

## CA-SP5

### SPACER

#### GENERAL INFORMATION

CA-SP5 is a specially blended, high-performance cement spacer formulation, designed to totally displace drilling fluid and remove excess wall cake to increase the success of primary cementing operations. This simple to use, multipurpose formulation can be used in a variety of applications, and is compatible with a wide range of oilfield cement slurries.

#### DESCRIPTION

CA-SP5 is free-flowing, non-toxic blend of inorganic viscosifiers, organic polymers and filtration control agents.

#### MAJOR ADVANTAGES

**FREE FLOWING POWDER** - Ensures smooth, no-lump mixing.

**MIX WATER** - The relatively flat annular profile ensures plug flow at low pump rates providing maximum drilling fluid removal with minimal "interface" mixing.

**CEMENTS** - Spacers composed of CA-SP5 can be used with Classes A, B, C, D, E, F, G, H, and J cements.

**FILTRATION** - The low filtration rate of spacers prepared with CA-SP5 prevents hydration of unstable borehole clays/shales and reduces "interface" alteration of the cement slurry.

**COMPATIBILITY** - The chemical components of CA-SP5 do not alter cement slurry characteristics.

**WEIGHTING** - CA-SP5 spacers can be weighted up to 20lb/gal. All standard oilfield weighting agents, e.g., Baryte, Hematite, Sand, etc, are compatible with CA-SP5 spacers.

**SAFETY** - CA-SP5 is non-toxic and non-hazardous to rig personnel.

**CONVENIENCE** - The unique blend of CA-SP5 provides a simple single-sack spacer formulation.

**EFFICIENCY** - The enhanced cleaning capacity of CA-SP5 spacers enables optimum cement bonding by maximum filter cake and "mud skin" removal.

#### APPLICATION

Spacers formulated with CA-SP5 can be used in practically all primary cementing operations, including Surface, Intermediate, and Production Casing String operations

CA-SP5 provides an effective separator between cement slurries and fresh water muds, lignosulfonate muds, seawater and saturated salt muds.



Sensitive and unstable geological formations are not affected by CA-SP5, and the improved mud and filter cake removal enhances cement bonding, especially where "zone isolation" is of primary importance.

## CONCENTRATION & RECOMMENDED MIXING PROCEDURES

Due to the Multi-purpose function of CA-SP5 spacers, formulations can be prepared in a variety of concentrations depending on specific operational requirements. Ideally, pilot tests should be run to decide the exact concentration of CA-SP5 required.

Normally, spacers will be prepared with a concentration of 15 lb/bbl to 25 lb/bbl. Reference to the attached graphs and tables illustrates the typical range of CA-SP5 concentrations and the resultant spacer properties.

CA-SP5 spacers should be prepared using the following recommended procedures:

- Prior to preparation, the rig tank and associated suction lines, discharge lines and centrifugal pump should be thoroughly flushed to remove the drilling fluid and any settled mud debris.
- Add the required volume of spacer mix water to the tank.
- Add the CA-SP5 to the mix water in the required concentration at a rate of 10-12 minutes per sack to ensure smooth continuous mixing.
- Allow spacer to shear for 2-3 hours prior to usage.

## ADDITIONAL INFORMATION

A variety of inert materials can be added to the basic CA-SP5 spacer to increase filter cake removal. A 30 lb/bbl concentration of Mesuco-Plug is recommended in preference to other materials (e.g., sand) as the sand may cut valve inserts and packing, thereby risking the subsequent cementing operation.



## VOLUMETRIC REQUIREMENTS

The successful application of spacers in primary cementing operations is dependent on the volume of spacer used, as well as its chemical composition. This factor is overlooked in many cases, and the resultant interpretation of unsuccessful cement bonding is falsely attributed to the composition of the spacer, rather than inadequate volume.

Due to the new formula composition of CA-SP5, a relatively smaller volume of spacer is required due to the minimal characteristics of the CA-SP5 slurry.

The CA-SP5 slurry should be calculated to provide between 500-700 feet of separation between the drilling fluid and the cement slurry in the casing/open hole annulus.

In terms of spacer preparation, allowances should be made for tank suction, supply line fill-up and accidental volume loss.

## PACKAGING

CA-SP5 is packaged in 50 lb (USA) or 25 kg (Europe, Africa, Middle East) heavy duty sacks.

CA-SP5 is a Messina trademark

