

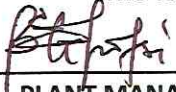



SIMBA
CEMENT
STRENGTH WITHIN

DATE: 01/11/2023

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 |
| CHEMICAL TESTS: | | | CEM II/B-M 32.5N |
| Loss on Ignition (%) | 11.80 | | |
| SiO ₂ (%) | 16.46 | | |
| Al ₂ O ₃ (%) | 4.58 | | |
| Fe ₂ O ₃ (%) | 2.79 | | |
| CaO (%) | 60.93 | | |
| MgO (%) | 0.81 | | 5.0 Max. |
| SO ₃ (%) | 2.03 | | 3.5 Max. |
| K ₂ O (%) | 0.09 | | |
| Na ₂ O (%) | 0.04 | | |
| Cl (%) | 0.01 | | 0.1 Max |
| TiO ₂ (%) | 0.37 | | |
| P ₂ O ₅ (%) | 0.09 | | |
| Total (%) | 100.0 | | |
| Insoluble Residue (IR) (%) | 2.50 | | |
| C3A (%) | 7.42 | | |
| Free lime (CaO _f) (%) | 2.44 | | |
| PHYSICAL TESTS: | | | |
| Air permeability - Blaine (cm ² /g) | 4326 | | |
| Compressive Strength (N/mm ²): | | | |
| ISO 7days | 24.7 | | ≥16 N/mm ² |
| ISO 28days | 36.9 | | ≥32.5 N/mm ² ; ≤52.5 N/mm ² |
| Vicat test: Initial setting (minutes) | 112 | | ≥75 Minutes |
| Final setting (minutes) | 140 | | - |
| 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 September 2023. | | | |
|  PLANT MANAGER | |  QUALITY ASSURANCE MANAGER | |



TANGA CEMENT PLC

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Directors:

P Rutabanzibwa (Chairperson)* , R Swart (Managing)** , P de Jager (CFO)** , R Mbilinyi*

Company Secretary:

Quresh Ganjee *

* Tanzanian. ** South African

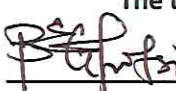
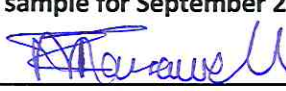


SIMBA
CEMENT
STRENGTH WITHIN

DATE: 01/11/2023

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 |
| CHEMICAL TESTS: | | |
| CEM II/B-M 32.5R | | |
| Loss on Ignition (%) | 11.40 | |
| SiO ₂ (%) | 16.54 | |
| Al ₂ O ₃ (%) | 4.68 | |
| Fe ₂ O ₃ (%) | 2.80 | |
| CaO (%) | 61.11 | |
| MgO (%) | 0.82 | 5.0 Max. |
| SO ₃ (%) | 2.04 | 3.5 Max. |
| K ₂ O (%) | 0.09 | |
| Na ₂ O (%) | 0.05 | |
| Cl (%) | 0.01 | 0.1 Max |
| TiO ₂ (%) | 0.36 | |
| P ₂ O ₅ (%) | 0.10 | |
| Total (%) | <u>100.00</u> | |
| | | |
| Insoluble Residue (IR) (%) | 2.48 | |
| C3A (%) | 7.67 | |
| Freelime (CaO _f) (%) | 2.31 | |
| PHYSICAL TESTS: | | |
| Air permeability - Blaine (cm ² /g) | 4530 | |
| Compressive Strength (Mpa): ISO 2days | 14.7 | ≥10 N/mm ² |
| ISO 7days | 29.2 | - |
| ISO 28days | 37.8 | ≥32.5 N/mm ² ; ≤52.5 N/mm ² |
| Vicat test: Initial setting (minutes) | 104 | ≥75 Minutes |
| Final setting (minutes) | 144 | - |
| 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 September 2023. | | |
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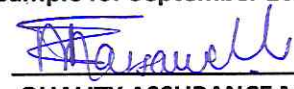
CERTIFICATE OF CHEMICAL & PHYSICAL TESTS
(SIMBA Brand Portland Limestone Cement)

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 |
| CHEMICAL TESTS: | | |
| Loss on Ignition (%) | 9.80 | |
| SiO ₂ (%) | 17.23 | |
| Al ₂ O ₃ (%) | 4.89 | |
| Fe ₂ O ₃ (%) | 3.09 | |
| CaO (%) | 61.54 | |
| MgO (%) | 0.76 | 5.0 Max. |
| SO ₃ (%) | 2.12 | 3.5 Max. |
| K ₂ O (%) | 0.10 | |
| Na ₂ O (%) | 0.05 | |
| Cl (%) | 0.01 | 0.1 Max |
| TiO ₂ (%) | 0.39 | |
| P ₂ O ₅ (%) | 0.02 | |
| Total (%) | <u>100.00</u> | |
| | | |
| Insoluble Residue (IR) (%) | 2.48 | |
| C3A (%) | 7.74 | |
| Free lime (CaO _f) (%) | 2.24 | |
| PHYSICAL TESTS: | | |
| Air permeability - Blaine (cm ² /g) | 4050 | |
| Compressive Strength (Mpa): | ISO 2days | ≥10 N/mm ² |
| | ISO 7days | - |
| | ISO 28days | ≥42.5 N/mm ² ; ≤62.5 N/mm ² |
| Vicat test: Initial setting (minutes) | 120 | ≥60 Minutes |
| Final setting (minutes) | 160 | - |
| 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.
The test results shown are monthly composite cement sample for September 2023.


PLANT MANAGER


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