RIG OIL sales & services

INFORMATION

ESSINA CHEMICALS

CA-R12

HIGH TEMPERATURE RETARDER

DESCRIPTION

CA-R12 is a brown free-flowing powder with a specific gravity of 1.24, and is a premium quality cement retarder for use in cementing operations where high well temperatures are experienced. CA-R12 is fully compatible with all classes of API cement as well as many additional cement additives.

MAJOR ADVANTAGES

The use of CA-R12 high temperature retarder, offers the following principle advantages.

CEMENTS - CA-R12 is fully compatible with all classes of API cement including classes A, B, C, G and H.

MIX WATER - Fresh water and salt water based slurries can both be prepared using CA-R12.

FREE FLOWING POWDER - CA-R12 is an easy to use, free-flowing powder, which allows complete mixing.

TEMPERATURE STABILITY - CA-R12 provides exceptional slurry retardation from 200°F to 400°F, (94°C to 204°C, bottom hole circulating temperature).

CONCENTRATION - CA-R12 is normally used in concentrations of 0.1% to 1.5% by weight of cement.

DISPERSION/THINNING - In addition to its principle role as a high temperature retarder, additions of CA-R12 to the cement slurry reduces slurry viscosity, thereby increasing turbulent flow capability at lower pump rates.

APPLICATIONS

CA-R12 can be used for all types of cementing operations including Casing Cementation, Cement Plugs, Squeeze Cementing etc., where high temperatures are encountered.

CONCENTRATION

Normal concentrations will fall within 0.1% to 0.5% by weight of cement, but, depending on various factors, they may range up to 1.5%. Pilot testing must be performed with the particular cement class, mix water, and other cement additives, in order to accurately determine the correct concentration of CA-R12.

It should be noted that very small differences in CA-R12 concentrations (i.e. less than 0.1%) can have quite pronounced effects on slurry thickening, especially in the lower temperature range (ie. 200°F - 300°F).

RECOMMENDED TREATMENT

CA-R12 can be dry blended with cement; however, this is not strongly recommended as any unevenness in the finished blend will have severe repercussions on the cementing operation.

When mixing CA-R12 in slurry mix water, full precautions should be taken in order that a) the exact quantity of CA-R12 is accurately prepared, and b) sufficient mixing time is available to allow homogenous dispersions of the product in the mix water.

The mix water should be left in continuous agitation (via gun lines and rotary agitators) for at least 2-3 hours after product addition has been completed.

SAFETY

The following points should be noted for the safe handling of CA-R12:

- Dust accumulation can present a fire hazard. Ensure that mixing area is well ventilated, and that the product is not exposed to naked flame.
- Contact with eyes can cause some irritation. Goggles should always be worn. In case of eye contact, immediately flush with water for period of not less than 20 minutes.
- If skin contact occurs, thoroughly wash with soap and water.
- Inhalation of dust should be avoided. Masks should always be worn when handling this material.

ADDITIONAL INFORMATION

CA-R12 is an extremely effective retarder in high temperature applications. Due to CA-R12's dispersion characteristics, a cost savings can be realized by not having to use specific friction reducer/dispersants such as CA-FR3P or CA-FR3L. CA-R12 may foam slightly when used in certain cement slurries, but this phenomenon can be easily controlled by small additions of Messina CA-AFL, or Messina CA-AF2.

Achieving an effective and stable cement slurry at extreme temperatures (400°F, 204°C) may require the addition of CA-RX1 (retarder intensifier). CA-R12 is generally effective at

these temperatures without the addition of intensifiers. However, slurry design, performance requirements, and retarder concentration will determine if a retarder intensifier such as CA-RX1 is required.

Actual loadings and requirements should be determined by laboratory pilot testing prior to use in the field.

PACKAGING

CA-R12 is packaged in 50 lb (USA) or 25 kg (Europe, Africa, Middle East) export quality sacks.