

## PRODUCT DATA SHEET

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

GH-9 dissolves in water quickly owing to its strong hydrophilic property. It can adsorb on the surfaces of the cement slurry hydrate to inhibit contact with water and chelate with  $\text{Ca}^{2+}$  to prevent crystal nucleus forming early. Therefore, it can retard thickening time. And, it can enhance the late strength of the cement stone because C3A shows weak adsorption performance.

**Characteristics**

- GH-9 consists of sulfonate and organic salts.
- Normal dosage: 0.3%~2.5%(BWOC).
- Suitable temperature: 60°C~180°C(BHCT).
- It is used in the medium and deep well. It can prolong the thickening time effectively and increase the pumped time. It can formulate a right angle thickening cement slurry system.
- If there is a settlement phenomenon happened to the cement slurry because of its strong dispersion performance, the appropriate amount of G302 (oil well cement fluid loss additive) can be added to the cement slurry.

**Technical Specification**

Items	Specification
Appearance	Homogeneous liquid
Initial consistency , Bc/90°C, 53.3MPa, 49min	≤30.0
Thickening time, min/90°C, 53.3MPa, 49min	≥120.0
Mutation value of thickening curve, Bc	≤10.0
Thickening time extension value, min	≥60.0
Sensitivity of increase, %	≤25.0
Sensitivity of temperature, %	≤20.0
Transition time, min/90°C, 53.3MPa, 49min	≤40.0
Free liquid(90 °C), %	≤1.4
Compression strength, MPa/113°C, 21MPa, 24h	≥14.0

**Packing, Storage**

- Be stored in plastic barrels, 25kg/barrel.
- Be kept away from moisture, Stored in cool and dry situation.
- Storage life time is one year.

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