RIG OIL sales & services

INFORMATION

CA-EX13

POZZOLAN/LIME CEMENT

DESCRIPTION

Messina's CA-EX13 is a thermally stable blend of pozzolan and lime used primarily as a lead (or fill) cement in high temperature cementing applications.
At temperatures above 212° F (100° C), calcium reacts with silicates to form a cement material (Calcium Silicate Hydrate Gel). As the temperature and pressure increases with time in the wellbore, the cement gains rapid compressive strength and, because of its high silicate content, is not subject to deterioration (strength retrogression).

PHYSICAL PROPERTIES

Component	Form	Sp. Grav.	Bulk Density	Abs. Vol.	Packaging
CA-EX9	Grey Powder	2.48	74 lb/cu ft	0.048 gal/lb	One Cubic Foot Sacks
Lime	White	2.20	30 lb/cu ft	0.054 gal/lb	50 lb sacks

APPLICATION

CA-EX13 can be applied as a lead or tail cement system whenever BHST's (Bottom Hole Static Temperatures) exceed the boiling point of water, 212° F (100° C). The reaction of the lime with CA-EX9 at these temperatures forms a thermally stable cement.

CA-EX13 is ideal for geothermal applications. It has very low porosity, and, because of its high silicate ratio, it will not degrade with time even at extreme temperatures.

The reaction temperature for CA-EX13 can be reduced by the addition of Portland cement to the system. Typically, 20% to 30% Portland cement can be used with CA-EX13 for applications at wellbore temperatures as low as 150° F (65° C).
The optimum ratio for lime:pozzolan mixing, or lime:pozzolan:cement mixing will depend on the well temperature, treatment procedure, and slurry density, and should be tested in a laboratory before application to optimize the system.