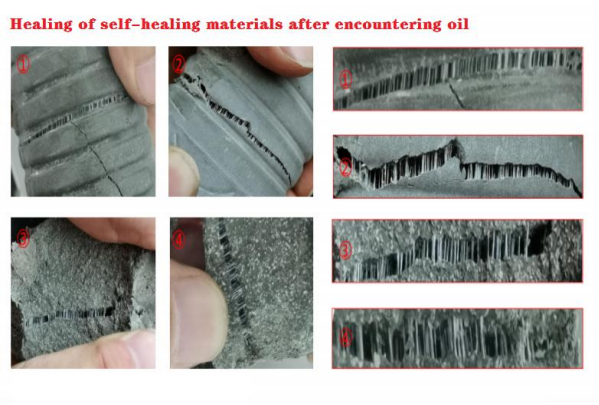
Oil and Gas Self-Healing Cement Slurry

After cementing and completion, when micro-fractures or channeling occurs in the cement sheath or at the interface,water,oil,gas and other hydrocarbon fluids flow along the micro-fractures, stimulating the self-healing agent to flow towards the voids or micro-cracks to fill and strengthen, forming a seal. Blocking, preventing oil, gas and water fluids from channeling,and avoiding the occurrence of annular pressure problems.

Technical Features



- High toughness, weaken the brittleness of cement stone and reduce the probability of cement sheath failure.
- Self-healing cement technology can restore the sealing ability of the cement sheath without manual intervention without interrupting the production of oil and gas wells, avoiding the risks of workover operations such as channeling between oil and gas layers and wellhead pressure.
- Compared with the need for workover operations after annular pressure is applied, it has the characteristics of low risk, strong effectiveness and low cost.

Application scenarios

At present, for all oil wells suitable for self-healing cement slurry , during the cementing construction process, the parameters such as cement slurry density meet the design requirements, and the designed annular sealing length is 250-350 meters. , the occurrence of wellhead pressure, etc.

The core material has good heat resistance, and the initial thermal decomposition temperature exceeds 247℃. The cement slurry system formed by it is generally used in the downhole anaerobic condition, and the oxygen consumption and decomposition of the material itself will be significantly inhibited. In addition, it has good thermal stability. For the product itself, it can fully meet the downhole conditions below 180 ℃.