

## MONTHLY CERTIFICATE OF CHEMICAL AND PHYSICAL TESTS TWIGA ORDINARY, CEM I CLASS 42.5 N

OCTOBER, 2024

Sampled and tested in accordance with the requirements of the Tanzanian Bureau of Standards

TZS 727-1/EAS 18-1. Equivalent to EN 197-1

CHEMICAL TEST RESULTS			
Test	Unit	Test results monthly average	Specified requirements
Loss on ignition	[%]	4.45	Less than 5.0%
Insoluble residue	[%]	1.00	Less than 5.0%
CaO	[%]	60.7	No Requirement
SiO <sub>2</sub>	[%]	20.6	No Requirement
CaO/SiO <sub>2</sub>	[-]	2.95	Not less than 2.0%
Al <sub>2</sub> O <sub>3</sub>	[%]	4.96	No Requirement
Fe <sub>2</sub> O <sub>3</sub>	[%]	3.34	No Requirement
MgO	[%]	0.86	Not more than 5.0%
SO <sub>3</sub>	[%]	2.50	Less than 3.5%
K <sub>2</sub> O	[%]	0.38	No Requirement
Na <sub>2</sub> O	[%]	0.16	No Requirement
P <sub>2</sub> O <sub>5</sub>	[%]	0.31	No Requirement
TiO <sub>2</sub>	[%]	0.46	No Requirement
MnO	[%]	0.06	No Requirement
(Na <sub>2</sub> O+0.658K <sub>2</sub> O)	[%]	0.42	No Requirement
Cl <sup>-</sup>	[%]	0.001	Less than 0.10%
PHYSICAL TEST RESULTS			
Density	[kg/m <sup>3</sup> ]	3000	No requirement
Specific Surface (Blaine)	[m <sup>2</sup> /kg]	356	No Requirement
Sieving Residue on 45 mic.	[%]	13.0	No Requirement
Initial setting time	[minutes]	145	Not less than 60 minutes
Soundness (expansion)	[mm.]	1.0	Not more than 10 mm.
Compressive strength 2 days	[MPa]	20.2	More than 10 MPa.
Compressive strength 28 days*	[MPa]	50.0	Between 42.5 and 62.5 MPa

Remarks: \*The 28 days strength is the average of previous month.

Wazo Hill, 2024/11/05<sup>th</sup>

  
Quality Control Manager

  
Plant Manager

  
Commercial Director