

TOC Additive KCM038

1. Introduction

A liquid additive, KCM038, has been developed to extend the use of TOC systems to offshore platforms or any other location where the handling of solid additives is impractical. KCM038 imparts the thixotropic properties characteristic of TOC slurries.

KCM038 slurries do not expand upon setting and remain dimensionally stable. It can also be used with any Portland cement. Another advantage of using KCM038 is that higher early and ultimate compressive strengths result.

2. Physical Properties and Hazards

Additives	Form	S.G.	Water Solubility	Health Hazard	Physical Hazard	pH
KCM038	Light green liquid	1.20-1.30	Soluble	Eyes, Skin	Corrosive	1-2

3. Chemical Properties and Application

The defining property of TOC slurries is thixotropy. This is the property of becoming fluid when in motion, such as when being pumped and of forming a gel when allowed to stand. Thus, TOC slurries are thin when mixed and pumped, but after motion has been stopped, they rapidly form a gel structure. This gel structure is strong enough to support the hydrostatic pressure, preventing fallback. If sufficient force is applied to move the slurry, the gel structure is disturbed, and the slurry returns to liquid phase and pumpable state.

TOC systems develop gel strength according to the additive concentration. Reduced gel-formation time and increased gel strength can be achieved by adjusting the KCM038 concentration.

Laboratory tests show that KCM038 provides uniform gel strength and superior thixotropic properties when used with a wide variety of cement brands.

4. Treatment

The thixotropic system consists of KCM038, KCM039 and KCM040. The slurries are designed for use in temperature range from 40 to 100°C BHCT.

When the slurry density is between 1.5-1.9sg, 0.2-1.5gps is considered optimum concentration in most fluid designs.

5. Packaging

KCM038 is supplied in 5 gallons High density polyethylene (HDPE) drum or can. Keep it away from extreme conditions such as places near flames or direct sunlight.