



# Flexipel™ HR-C410

Non-fluorinated Water Repellent Product for Textiles

## Overview

- Water repellent and soil resist product for after-market (ambient cure) and mill application (heat cure) on textiles and nonwovens
- Non-fluorinated product
- Bio-based content
- Fabric substrates include polyester, cotton, cotton/polyester blends

### Repellency Data - Textiles

#### 100% Cotton Fabric

For 2.5% actives owf and heat cure of 160°C for 5 minutes: Static Water Repellency rating of 4 Water Repellency/Spray Rating of 90

### Repellency Data - Textiles

#### 100% Polyester Fabric

For 2.5% actives owf and heat cure of 160°C for 5 minutes: Static Water Repellency rating of 4 Water Repellency/Spray Rating of 100

For 2.5% actives owf and ambient cure: Static Water Repellency rating of 3.5 Water Repellency/Spray rating of 80

### Repellency Data - Textiles

#### Cotton/Polyester Fabric (65/35 blend)

For 2.5% actives owf and heat cure of 160°C for 5 minutes: Static Water Repellency rating of 4 Water Repellency/Spray Rating of 90

## Applications

- Treatment of textile substrates such as cotton, polyester, cotton/polyester blends
- Treatment of nonwoven substrates

## Technical Information

Flexipel HR-C410 is a cationic product which provides water repellency for textile and nonwoven substrates. The product can be used for after-market or mill application with a heat cure.

### Formulary

Mix before use.

Flexipel HR-C410 is diluted in water for use, with a recommended starting point of 2.5% actives on weight of fiber (owf).

Fabric application by dip and nip or low-pressure spray are recommended. For mill application, follow with heat cure.

## Typical Properties

PROPERTY	VALUE
Appearance	Opaque, white emulsion
Odor	Mild, acetic acid
pH	3 to 5
Water solubility	Dispersible
Solids, %	16.0 to 18.0
Ionic Nature	Cationic
Density@25°C	0.98 to 1.02 g/ml
Boiling point	100°C
Flash point	Non-combustible
Storage	Perishable if frozen
Shelf life	12 months

## Packaging and Handling

Flexipel HR-C410 is available in:  
275 gallon totes (2200 lbs. net wt.)  
55 gallon TB blue poly drums (440 lbs. net wt.)  
5 gallon OH white poly pails (Net Wt. 40 lbs)

Refer to the Safety Data Sheet (SDS) for information on the safe use, handling, and disposal of this product.

DOT Classification: Non-Regulated

Whether you are looking for a replacement product or an ingredient for a specific attribute, give us a call. We can provide assistance based upon your particular formulation requirements and composition. Please feel free to contact us.

# Flexipel HR-C410

## Water Repellent and Soil Resist Product for Textiles

### Preparation of Test Fabric/Treatment

A treat rate of 2.5% actives on weight of fiber (owf) was used to prepare the test fabric. The Flexipel HR-C410 was diluted in deionized water and applied uniformly to each test substrate by dip and nip application, followed by a heat cure at 160°C for 5 minutes.

### Water/Alcohol Repellency Drop Test (The DuPont Test Method)

To evaluate the relative water repellency of a treated fabric, the Water/Alcohol Repellency Drop Test is commonly used. In this test, a series of wetting solutions with increasing wetting power are applied to a treated test fabric with treated surfaces repelling the strongest wetting solution achieving the highest repellency rating. Repellency was measured by applying 3 drops of test liquid and observing wetting of the treated surfaces. Test liquids ranged from weakly wetting 2% isopropanol in water (1 rating) to strongly wetting 50% isopropanol in water (6 rating). The higher the concentration of isopropanol (higher number rating) of the drop not wetting the surface, the more repellent the surface. If the drops were repelled for longer than 10 seconds, the surface was judged to be repellent to the test liquid.

*The control fabrics had a water repellency rating of 0.*

### Water Repellency: Spray Test (AATCC Test Method 22)

Water sprayed against a taut surface of a fabric test specimen under controlled conditions produces a wetting pattern whose size depends on the repellency of the fabric. Ratings range from 0 for complete wetting of the entire face of the specimen to 100 for no sticking or wetting of the specimen.

*The control fabrics had a water repellency/spray test rating of 0.*

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