

CEMENTING

Specially customized system for cementing Glass Reinforced Epoxy (GRE) casings

Development and field trials in a geothermal project

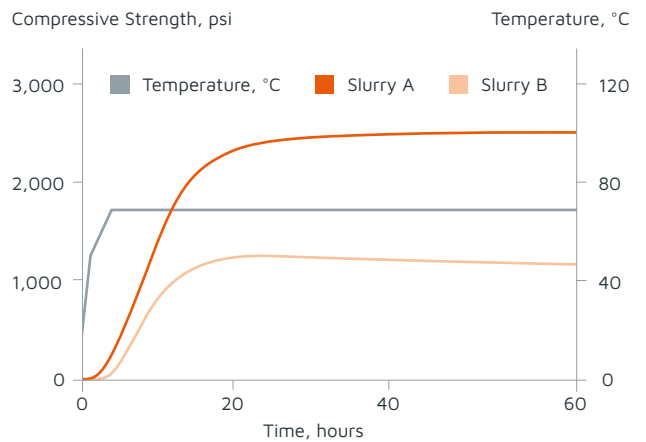
The use of Glass Reinforced Epoxy (GRE) casing has increased significantly during the last decade. Corrosion resistance, reduced thermal conductivity, and extremely smooth inner-pipe surfaces are characteristics which make this material ideal for geothermal applications.

However, the reduced collapse resistance compared to steel tubular demands specially customized cement slurries. To ensure zonal isolation and hence well integrity, appropriate adhesion of hardening cement onto the outer-surface of GRE casings is essential. This poster introduces a customized low-weight cement system specially adapted to such tubular and presents its field trials in a geothermal project.

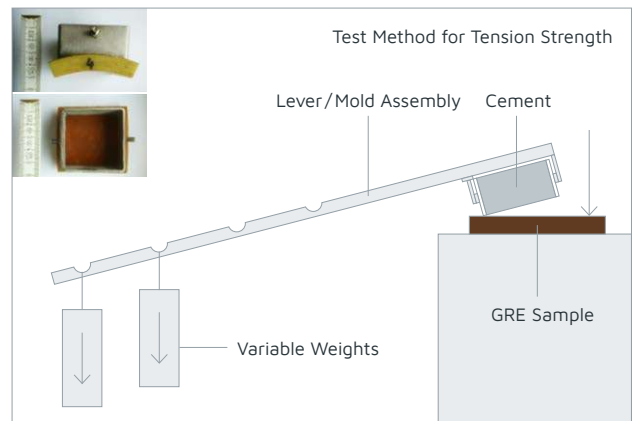
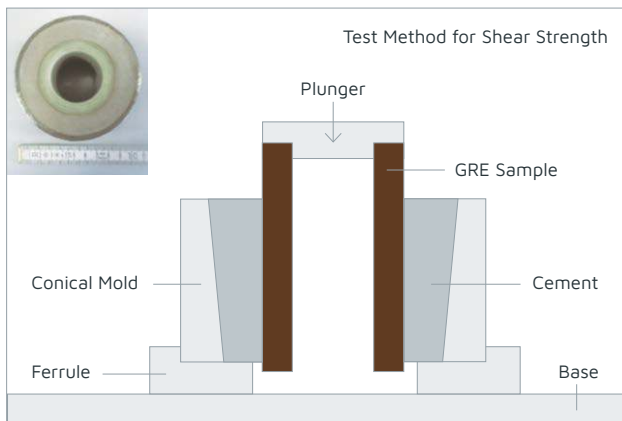


Innovative materials

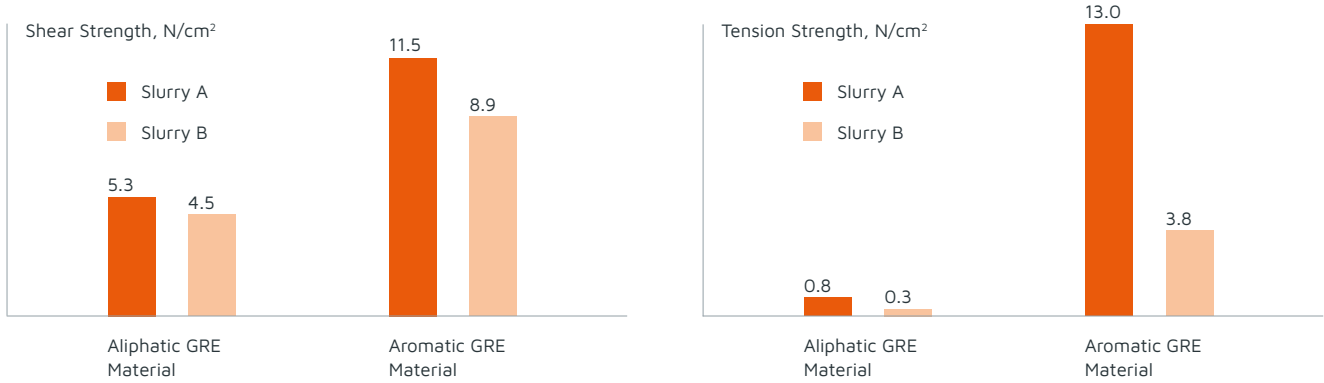
Cement	Composition	p, g/L
Slurry A	Highly resistant cement, bentonite, retarder, low-weight additive A	1.32
Slurry B	Highly resistant cement, bentonite, retarder, low-weight additive B	1.32
Tail slurry	API Class G	1.90



Premium adhesion



Excellent results



Field trials

Well Conditions

MD, m	1,690 – 1,940	BHST, °C	64 – 69
TVD, m	1,630 – 1,640	BHCT, °C	46 – 53

Fluid	ρ , g/L	Vol., m ³	Rate, L/min
Bentonite Pill	1.02	2	600
GT Blend	1.32	19 – 27	600
Class G	1.90	1 – 2	600

Wireline Logs

GT Blend

Class G



Benefits

- ✓ Innovative system specially customized for cementing GRE casings
- ✓ State-of-the-art low-weight system for casing collapse control
- ✓ Adhesion verified by two separate lab test methods
- ✓ Premium cement bonding on GRE and steel tubular
- ✓ Enhanced adhesion through the use of washes

READY FOR SERVICE

Dr. Nils Recalde Lummer

Senior Chemist

☎ +49 4471 98008-25

☎ +49 151 41425882

✉ nlummer@fangmanngroup.com

🌐 fangmannenergyservices.com