

Flexible Additive KCM024

1. Introduction

Cement is placed in the annulus between the casing and formation to provide long term isolation between formations. However, changes in down-hole conditions such as temperature, pressure can induce sufficient stresses to destroy the integrity of the cement sheath. Therefore, the mechanical properties of cement sheath must be properly designed to tolerate changes in the wellbore stress due to pressure and temperature changes.

2. Physical Properties and Hazards

Additive	Form	S.G.	Water Solubility	Melting/Flash Point (°C)	Health Hazard	Physical Hazard	pH
KCM024	Black grain	1.53-1.73	Insoluble	>93	Eyes, inhalation	Dust	N/A

3. Chemical Properties and Application

The mechanical properties of set cement are determined by KCM024 concentrations in terms of Young's Modulus. Higher concentration of KCM024 results in lower Young's Modulus value and lower compressive strength. In combination with Particle Engineering Technology (PET), the cement system can be designed to exhibit excellent set properties to meet the well requirement.

KCM024 is a flexible material to modify the mechanical properties of set cement and was developed for gas well, HTHP wells, steam injection wells and wells drilled in tectonically active areas.

4. Treatment

KCM024 is used at concentration between 5% and 30%BVOB (by the volume of blend). Concentration below 5%BVOB does not give sufficient improvement to the cement mechanical properties. Set cement containing KCM024 is stable for long exposure to temperature up to 350°C.

5. Packaging

KCM024 is supplied in plastic-lining bags with net weight of 25kg/sack. It should be stored in shaded areas with good ventilation. Keep it away from high temperature, humidity and direct sunlight.