



Heidelberg Materials

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MONTHLY CERTIFICATE OF CHEMICAL & PHYSICAL TESTS

TWIGA MEGA, CEM III/B-SR CLASS 42.5N

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	[%]	2.79	No requirement
Insoluble Residues	[%]	1.06	Less than 5.0%
CaO	[%]	47.1	No requirement
SiO ₂	[%]	26.8	No requirement
CaO/SiO ₂	[-]	1.76	Not less than 2.0%
Al ₂ O ₃	[%]	9.48	No requirement
Fe ₂ O ₃	[%]	3.36	No requirement
MgO	[%]	4.89	Not more than 5.0%
SO ₃	[%]	2.90	Less than 3.5%
K ₂ O	[%]	0.41	No requirement
Na ₂ O	[%]	0.18	No requirement
P ₂ O ₅	[%]	0.20	No requirement
MnO	[%]	0.05	No requirement
TiO ₂	[%]	0.71	No requirement
(Na ₂ O + 0.658K ₂ O)	[%]	0.44	No requirement
Cl ⁻	[%]	0.001	Less than 0.10%

PHYSICAL TEST RESULTS

Density	[kg/m ³]	3102	No requirement
Specific Surface (Blaine)	[m ² /kg]	479	No requirement
Sieving Residue on 45 mic.	[%]	7.7	No requirement
Initial Setting Time	[Minutes]	201	Not less than 60 minutes
Final Setting Time	[Minutes]	302	No requirement
Soundness (Expansion)	[mm]	1.0	Not more than 10.0 mm
Compressive Strength 2 days	[MPa]	12.5	More than 10.0 MPa
Compressive Strength 7 days	[MPa]	28.5	No requirement
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

Wazir Hill, 2025/07/03

Quality Control Manager

Plant Manager

Commercial Director

Board Directors:
Hakan Gurdal (Turkish)
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