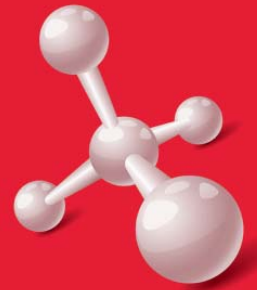


# Solutions

*for conformance improvement and water shut-off for high-temperature applications*



## APPLICATION

The gel can be injected into production or injection wells at temperatures from 200° to 300°F. It can solve the following problems:

- Producing Wells: Bottom water coning, early water breakthrough, fracturing out of zone, conduit from injector to producer, natural fractures connected to bottom water drive
- Injection Wells: Conduit from injector to producer, injection out of zone, thief intervals of natural fractures or high permeability streaks

## DESCRIPTION

These gels are made up of a polymer, a crosslinker, and a stabilizing agent. The three components are mixed at the surface, then injected down into the formation. The reaction rate is sufficiently delayed at high temperatures to allow placement some distance from the wellbore.

## ADVANTAGES

- Robust, versatile gel chemistry that does not require exact chemical concentrations
- Can be used in almost any type of mix water, fresh water is best
- May not require zone isolation in fractured reservoirs
- Zone isolation typically not needed in injection wells
- Can place large volumes to block water flow paths further out from the wellbore than other methods. This reduces new flow paths by passing the gel.
- Works up to 300°F. Can be formulated to work up to 350°F
- Payout is often within 6 to 9 months

## CRITICAL DESIGN FACTORS

- Producers with high fluid levels are excellent candidates
- Perfs must be clean so the gelant can be readily injected
- Minimum efficient injection rate and maximum injection pressure constrain treatment volumes
- Should be able to place over 50% of design gel volume without reaching pressure limit