

## Degradable Frac Diversion System



Vertechs VD series degradable frac diversion system is designed for diverting fluids during stimulation treatment. Naturally, the fluids will reach the zone with lowest rock stress at the early stage of a fracture treatment. By utilizing VDP and VDB, the path to lowest stress zone will be sealed temporarily and withstanding high differential pressure, the fluids is then selectively diverted to new zones with higher rock stress. This deployment of the VD series alternatives, utilizing the engineered particles or sized diverter ball provides a design concept tailored for specific reservoir conditions. This unique and flexible strategy achieves a more uniform stimulation result across the entire payzone.

### VDP Degradable Diversion Particles



10-13mm Particles



100-120mesh Particles

### Applications

- Hydraulic fracturing, acidizing.
- Divert flow path within the fracture.
- Temporarily sealing of unexpected natural fractures during frac.
- Refrac

### Features

- Degradable in (Salt) Water, acid or alkaline solutions.
- Hold differential pressure in exceed of 40MPa (5,800psi).
- Temperature resistance is 284 deg F.
- Customized degradation time & particle size.
- Up to 98% reservoir permeability recovery.
- Proven track records in 100+ wells across China.

### VDB Degradable Diversion Balls



Various sizes



Degraded in slick water

### Applications

- Hydraulic fracturing, acidizing.
- Divert fluids among clusters within a frac stage.
- Temporary shut off of perf sections.
- Refrac

### Features

- Degradable in (Salt) Water, acid and alkaline solutions.
- Compressive stress up to 70 MPa (10,150psi).
- Temperature resistance is 302 deg F
- Customized degradation time & ball size.
- 100% reservoir permeability recovery.
- Proven track records in 20+ wells across China.