

INFORMATION

CA-EX2

CHEMICAL EXTENDER

DESCRIPTION

CA-EX2 is a granular silicate material which is normally compatible with API Class A, B, C, G, and H cements.

APPLICATION

CA-EX2 functions as a cement extender by reacting with lime or Calcium Chloride to form a silicate gel. This reaction allows larger quantities of mix water without excessive free-water separation. CA-EX2 produces a lower density and a higher slurry yield allowing cement to be mixed to densities as low as 11.0 ppg. In addition, CA-EX2 accelerates strength development of the cement.

RECOMMENDED TREATMENT

Recommendations for treatment should be made only after a thorough study has been made of all the factors affecting the application.

CA-EX2 is normally added from 0.25 to 3% BWOC by dry blending with the cements. CA-EX2 will not form a silicate gel in fresh water unless calcium is added in the form of calcium chloride. CA-EX2 can be added to sea water pretreated with 3 lb Calcium Chloride per bbl of water.

LIMITATIONS

CA-EX2 in concentrations above 3% must be mixed with Calcium Chloride for greater extension due to insufficient lime in the cement for reaction. Calcium Chloride additions should never exceed the amount of CA-EX2.

Cement additives are less effective in CA-EX2 slurries.

SAFETY AND HANDLING

CA-EX2 is an alkaline material. Avoid contact with eyes or skin. Contact with skin could cause severe burns. Eye contact could result in permanent loss of vision. Chemical goggles, dust respirators and resistant gloves must be utilized while handling CA-EX2. AVOID breathing dust which may be hazardous. In case of contact, immediately flush skin or eyes with copious amounts of fresh water and seek medical attention. In case of respiratory irritation, seek medical attention.

Please see the following Laboratory Data

TYPICAL LABORATORY DATA

TABLE 1
CEMENT SLURRY PROPERTIES
(API CLASS G + CA-EX2)

| SLURRY DENSITY (ppg) | MIX WATER % | % CA-EX2 | WATER SEPARATION | 24 HOUR COMPRESSIVE STRENGTH (PSI) | | THICKENING TIME (HRS:MIN) BHCT | |
|----------------------|-------------|----------|------------------|------------------------------------|--------|--------------------------------|--------|
| | | | | 125 °F | 150 °F | 113 °F | 130 °F |
| 15.8 | 44 | 0 | < 2 | 4320 | 5480 | 3:25 | 2:20 |
| 14.5 | 60 | 1.0 | 0 | 2010 | 2380 | 2:50 | 1:10 |
| 13.5 | 78 | 2.0 | 0 | 1410 | 1600 | 1:33 | - |
| 12.5 | 104 | 2.0 | 0 | 650 | 695 | 1:40 | - |
| 11.5 | 147 | 3.0 | 0 | 242 | 266 | 1:44 | - |

PACKAGING

CA-EX2 is normally available in export quality 100 lb net sacks. Special packaging (i.e. export pallets, shrink-wrapping, strapping, jungle boxing, etc.) is available upon request and at extra cost.

CA-EX2 is a Messina trademark