (%)	8.64		
SiO <sub>2</sub> (%)	17.95		
Al <sub>2</sub> O <sub>3</sub> (%)	5.48		
Fe <sub>2</sub> O <sub>3</sub> (%)	2.68		
CaO (%)	61.31		
MgO (%)	0.78		5.0 Max.
SO <sub>3</sub> (%)	2.35		3.5 Max.
K <sub>2</sub> O (%)	0.11		
Na <sub>2</sub> O (%)	0.27		
Cl (%)	0.01		0.1 Max
TiO <sub>2</sub> (%)	0.35		
P <sub>2</sub> O <sub>5</sub> (%)	0.05		
<b>Total (%)</b>	<b>99.97</b>		
Insoluble Residue (IR) (%)	2.60		
C3A (%)	9.99		
Freelime (CaO <sub>f</sub> ) (%)	2.02		
<b>PHYSICAL TESTS:</b>			
Air permeability - Blaine (cm <sup>2</sup> /g)	4334		
Compressive Strength (Mpa):	ISO 2days	15.0	≥10 N/mm <sup>2</sup>
	ISO 7days	28.5	-
	ISO 28days	38.6	≥32.5 N/mm <sup>2</sup> ; ≤52.5 N/mm <sup>2</sup>
Vicat test: Initial setting (minutes)	121		≥75 Minutes
Final setting (minutes)	139		-
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 2022.			
 PLANT MANAGER		 QUALITY ASSURANCE MANAGER	



### 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: 04/07/2022**

## 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 (%)	8.51	
SiO <sub>2</sub> (%)	17.98	
Al <sub>2</sub> O <sub>3</sub> (%)	5.48	
Fe <sub>2</sub> O <sub>3</sub> (%)	2.69	
CaO (%)	61.50	
MgO (%)	0.79	5.0 Max.
SO <sub>3</sub> (%)	2.37	3.5 Max.
K <sub>2</sub> O (%)	0.11	
Na <sub>2</sub> O (%)	0.20	
Cl (%)	0.01	0.1 Max
TiO <sub>2</sub> (%)	0.35	
P <sub>2</sub> O <sub>5</sub> (%)	0.01	
<b>Total (%)</b>	<b>99.99</b>	
Insoluble Residue (IR) (%)	2.24	
C3A (%)	9.98	
Freelime (CaO <sub>f</sub> ) (%)	1.78	
<b>PHYSICAL TESTS:</b>		
Air permeability - Blaine (cm <sup>2</sup> /g)	4356	
Compressive Strength (N/mm <sup>2</sup> ):		-
ISO 7days	28.0	≥16 N/mm <sup>2</sup>
ISO 28days	37.9	≥32.5 N/mm <sup>2</sup> ; ≤52.5 N/mm <sup>2</sup>
Vicat test: Initial setting (minutes)	121	≥75 Minutes
Final setting (minutes)	142	-
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 2022.		
 _____ PLANT-MANAGER	 _____ QUALITY ASSURANCE MANAGER	



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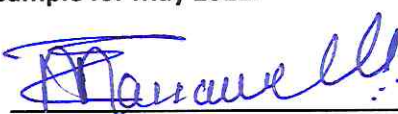


**SIMBA**  
**CEMENT**  
STRENGTH WITHIN

**DATE: 04/07/2022**

## 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	
		CEM II/A-L 42.5N	
<b>CHEMICAL TESTS:</b>			
Loss on Ignition (%)	9.09		
SiO <sub>2</sub> (%)	18.01		
Al <sub>2</sub> O <sub>3</sub> (%)	5.55		
Fe <sub>2</sub> O <sub>3</sub> (%)	2.58		
CaO (%)	61.10		
MgO (%)	0.70	5.0 Max.	
SO <sub>3</sub> (%)	2.27	3.5 Max.	
K <sub>2</sub> O (%)	0.11		
Na <sub>2</sub> O (%)	0.23		
Cl (%)	0.01	0.1 Max	
TiO <sub>2</sub> (%)	0.33		
P <sub>2</sub> O <sub>5</sub> (%)	0.03		
<b>Total (%)</b>	<b>100.00</b>		
Insoluble Residue (IR) (%)	2.13		
C3A (%)	10.35		
Freelime (CaO <sub>f</sub> ) (%)	1.63		
<b>PHYSICAL TESTS:</b>			
Air permeability - Blaine (cm <sup>2</sup> /g)	4498		
Compressive Strength (Mpa):	ISO 2days	18.8	≥10 N/mm <sup>2</sup>
	ISO 7days	33.9	-
	ISO 28days	48.2	≥42.5 N/mm <sup>2</sup> ; ≤62.5 N/mm <sup>2</sup>
Vicat test: Initial setting (minutes)		108	≥60 Minutes
	Final setting (minutes)	132	-
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 2022.			
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