



Heidelberg Materials

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MONTHLY CERTIFICATE OF CHEMICAL & PHYSICAL TESTS TWIGA PLUS RAPID, CEM II/B-L CLASS 42.5 R

JUNE, 2026

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	Specified requirements
Loss on Ignition	[%]	6.46	No requirement
Insoluble Residues	[%]	1.42	Less than 5.0%
CaO	[%]	58.0	No requirement
SiO ₂	[%]	20.5	No requirement
CaO/SiO ₂	[-]	2.83	Not less than 2.0%
Al ₂ O ₃	[%]	5.41	No requirement
Fe ₂ O ₃	[%]	3.81	No requirement
MgO	[%]	1.23	Not more than 5.0%
SO ₃	[%]	2.53	Less than 3.5%
K ₂ O	[%]	0.41	No requirement
Na ₂ O	[%]	0.05	No requirement
P ₂ O ₅	[%]	0.61	No requirement
TiO ₂	[%]	0.56	No requirement
MnO	[%]	0.05	No requirement
(Na ₂ O+ 0.658 K ₂ O)	[%]	0.32	No requirement
Cl ⁻	[%]	0.001	Less than 0.10%

PHYSICAL TEST RESULTS

Density	[kg/m ³]	3100	No requirement
Specific Surface (Blaine)	[m ² /kg]	462	No requirement
Sieving Residue on 45 mic. mesh	[%]	7.7	No requirement
Initial Setting Time	[Minutes]	154	Not less than 60 minutes
Final Setting Time	[Minutes]	236	No requirement
Soundness (Expansion)	[mm]	1.0	Not more than 10.0 mm
Compressive Strength 2 days	[MPa]	20.2	More than 10.0 MPa
Compressive Strength 28* *days*	[MPa]	48.0	Between 42.5 and 62.5 Mpa

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

Wazito Hill 2026/07/03rd

Quality Control Manager

Plant Manager

Commercial Director

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