

HYPRO® 1300X43LC VTBNX Methacrylate-Terminated Butadiene-Acrylonitrile Copolymer

Product Description

HYPRO® 1300X43LC VTBNX copolymer is an improved, lower-color version of HYPRO® 1300X43 VTBNX. It has a longer shelf life than the standard version.

HYPRO® 1300X43LC copolymer is a low-molecular-weight, methacrylate-functional liquid rubber. It is a 100% solids reactive polymer used primarily as an additive in acrylic adhesives, sealants and coatings and vinyl esters.

The butadiene-acrylonitrile copolymer backbone provides improved adhesion, toughness, flexibility, low-temperature properties, and impact resistance. As a component in free-radical-cured systems, the VTBNX is incorporated via the vinyl-methacrylate functionality.

HYPRO® 1300X43LC VTBNX copolymer has a random co-polymer backbone with 78.5% butadiene and 21.5% acrylonitrile and multifunctionality. The butadiene provides rubber properties and extends the flexibility and adhesion to low temperatures. It also contributes excellent resistance to moisture, acids and bases. The acrylonitrile provides compatibility with polar additives and improves adhesion to oily metal and to the fiber reinforcements in polymer composites.

The multifunctionality enhances the cross-linking in cured adhesives, sealants and coatings.

Benefits & Features

The improved HYPRO® 1300X43LC copolymer has much lower color (Gardner 5 vs. Gardner 15+) and much better viscosity stability with age and temperature.

HYPRO® 1300X43LC VTBNX copolymer provides toughness, impact resistance and low-temperature properties to vinyl-ester or methacrylate resins and composites and to acrylic adhesives and sealants.

Applications

HYPRO® 1300X43LC VTBNX copolymer is typically used in adhesives, sealants, coatings and resin systems based on vinyl esters or methacrylates. It provides the performance benefits of the rubber (toughener, low-temperature and impact resistance), and it reacts into the cured polymer matrix.

Acrylic adhesives, sealants, coatings:

- Higher T-peel and lap-shear adhesion
- Higher impact resistance and toughness
- Enhanced properties at low temperatures
- Increased resistance to fatigue

Vinyl ester resin, adhesives and composites:

- Higher impact resistance and toughness
- Synergistic toughening with vinyl-ester-rubber adducts and other toughening additives
- Improved compatibility with fiber reinforcement
- Higher T-peel adhesion to metal

Polymethylmethacrylate (PMMA) composites:

- Higher toughness
- Improved compatibility with silica reinforcement

Typical Properties

Property	HYPRO® 1300X43LC VTBNX
Gardner Color	5
Initial viscosity, cP at 27°C	425,000
Functionality	2.4
Molecular weight	3,700
Ratio BD:Acrylonitrile	78.5:21.5
Specific gravity, 25°C	0.981
Glass Transition Temp, °C (°F)	-45 (-49)

HYPRO® 1300X43LC VTBNX copolymer has higher acrylonitrile content than HYPRO 1300X33LC VTBNX. The higher level improves compatibility with polar components, fillers and reinforcements. It also improves the miscibility with the resin and increases the flexibility in the resin. It has a slightly higher glass transition temperature.

Storage

HYPRO® 1300X43LC VTBNX material should be stored in a dry place, in the sealed original containers, at temperatures between **+2C and +8C (+35.6°F and 46.4°F)**. Under these storage conditions, the product has a shelf life of **12 months** (from date of manufacture). The products should not be exposed to direct sunlight. Store **HYPRO® 1300X43LC VTBNX** away from incompatible substances—oxidizing agents, reducing agents, and chemicals that react with methacrylates.

Precautionary Statement

Huntsman Advanced Materials Americas LLC maintains up-to-date Safety Data Sheets (SDS) on all of its products. These sheets contain pertinent information that you may need to protect your employees and customers against any known health or safety hazards associated with our products. Users should review the latest SDS to determine possible health hazards and appropriate precautions to implement prior to using this material.

First Aid!

Refer to SDS as mentioned above.

KEEP OUT OF REACH OF CHILDREN

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