SIMBA CEMENT
STRENGTH WITHIN

DATE: 04/07/2018

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 : 2002''

PARAMETER	TEST RESULTS	SPECIFICATION
		TZS 727-1:2002 = EN 197-1:2000
CHEMICAL TESTS:		CEM II/B-M 32.5R
Loss on Ignition (%)	10.17	
SiO_2 (%)	18.39	
Al_2O_3 (%)	4.41	
Fe_2O_3 (%)	2.82	
CaO (%)	60.42	
MgO (%)	1.29	5.0 Max.
SO_3 (%)	2.20	3.5 Max.
K_2O (%)	0.14	
Na_2O (%)	0.12	
Cl (%)	0.01	0.1 Max
Total (%)	**99.97**	
Insoluble Residue (IR) (%)	5.33	
C3A (%)	6.13	
Freelime (CaO_f) (%)	2.15	
PHYSICAL TESTS:		
Air permeability - Blaine (cm^2/g)	4769	
Compressive Strength (Mpa): ISO 2days	11.0	≥10 N/mm^2
ISO 7days	22.5	-
ISO 28days	35.2	≥32.5 N/mm^2; ≤52.5 N/mm^2
Vicat test: Initial setting (minutes)	90	≥75 Minutes
Final setting (minutes)	210	-
Expansion (Lechatelier's) (mm)	2.0	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 May 2018.

PLANT MANAGER **QUALITY ASSURANCE MANAGER**

TANGA CEMENT PLC

Head Office: Pongwe Factory Area, P O Box 5053, Tanga, Tanzania
Tel : +255 27 2644 500-2 / 2610 600 / 784 644 500, Fax : +255 27 2646 148 / 2646 425

Directors: L Masha~ (Chairperson), P Rutabanzibwa~ (Deputy Chairperson), R Swart (Managing)**, P de Jager (CFO)**, K Omar~, Rob Wessels#**, T Wagner#**, R Mbilinyi~

Company Secretary: Quresh Ganijee

**South African, ~ Independent Non-executive # Non-executive