

## INFORMATION

# CA-R9

### EXTREME TEMPERATURE RETARDER

#### DESCRIPTION

CA-R9 is a free-flowing powder used in the preparation of retarded cement slurries where extreme temperatures are anticipated. CA-R9 is compatible with API cements and most cement additives.

#### APPLICATION

CA-R9 is suitable for retarding many types of cement slurries where high temperatures are expected. CA-R9 slurries can be utilized for casing cementing, cement plugs and squeeze cementing operations.

#### RECOMMENDED TREATMENT

CA-R9 can be dry blended with cement or mixed with the slurry mix water prior to cementing.

In both cases, care must be exercised to ensure that the exact quantity of CA-R9 is added and allowed to be evenly dispersed in the cement or mix water. Sufficient time must be allowed for blending to be thoroughly achieved, and in the case where CA-R9 is pre-mixed with the slurry mix water, the pit should be left circulating and agitating for at least 1-2 hours prior to mixing cement. Slight concentration changes can affect the thickening time, so due care must be used to ensure thorough blending or mixing.

In all operations where additives are pre-mixed with the mix water, 10-15% additional mix water should be treated in the event that additional mix water is required.

## **MAJOR ADVANTAGES**

The use of CA-R9 retarder has the following principle advantages:

**CEMENT** - CA-R9 is compatible with all API cements.

**MIX WATER** - CA-R9 can be used in freshwater and seawater based slurries.

**TEMPERATURE** - CA-R9 can be utilized to retard slurry thickening time in wells with circulating temperatures up to 450° F (232° C).

**CONCENTRATION** - The normal recommended concentration for this product is 0.2-2.0% by weight of cement.

**DISPERSION** - CA-R9 also acts as a dispersant which reduces slurry viscosity and associated pumping pressures.

**COMPATIBILITY** - CA-R9 is fully compatible with all Messina fluid loss additives except CA-FL13L, although high concentrations of CA-R9 may reduce fluid loss control.

## **CONCENTRATION**

Depending on well depth, cement type, mix water and other additives to be used, the concentration of CA-R9 will vary according to specific conditions.

Generally, a concentration range of 0.2% to 2.0% will be required to provide suitable thickening time retardation.

Pilot testing is strongly recommended to accurately determine the exact amount of CA-R9 required for a particular cement operation.

## **SAFETY**

The following procedures should be noted when handling CA-R9:

- Goggles, dust masks, and standard industrial clothing should be worn by all personnel.
- In the event of eye contact, flush thoroughly for a period of 20 minutes. If irritation persists, seek medical attention.
- Inhalation of CA-R9 may cause very slight irritation. Move to fresh air if discomfort occurs.

CA-R9 is a Messina trademark