

PRODUCT DATA SHEET

GH-9 Retarder for Oil Well Cementing**Product Description**

GH-9 contains dicarboxylic acid and sulfonate functional groups, which react with tricalcium aluminate (C_3A) and tricalcium silicate (C_3S). Through adsorption, chelation, dispersion and wetting actions, it disperses cement particles via a diffused double electric layer during the early hydration stage, forming a solvation film with calcium ions on the particle surface. GH-9 preferentially adsorbs on C_3A to strongly retard hydration, while showing weaker adsorption on C_3S , thus ensuring the later strength development of the cement stone.

Characteristics

- GH-9 is a polymer composed of sulfonate and organic acid groups.
- Normal dosage: 0.3%–2.5% (BWOC).
- Suitable temperature: 60°C–180°C (BHCT).
- It is effective in medium and deep wells, significantly extending the thickening time and pumpability. A right-angle thickening cement slurry system can be formulated.
- If settlement occurs in the cement slurry due to its strong dispersing ability, an appropriate amount of G302 (oil well cement fluid loss additive) can be added for adjustment.

Technical Specification

Items	Specification
Appearance	Homogeneous liquid without mildew
Initial consistency (90°C / 53.3MPa / 49min), Bc	≤30.0
Thickening time (90°C / 53.3MPa / 49min), min	≥120.0
Mutation value of thickening curve, Bc	≤10.0
Thickening time extension value, min	≥60.0
Dosage sensitivity, %	≤25.0
Temperature sensitivity, %	≤20.0
Transition time (90°C / 53.3MPa / 49min), min	≤40.0
Free liquid(90 °C),%	≤1.4
Compressive strength (113°C / 21MPa / 24h), MPa	≥14.0

Packing, Storage

- Packed in 25 kg plastic barrels or as required by customers.
- During transportation, avoid damage to the packaging. Store in a cool, dry, and well-ventilated place.
- Shelf life: one year.