

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 VTBX 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 VTBX
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

FOR PROFESSIONAL AND INDUSTRIAL USE ONLY

Important Legal Notice

Sales of the product described herein ("Product") are subject to the general terms and conditions of sale of either Huntsman Advanced Materials LLC, or its appropriate affiliate including without limitation Huntsman Advanced Materials (Europe) BVBA, Huntsman Advanced Materials Americas Inc., or Huntsman Advanced Materials (Hong Kong) Ltd. ("Huntsman"). The following supercedes Buyer's documents.

Huntsman warrants that at the time and place of delivery all Products sold to Buyer shall conform to the specifications provided to Buyer by Huntsman.

While the information and recommendations included in this publication are, to the best of Huntsman's knowledge, accurate as of the date of publication, NOTHING CONTAINED HEREIN (EXCEPT AS SET FORTH ABOVE REGARDING CONFORMANCE WITH SPECIFICATIONS PROVIDED TO BUYER BY HUNTSMAN) IS TO BE CONSTRUED AS A REPRESENTATION OR WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, NONINFRINGEMENT OF ANY INTELLECTUAL PROPERTY RIGHTS, OR WARRANTIES AS TO QUALITY OR CORRESPONDENCE WITH PRIOR DESCRIPTION OR SAMPLE, AND THE BUYER ASSUMES ALL RISK AND LIABILITY WHATSOEVER RESULTING FROM THE USE OF SUCH PRODUCT, WHETHER USED SINGLY OR IN COMBINATION WITH OTHER SUBSTANCES.

No statements or recommendations made herein are to be construed as a representation about the suitability of any Product for the particular application of Buyer or user or as an inducement to infringe any patent or other intellectual property right. Buyer is responsible to determine the applicability of such information and recommendations and the suitability of any Product for its own particular purpose, and to ensure that its intended use of the Product does not infringe any intellectual property rights.

The Product may be or become hazardous. The Buyer should obtain Material Safety Data Sheets and Technical Data Sheets from Huntsman containing detailed information on Product hazards and toxicity, together with proper shipping, handling and storage procedures for the Product, and should comply with all applicable governmental laws, regulations and standards relating to the handling, use, storage, distribution and disposal of, and exposure to the Product. Buyer shall also take all steps necessary to adequately inform, warn and familiarize its employees, agents, direct and indirect customers and contractors who may handle or be exposed to the Product of all hazards pertaining to and proper procedures for safe handling, use, storage, transportation and disposal of and exposure to the Product, and the containers or equipment in which the Product may be handled, shipped or stored.

HYPRO[®] is a registered trademark of Huntsman Corporation or an affiliate thereof in one or more, but not all countries.

Copyright © 2020 Huntsman International LLC.

Customer Support Center:

Huntsman Corporation
10003 Woodloch Forest Dr
The Woodlands, TX 77380
Tel: +1 (888) 564-9318
Fax: +1 (281) 719-6416
www.huntsman.com