



## RHOPLEX™ TR-653 Acrylic Emulsion

Highly Resilient Acrylic Binder for Nonwovens

### Regional Product Availability

- North America

### Description

RHOPLEX™ TR-653 Emulsion is an acrylic emulsion specifically designed to furnish nonwovens with excellent resiliency. This soft binder adheres well to polyester, nylon and cellulosic fibers and also has good durability to washing and dry cleaning. It is suitable as a general purpose binder for hygiene and medical nonwovens applications, interlinings, wet wipes, and high loft nonwoven applications.

RHOPLEX TR-653 Emulsion bonded webs also maintain excellent color stability and flexibility on exposure to sunlight and high temperatures. After 200 hours of exposure in a Fade-Ometer, samples bonded with RHOPLEX TR-653 Emulsion did not deteriorate or discolor, whereas webs bonded with nitrile polymers were stiff and brown after only 18 hours.

### Key Features

- Resiliency
- Soft hand
- Good durability to washing and dry cleaning
- Color stability and flexibility on exposure to sunlight and high temperatures

### Typical Physical Properties

(These properties are typical but do not constitute specifications.)

Property	Value
Appearance	Milky white liquid
Type	Self-crosslinking acrylic
Ionic Charge	Anionic
Solids Content, %	35
pH (as packed)	8.5
Brookfield Viscosity at 25°C, cP (#1 spindle #1, 60 rpm)	15
Glass Transition Temperature, T <sub>g</sub> , °C (DSC method)	-17
Density, 25°C	
lb/US gal	8.7
kg/l	1.04

## Typical Performance Properties

When laundered for five cycles in an automatic washer at 140°F (60°C) with a ballast of eight terry cloth towels, webs bonded with RHOPLEX™ TR-653 Emulsion were equal in durability to those bonded with a butadiene-acrylonitrile polymer.

In another test, which correlates well with durability to dry cleaning (Table 1), nitrile bonded webs required a melamine formaldehyde resin to improve adhesion to the fibers and attain solvent resistance, whereas RHOPLEX TR-653 Emulsion did not. In this test, the tensile strengths of the nonwovens were measured after they had been soaked for 30 minutes in perchloroethylene.

**Table 1 – Perchloroethylene Wet Tensile Strengths (oz/inch width) of Polyester Webs\***

Curing Agent (1% solids on solids)	0% Nitrile polymer	5% RHOPLEX™ TR-653	10% Nitrile polymer	RHOPLEX™ TR-653	Nitrile polymer	RHOPLEX™ TR-653
None	50	200	–	–	–	–
Melamine	–	–	125	250	200	320

\*Webs were 3 oz/sq yd with a total binder of 45% of finished fabric weight.

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