

## RadiLock 3mm Fiber

### Polyacrylonitrile (PAN) Acrylic Fiber

#### General Description

RadiLock 3mm Fiber is a next generation fiber technology based on Polyacrylonitrile (PAN) acrylic. This fiber is proven to effectively seal formation fractures improving fluid loss, loss of circulation, and return to surface properties, while significantly increasing the mechanical properties through ionic bonding with cement.

This fiber is enhanced by its combination of fiber count, strength, and fine denier size. RadiLock 3mm interlocks in the cement slurry matrix creating a mechanical stabilization to control losses, prevent all forms of shrinkage, and also eliminates the micro-crack formation which causes permanent weakening in the cement. It further decreases the cement's permeability and improves the life of the well for greater zonal isolation, protection from corrosion, contaminates and drilling shock. These features work synergistically to stabilize the cementing process to produce a more durable, better bonding cement sheath, maximizing casing support and helping to eliminate secondary cementing.

#### Features / Benefits

RadiLock 3mm offers the following:

- Enhances Return to Surface properties and need for remedial cementing operations
- Dramatic improvements for areas of lost circulation in porous formations, by bridging gaps as well as aiding in support/suspension of the slurry design
- When run in spacers, this product offers improved sealing of the formation.
- Elimination of the micro-crack formation which cause permanent weakening to cement
- Fluid Loss Control Properties and Improvement to Bond Logs
- Improved filter cake stability and consistent slurry fluidity.
- Improved mechanical properties providing more durable, longer lasting cement for the Life of the Well.

#### Applications and Usage Informaton

RadiLock 3mm can be dry blended in the bulk plant for the most consistent dosing techniques, although can also be dosed by hand into the fill tank or through batch mixers. These fibers offer improved dispersion (both in dry and liquid phases) into the cement matrix for improved results over other fibers in the industry. These fibers are compatible with cementing systems and all water, oil and synthetic based fluids. They will not affect the thickening time and do not require extra mixing water.

#### Recommended Loading Levels

##### *For Lost Circulation Additive Properties*

For Lead and Tail Slurries: 0.125-0.25 lbs. per sack of cement

For spacers to enhance sealing and LCM properties: 0.5-1.0 lbs. per barrel (or as high as 2.0 lbs. per barrel).

##### *For Mechanical Additive Properties*

0.25-.50 lbs. per sack of cement

This will allow improvements in mechanical properties including tensile, flexural, shrinkage control, and stress/strain relationship on the cement.

#### Typical Properties

Material: Polyacrylonitrile (PAN) Acrylic Fiber  
Fiber Length: 3mm  
Fiber Count per pound: 1,360,791,073 fibers  
Diameter: <11 microns (1.0 denier)  
Specific Gravity: 1.17 g/m3  
Decomposition Temperature: 626oF / 330oC  
Acid & Alkali Resistance: Excellent  
Tenacity: >600 MPa

*Typical properties given do not constitute a supply specification.*

#### Packaging/Storage

50 lb. Boxes

Store in a dry area protected from moisture.

#### Health and Environmental Data

Before handling or using this product please refer to the Safety Data Sheet for complete health, safety and environmental information. Dispose of waste in accordance with local, state and federal regulations.

We warrant our products to be of good quality and will replace or, at our discretion, refund the purchase price of any products proved defective. Satisfactory results depend not only upon quality products, but also upon many factors beyond our control. Therefore, except for such replacement or refund, RITEKS MAKES NO WARRANTY OR GUARANTEE, EXPRESS OR IMPLIED, INCLUDING WARRANTIES OF FITNESS FOR A PARTICULAR PURPOSE OR MERCHANTABILITY. Riteks shall have no other liability with respect thereto. User shall determine the suitability of the products for the intended use and assume all risks and liability in connection there with. The information provided herein is based on technical data that Riteks, Inc. believes to be reliable. Riteks, Inc. makes no representation or warranty as to the completeness or accuracy thereof and assumes no liability resulting from its use for any claims, losses, or damages of any third party. Recipients receiving this information must exercise their own judgment as to the appropriateness of its use and it is the user's responsibility to assess the material's suitability (including safety) for a particular purpose prior to such use.