

INFORMATION

CA-TX1

THIXOTROPIC AGENT

DESCRIPTION

CA-TX1 is a yellow, granular material utilized in conjunction with CA-TX2 or selected other Messina polymers to produce a cement with unique thixotropic properties. Cement slurries formulated with CA-TX1:CA-TX2 exhibit rapid gel strength development when static or at low shear rates. The rapid onset of gel strength allows the cement to become "self- supporting", thus reducing cement "fall- back" and lost circulation:

Form	Clear, slightly Yellow
Density	11.3 ppg or 1.36 s.g.
Freezing Point	6° F (-14° C)

APPLICATION

CA-TX1:CA-TX2 cement slurries are designed to have low viscosity when mixed and then gel when allowed to remain static for a period of 5 minutes or less. The slurry can be thinned (gel broken) if the slurry is moved again. This process is repeatable until the cement starts to hydrate. The longer the slurry is quiescent, the greater the gel strength and viscosity development. Cement slurries possessing this low-high-low viscosity behavior are characterized as being thixotropic cements. The thixotropic properties of CA-TX1:CA-TX2 cement designs make them particularly useful for combatting lost circulation and cement "fall-back" problems when cementing in areas with unconsolidated, highly permeable, fractured, vugular or cavernous formations.

RECOMMENDED TREATMENT

CA-TX1 is recommended at 1.0% (BWOC) and should be used in combination with 0.25% (BWOC) CA-TX2 for slurry designs ranging in density from 12.0 ppg to 15.6 ppg. Cement mix water can vary from 5.2 to 13.8 gal/sk of cement, however, for best results the slurry density should range from 14.0-15.6 ppg. At densities greater than 15.4 ppg, a recirculating mixer is required for proper mixing.

CA-FL6, CA-FL7 or CA-FL8 may be substituted for CA-TX2, but they are not equivalent, and laboratory testing will be required to determine the required level of addition to obtain optimum performance. Generally, 2% CA-A1 is recommended for circulating temperatures <math><120^{\circ}\text{F}</math> (49°C) and CA-R5 is recommended for temperatures >math>>160^{\circ}\text{F}</math> (>math>71^{\circ}\text{C}</math>); pilot testing is required to verify correct performance and concentrations. Although CA-TX1 is compatible with most cement additives, CA-FR3P, CA-FR3L and most high temperature retarders are not recommended for use with CA-TX1 cements. Due to their dispersing properties, dispersants and some retarders can reduce or destroy the thixotropic properties of CA-TX1L:CA-TX2 slurries.

ADVANTAGES

CA-TX1:CA-TX2 has several advantages over other thixotropic cements now in use.

- CA-TX1 is compatible with all API cements.
- CA-TX1 and its complimentary additives can be dry-blended in the cement or pre-blended in the cement mix water.
- CA-TX1 offers greater flexibility and compatibility in slurry design.
- CA-TX1 can be accelerated, retarded or used in combination with most cement additives.
- CA-TX1 compressive strengths are high enough for use as a primary cement.
- CA-TX1:CA-TX2 cement offers good fluid loss control.

SAFETY

CA-TX1 is classified as a corrosive solid. CA-TX2 is strongly acidic, avoid skin and eye contact and wear goggles, gloves and dust mask. In case of contact immediately flush skin or eyes with water for a minimum of 15 minutes; in addition, for eye contact, obtain medical attention.

PACKAGING

CA-TX1 is normally supplied in 50 lb plastic lined fiber drums.

CA-TX1 is a Messina trademark