

## PENETONE 4000P SERIES

### PARAFFIN WAX REMEDIATION

**PENETONE 4000P SERIES** is a full product line designed to soften, dissolve, disperse, and inhibit or prevent wax deposition in well bores and in flowline batch treatments. Each product in the **4000P SERIES** is extremely cost effective when employed in conjunction with hot oiling or may be used down hole via continuous injection by side stream or down the packer free well annulus of restricted wells. Alternatively, continuous injection at the well head will reduce deposition in flowlines and surface vessels.

- **4015P** for dissolving existing wax deposits
- **4017P** for additional dispersion at lower temperatures and adherence and agglomeration reduction
- **4022P** for crystal inhibition, adherence and agglomeration reduction, and overall flow improvement

### FEATURES & BENEFITS

- Low freeze points
- Fully active formulations
- Field study data available for **4015P**
- **4015P** can be spotted at deposition points during hot oil well circulations for greater wax dissolution
- **4022P** can be injected down hole above the wax appearance temperature to disrupt wax crystal growth and prevent agglomeration or adherence of smaller wax particles to improve and maintain flow at cooler temperatures



### DIRECTIONS FOR USE

#### Chemical type

**Penetone 4015P: Solvent** – aromatic/aliphatic solvent blend.  
**Penetone 4017P: Dispersant** – aromatic solvent/surfactant blend.  
**Penetone 4022P: Inhibitor** – aromatic solvent/surfactant/paraffin inhibitor blend.

#### Treatment rates

Will vary depending on wax deposition, content, location, and situation. Optimization of the injections rates should be achieved through filed testing.

Continuous well injection treatment rates will typically be between 0.1 - 1 L of **4015P** or **4017P** and 0.25 - 2 L of **4022P** per m<sup>3</sup> of production.

Up to 5% v/v of the volume of oil employed for hot oiling or carrier solvent for flowline batch treatments is recommended to achieve desired results.

#### Additional applications

**4015P** or **4017P** may be used in pigging operations to improve wax removal during paraffin remediation procedures.

*Consult individual SDS for technical information on each product.*