

OILWELL 'G' CEMENT

OVERCOME CLASS G CEMENT DEGRADATION

Earth Pro Oilwell 'G' Cement is manufactured according to very strict API (American Petroleum Institute) guidelines with respect to setting time, compressive strength, free water content, and other physical and chemical factors, to assure a consistent product suited for the high demands of the oil industry. Typically this cement is used where wellbore temperatures do not exceed 100°C BHST.

APPLICATION

Typical use on a small scale is for dump-bail treatments. The product is batched in small volumes according to the following blend table, and "dumped" down the wellbore using conventional rig equipment. After a period of time the cement sets, providing a small, hard plug in the problem area.

Bag Size (kg)	Water Req. (litres)	Slurry Yield (litres)	Density (kg/m ³)	Approximate Working Time (Hrs:min at BHT)	
				20°C	30°C
20	8.8	15.2	1900	→ 6:00	5:00
Comprehensive Strength, MPa (18, 16, 24 hrs)*				0.1, 2.5, 10.0	0.7, 4.5, 11.0

***Note:** Strengths are for reference only. Actual values may vary due to changing wellbore conditions, variations in density, and water quality. Samples should be taken at the time of treatment and observed at estimated wellbore temperature for strength development.

At temperatures below 30°C, calcium chloride can be added in a small amount, to accelerate the set time. Typical dosage is 0.5-1% w/w, depending on well depth, and wellbore temperature. Slurry viscosity and working time will be reduced proportionately.

Exercise extreme care in the addition of calcium chloride. In itself calcium chloride is a corrosive material, and will cause skin burns. If poorly mixed, it can cause excessive heat of hydration, potentially leading to a flash set of the cement.

MIXING & HANDLING

Earth Pro Oilwell 'G' Cement is not hazardous. However, if product becomes wet through unforeseen circumstances, some heat will be given off due to hydration. Avoid excessively humid conditions. Store in a cool dry place.

Earth Pro Oilwell 'G' Cement contains free silica. Avoid breathing dust, and wear appropriate dust mask as a precaution. When product is mixed with water, some heat evolution will occur. Caution should be exercised to mix continually until ready to place the slurry in the dump-bail.

Since Earth Pro Oilwell 'G' Cement is caustic in nature (pH 10-12), and will cause severe burns to the eyes and other sensitive skin areas. Wear the appropriate safety goggles and protective equipment when handling this product.

WHMIS: Controlled (see SDS)

TDG: Not regulated

Packaging: 20 kg bag / bulk

PHYSICAL AND CHEMICAL PROPERTIES:

Appearance: White powder

Specific Gravity: 2.7

Bulk Density: 1365 kg/m³

Particle Size Distribution: 87% passing 325 mesh

Water Requirement: 40% w/w

pH: 6.0 – 8.0 (10% solution)