

## INFORMATION

# CA-R1

### LOW TEMPERATURE RETARDER

#### DESCRIPTION

CA-R1 is a free-flowing black powder and a highly-refined organic cement retarder. CA-R1 is recommended for all API cements and performs well with pozzolan, high gel, or salt cements.

#### APPLICATION

CA-R1 is particularly effective in applications where other retarders have given erratic thickening time results or viscosity humps (high viscosity after heat up). CA-R1 is recommended for those API cements or cements with salt or high gel concentrations that don't respond well to other cement retarders.

#### MAJOR ADVANTAGES

The application of CA-R1 cement retarder provides the following advantages:

**MIX WATER** - CA-R1 can be used with water ranging from fresh to salt saturated.

**FREE FLOWING** - Permits even distribution throughout dry blended cements.

**TEMPERATURE** - CA-R1 is most effective below 200° F (BHCT).

**CONCENTRATION** - CA-R1 is normally recommended at 0.3 - 1.0% by weight of cement. **VISCOSITY** - CA-R1 provides increased dispersant properties, which reduce the need for additional dispersants and eliminate viscosity "humps" (false sets).

**FLUID LOSS** - CA-R1 enhances the effectiveness of fluid loss additives.

**THICKENING TIME** - CA-R1 offers more predictable thickening time results, particularly with salt cement.

#### CONCENTRATION

Listed below are the required concentrations of CA-R1 for a 2 1/2-4 hour thickening time with API Class G cement mixed with fresh water at 15.9 ppg at 1.9 s.g.

DEPTH (Ft)	BHCT (°F)	CA-R1 Loading %
8,000	140	0.3-0.4
10,000	167	0.5-0.6
12,000	197	0.6-0.8
13,000	215	1.1-1.3

### **RECOMMENDED TREATMENT**

CA-R1 can be dry blended with the cement or mixed with the slurry mix water prior to cementing.

Care should be exercised to insure even distribution of CA-R1 throughout the cement or cement mix water. If CA-R1 is added to the mix water, 10-15% extra mix water should be treated at the proper rate in case more mix water is used than anticipated. The mix water should be circulated for a minimum of 1-2 hours prior to mixing cement.

### **SAFETY**

Normal safety precautions should be followed when handling CA-R1. Goggles and face masks should be worn to prevent unnecessary eye contact and inhalation. If eye contact does occur, wash thoroughly for a period of not less than 15 minutes.

### **PACKAGING**

CA-R1 is packaged in 50 lb (USA) and 25 kg (Europe, Africa, Middle East) export quality sacks.

CA-R1 is a Messina trademark