

# FlowSure™

## SOLID PARAFFIN INHIBITOR

The Fritz Industries FlowSure™ solid paraffin inhibitor is a controlled-release additive that slowly desorbs from the proppant pack to provide immediate and long-term protection against paraffin deposition. FlowSure™ PI-400 material is comprised of a dry, solid particle onto which a specialty chemical has been adsorbed. The product is nominally within the mesh size of 20/40 proppant. It is placed in the formation via a fracture, frac-pack, gravel-pack, or pre-packed screen system.

The amount of product added to the proppant is based on crush and conductivity tests done in preparation for the job and the expected life of the treatment. When the well begins to produce, the paraffin inhibitor slowly desorbs into the oil phase of production, inhibiting paraffin deposition in the near-wellbore area and tubing. Because the product is dry, it can be easily cleaned up and will not contribute to chemical runoff if spilled. This is environmentally preferable to conventional liquid additives or batch-injection and continuous-injection liquid chemical systems.

PI-400 is a Fritz Industries FlowSure™ product line and is compatible for use with most common stimulation fluids. FlowSure™ products are added to the stimulation fluid and placed deep into the formation, where they can prevent deposition and costly production problems.

### SAFETY PRECAUTIONS

Refer to the safety data sheets (SDS) for handling, transport, environmental and first aid information.

#### Typical Properties

<b>APPEARANCE</b>	Off-white to tan solid granules
<b>ODOR</b>	Mild
<b>TYPICAL MAXIMUM TEMPERATURE:</b> <i>PI-400 inhibitor</i>	400°F (204°C)
<b>SPECIFIC GRAVITY RANGE AT 60°F</b>	1.7 to 1.9 g/cc
<b>BULK DENSITY:</b> <i>PI-400 inhibitor</i>	28 to 33 lbm/ft <sup>3</sup>
<b>PACKAGING</b>	50-lb bags

■ **Note:** Loading rates are based on expected production and desired longevity of treatment. Loadings greater than 2% by weight of proppant should be approved by the technical department based on fracture closure pressure.

#### APPLICATIONS

- Oil and gas wells that exhibit paraffin deposition characteristics

#### FEATURES AND BENEFITS

- **Reduced Costs**
  - Reduces downtime caused by paraffin deposition in the near-wellbore
  - Eliminates or reduces costly interventions
- **Extended Flow Assurance**
  - Safely and efficiently inhibits down-hole paraffin deposition with slow-release, long lasting chemicals
  - Works on produced fluids before reaching the near-wellbore area
- **Comprehensive Well Protection**
  - Contains broad-use paraffin inhibitors
- **Simple Application**
  - Permits multiple applications including gravel packs, frac-packs, or fractures in new or existing wells
  - Offers compatibility with most fracturing fluids
  - Minimizes environmental impact without sacrificing performance
  - Increases transparency of chemical composition to stakeholders