PRODUCT BULLETIN

November 2023

ArmorStar® VSXH Series

Vinyl Ester Blend Skin Coat Laminating Resin

DESCRIPTION

ArmorStar® VSXH Series resins are pre-promoted, vinyl ester blended resins containing styrene monomer. They are formulated for building reinforced plastic parts using open mold processes such as hand lay-up and spray-up. These products are specifically formulated for rapid cure and hardness development in thin laminates, making them ideal for use as a skin laminate in marine and tooling applications.

ArmorStar® VSXH Series resins meet the EPA National Emission Standards for Hazardous Air Pollutants (NESHAP) for Boat Manufacturing and Reinforced Plastic Composites Production.

BENEFITS & FEATURES

- Excellent mechanical properties
- Exceptional cosmetics – low fiber print
- Good blister resistance for marine applications
- Superior heat resistance for long term durability in FRP molds
- Excellent cure in thin laminates for quick cycle times
- Easy application, wet out and air removal

PROPERTIES – LIQUID

Property(1)	Unit	VSXH
Viscosity(2)	cps	550
Thix Index(3)	-	3.0
Weight per Gallon	lbs/gal	9.1

1) All properties at 25°C/77°F unless otherwise noted
2) Brookfield Viscometer RV Spindle #2 at 50 RPM
3) Brookfield Viscometer RV Spindle #2 at 5/50 RPM

PROPERTIES – PHYSICAL

Property[1]	Unit	Neat Resin Casting[2]	Laminate[3]	Test Method
Tensile Strength	psi	9,500	16,000	ASTM D 638
Tensile Modulus	psi	580,000	1,460,000	ASTM D 638
Tensile Elongation	%	2.4	1.6	ASTM D 638
Flexure Strength	psi	16,000	31,000	ASTM D 790
Flexure Modulus	psi	590,000	1,290,000	ASTM D 790
Glass Transition Temperature, T_g	°C/°F	110/230	N/A	POLYNT-22-TAS-TM-3008 (DMA)

1) Physical properties were determined using internal Polynt test methods that are similar to those listed above.
2) 1.5% Arkema Luperox® DHD-9. Cured 16 hrs. @ 77°F; post-cured 4 hrs. @ 150°F.
3) 1.5% Arkema Luperox® DHD-9. Laminate schedule: 2 plies of 1.5 oz. CSM. Glass content 35-37%. Cured for 16 hrs. @ 77°F; post-cured 4 hrs. @ 150°F.

PROPERTIES - OTHER

Choose the desired gel time for your specific product.

Standard Gel Times (minutes)			
22[1]	27[1]	32[1]	40[2]

1) 100 g resin mass with 1.5% Arkema Luperox® DHD-9
2) 100 g resin mass with 1.5% Arkema Luperox® DDM-9 RED

APPLICATION

CAUTION
Do not add any material, other than the recommended fillers and methyl ethyl ketone peroxide, to this product without the advice of a representative of the Polynt.

Refer to Polynt's Composites Applications Guide ("Cookbook") for equipment and application recommendations. Each user must determine the suitability of this product to his/her particular mode of operation and intended end-use application. A Polynt representative will be available to assist in the proper selection of all Polynt products available for commercial use.

SHELF LIFE & STORAGE

The shelf life of ArmorStar® VSXH Series is 120 days from the date of manufacture from Polynt. To maximize usage life and maintain optimum properties, resins and gel coats should be stored in the original closed container at temperatures below 23°C/73°F and away from ignition sources and sunlight. Keep containers sealed to prevent moisture pick-up and monomer loss.

RELATED PRODUCTS

MB-334 Recommended Initiators for Polynt Stypol® L Series and ArmorStar® Series Laminating Resins

SAFETY & WARRANTY

To receive a copy of our safety and warranty information, please email safetyandwarranty@polynt.com.