

ELASTIC-PLASTIC MICRO-EXPANSION CEMENTING SLURRY TECHNOLOGY

The cement sheath needs to withstand periodic injection and extraction load, which requires strict sealing and integrity of the wellbore when the gas storage well and the heavy oil thermal recovery well are in operation. Gas production such as shale gas wells must be perforated, staged fracturing and other stimulation measures, which may lead to the destruction of the integrity of the cement sheath, resulting in problems such as the zone isolation, annular pressure and casing damage.

The elastoplastic cement slurry system can effectively reduce the elastic modulus of cement stone and enhance the impact resistance and strain recovery ability of cement stone. It is sure that the integrity of cement sheath, long-term zone isolation and reduce the pressure of annulus are important measures and rigidity requirements for extending the life of oil wells is closely linked to the elastoplastic materials.

Technical Features:

- Complete product sequence: 90°C, 150°C, 240°C.
- Cement elastic modulus can be reduced to between 3GPa and 7GPa with toughness and micro-expansion properties.
- Environmental protection: fine processing and recycling of waste materials.
- Advantages: cost-effective, stable and mature performance.

Scope of Application:

- Density range: 1.2-2.60SG
- Temperature range: 30-240 °C
- Applied to shale gas wells, tight oil wells, gas storage wells, etc.

Technical Achievements:

Possess patent in Elastic-Plastic Micro-Expansion Cementing Slurry preparation technology.

Service Performance:

- Sinopec Fuling, Weiyuan and other southwest shale gas projects have significantly improved the gas sheath pressure and casing damage.
- CNPC Huai'an gas storage project: high cementing quality in the whole well.
- Ultra-deep horizontal well cementing in Mahu gas field, cementing quality: high quality in whole well, no annular pressure.

