

# GelBlock temporary annular isolation system

Fast, effective operations without cementing or mechanical isolation

## Applications

- Refracturing operations
- Recompletion operations
- Multizone completions
- Extended-reach perforating

## Features and Benefits

- Reliable, temporary zonal isolation
  - Near-wellbore plug
  - No invasion into natural fractures
- Customizable design based on:
  - Downhole conditions
  - Bottomhole temperature
- Controlled hydration times
- Simplified application, clean-up, and removal
- Reduced completion costs
  - Eliminates mechanical isolation tools
  - Removes the need for additional cement or casing

Baker Hughes **GelBlock™ temporary annular isolation system** provides short-term isolation comparable to cement without permanently blocking off contact with the reservoir or any existing hydrocarbon flowpaths. The GelBlock system is ideal for isolating productive zones during a recompletion or refracturing operation. Then, by pumping a fast-acting breaker, the plug dissolves quickly and completely, leaving the formation face virtually damage-free for optimized production.

## Dependable isolation with fast, easy removal

The water-based GelBlock system incorporates proprietary guar borate chemistry for use at temperatures ranging 125° to 250°F (52° to 121°C.) The fluid is pumped into the well in a substantially non-hydrated form. Our experts customize the slurry based on anticipated pump times and the well's bottomhole temperature. On location, hydration times can be further optimized by adjusting the slurry's pH or adding a delay additive.



The GelBlock system is engineered and pumped as a viscous slurry. Shortly after exposure to downhole temperatures, it hardens into a solid that can be used for temporary isolation of a zone. Then, after pumping a breaker, the hardened material becomes a low-viscosity liquid which is easily circulated out with the production flow.

Time and temperature hydrate the gel slurry, forming a very viscous system which can be spotted across predetermined zones. Specialized breaker packages ensure simple, complete removal of the plug to restore all available hydrocarbon flowpaths for maximized production rates.

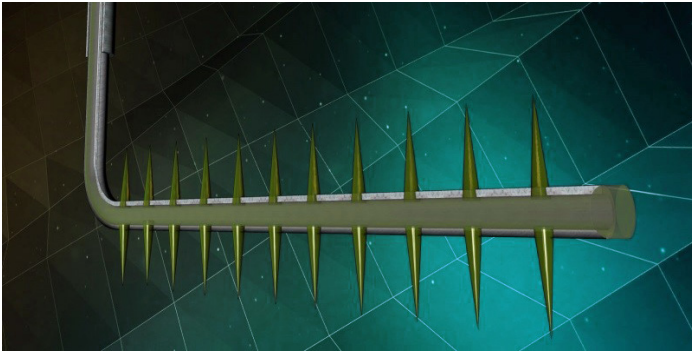
## Simplified refracturing applications

In refracturing applications using the GelBlock system, a liner is run in the existing casing. The GelBlock slurry is pumped down to "cement" the liner in place to temporarily isolate any existing perforations. Once the gel has hardened, the new zones can be perforated and fractured while the existing perforations and fractures remain isolated.

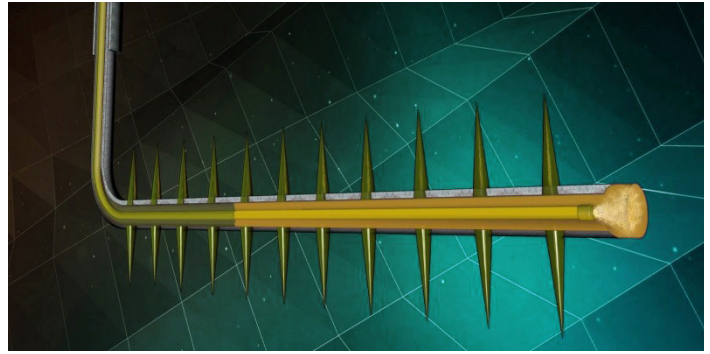
After fracturing is completed, a breaker or acid cleanup dissolves the gel and the liner is removed to permit production flow from both the older fractures and the newly stimulated zones.

## Typical properties

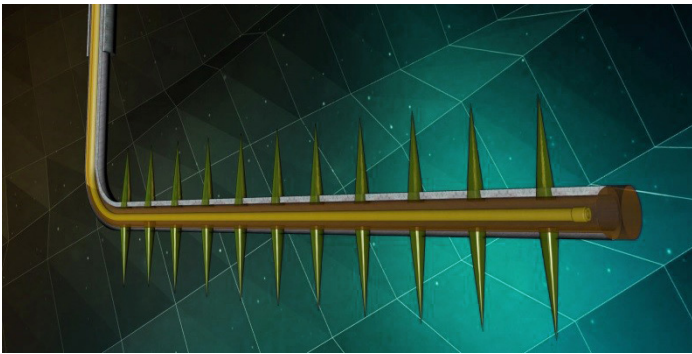
Temperature range	125 to 250°F (52 to 121°C)
Delay time	30 to 120 minutes



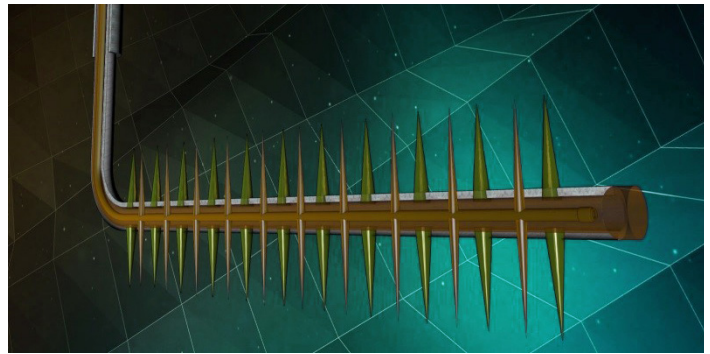
**Step 01:** One of the most common applications of the GelBlock system is in reperforating or refracturing applications where temporary annular isolation is required across the existing perforation clusters.



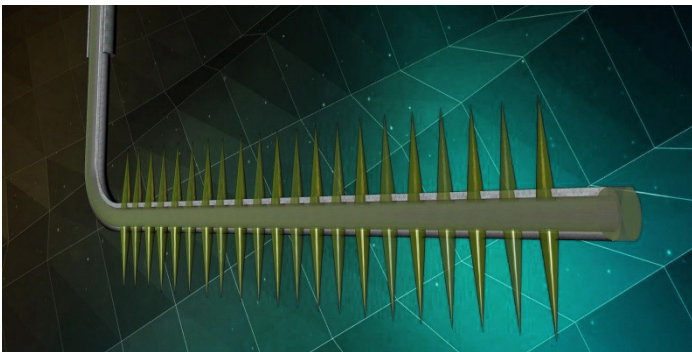
**Step 02:** A liner is run in the existing casing and a GelBlock slurry is pumped down to displace the existing borehole fluids. The slurry is engineered based on anticipated pump times and the well's bottomhole temperature.



**Step 03:** In a short, predetermined amount of time, the GelBlock slurry hydrates to "cement" the liner into place and block off the existing perforation clusters.



**Step 04:** Now that the well's existing perforations and fractures are isolated, new zones can be perforated and fractured.



**Step 05:** After the restimulation is completed, the GelBlock system dissolves and the liner can be removed to permit production flow from both the older fractures and the newly stimulated zones. If more rapid gel removal is desired, a breaker or acid can be pumped to accelerate the gel's breakdown and cleanup.