PRODUCT BULLETIN

July 2025

Polycor® 55X Series

Flame-Retardant Gel Coats

DESCRIPTION

Polynt's Polycor® 55X series flame-retardant gel coats are formulated for use as in-mold coatings for composites manufacturing. When used in conjunction with Polynt flame-retardant resins, composite laminates can be fabricated to meet FR requirements for transportation applications.

Polycor® 55X series gel coats are available in many visually appealing colors. Custom color matching is available upon request.

BENEFITS & FEATURES

- Meets US Federal Transit Administration Docket 90-A requirements for flame spread (ASTM E-162) and smoke generation (ASTM E-662) (1)
- Meets SMP-800 requirements for smoke toxicity (1)
- Meets the EPA National Emission Standards for Hazardous Air Pollutants (NESHAP) for Boat Manufacturing and Reinforced Plastic Composites Production
- Available in a range of colors
- User friendly application, only requires the addition of MEKP for initiation
- For exterior applications, color change and chalking of the surface may be observed.

Notes:

1. When applied properly and used in conjunction with Polynt flame-retardant resins.

PROPERTIES – LIQUID

Property (1)	Unit	55X Series
Viscosity, Colors (2)	cps	12,500
Viscosity, White & off-Whites (2)	cps	14,500
Thix Index	-	6.0 (Min.)
Gel Time (3)	minutes	11.5
Weight per Gallon, Colors	lbs/gal	10.45
Weight per Gallon, Whites & off-Whites	lbs/gal	11.21

1) All properties at 25°C/77°F unless otherwise noted
2) Brookfield Viscometer RVF Spindle #4 at 4 RPM
3) 1.80% United Initiators Norox® MEKP-925

PROPERTIES - OTHER

Open Mold Lamination

Test	Application	Results	
ASTM E162-08: Surface Flammability of Materials using a Radiant Heat Energy Source (1)	Transportation (Docket 90-A Recommended Fire Safety Practices for Transit Bus and Van Materials Selection)	Flame Spread Index, I_s = 11	
ASTM E662: Optical Smoke Density (1) *Specific Optical Density (D_s) at 1.5 min *Specific Optical Density (D_s) at 4.0 min		**Flaming** D_s = 10 D_s = 120	**Non-Flaming** D_s = 1 D_s = 4
ASTM E1354: Heat and Visible Smoke Release Rates Using an Oxygen Consumption Calorimeter (1) *Average Effective Heat Combustion (MJ/kg) *Caloric Content (MJ/kg)	Transportation	 17.7 7.42	
Bombardier SMP 800-C: Smoke Toxicity Test *CO ppm *CO_2 ppm *NO_2 ppm *SO_2 ppm *HCl ppm *HF ppm *HBr ppm *HCN ppm	Transportation	**Flaming** 1990 29950 1 <1 <1 <1 **3** <1	**Non-Flaming** 63 150 1 2 <1 <1 4 <1

Note: Polycor® 55X Series gel coat reinforced with: IFR Resin Series 40 parts, aluminum tri-hydrate 40 parts, and fiberglass 20 parts

Closed Mold Lamination - LRTM

Test	Application	Results	
ASTM E162-08: Surface Flammability of Materials using a Radiant Heat Energy Source (1)	Transportation (Docket 90-A Recommended Fire Safety Practices for Transit Bus and Van Materials Selection)	Flame Spread Index, I_s = 30	
ASTM E662: Optical Smoke Density (1) *Specific Optical Density (D_s) at 1.5 min *Specific Optical Density (D_s) at 4.0 min		**Flaming** D_s = 14 D_s = 138	**Non-Flaming** D_s = 0 D_s = 20
FMVSS 302: Flammability of Interior Materials (1) – Passenger Cars, Multipurpose Passenger Vehicles, Trucks and Buses	Transportation	Burn Rate (mm/min.) = 0 (specimen did not ignite)	
Bombardier SMP 800-C(2): Smoke Toxicity Test *CO ppm *CO_2 ppm *NO_2 ppm *SO_2 ppm *HCl ppm *HF ppm *HBr ppm *HCN ppm	Transportation	**Flaming** 835 (Max.) 28055 (Max.) 4 <1 4 5 1 <1	**Non-Flaming** 77 (Max.) 546 (Max.) <1 <1 27 2 3 <1

Note:

1. Laminate Composition: Gel Coat: Polycor® 55XAP607, Batch B753-177A Catalyzed at 1.75% with Norox® MEKP-9 and spray applied. Resin: Polynt A 6170 A Batch Number B758-115 filled with 38% by weight Huber MoldX® P18 ATH. Filled mix catalyzed with 1.8% MEKP-925. Reinforcement Saertex® SAERflow® 900-180-900. Gel Coat Thickness: 10-15 mils; Total Laminate Thickness: 0.155-0.210 inches.
2. Refer to SGS Test Report 3-41987-0; Completed 3-Feb-2021

Flammability test results for laminates fabricated with Polycor® 55X series gel coat and Polynt flame-retardant resins are provided above. Test results for actual parts will vary depending on their structure and conditions of use. Each fabricator should verify the performance of Polycor® 55X series gel coats in their specific application to ensure compliance with applicable national and international industry codes and insurance standards.

APPLICATION

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 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 standard cure Polycor® 55X Series gel coats is 75 days from the date of manufacture. 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

Fast Cure (FC) PatchAid® 970C961 Spraycure™

Polynt A 6170 A Flame-Retardant Polyester Resin for LRTM

RELATED LITERATURE

Polynt Flame-Retardant Product Line Guide

SAFETY & WARRANTY

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