PRODUCT BULLETIN

August 2023

STYPOL RSP04021 and RSP10021

Pre-promoted Infusion Resins

DESCRIPTION

STYPOL® RSP04021 and STYPOL® RSP10021 are pre-promoted, unsaturated polyester resins containing styrene monomer. They are especially formulated for building reinforced plastic parts using closed molding processes. STYPOL® RSP04021 and STYPOL® RSP10021 have long gel times and low exotherms to enable infusion of large, thick parts.

BENEFITS & FEATURES

- Long gel time and low exotherm enables infusion of large, thick parts
- Good surface cosmetics
- Good strength and toughness for crack resistance
- Low viscosity for good fiber wetting and mold filling performance

PROPERTIES – LIQUID

Property(1)	Unit	RSP04021	RSP10021
Viscosity(2)	cps	100	100
Gel Time(3)	minutes	40	92.5
Gel to Peak	minutes	21	30
Peak Exotherm	°C/°F	-	127/260

1) All properties at 25°C/77°F unless otherwise noted
2) Brookfield Viscometer RVF Spindle #1 at 50 RPM
3) 2.0% United Initiators Norox® MEKP-925

PROPERTIES – PHYSICAL

Property(1)	Unit	Neat Resin Casting(2)	Laminate(3)	Test Method
Tensile Strength	psi	8,000	42,000	ASTM D 638
Tensile Modulus	psi	580,000	2,800,000	ASTM D 638
Tensile Elongation	%	1.6	2.1	ASTM D 638
Flexure Strength	psi	14,000	52,000	ASTM D 790
Flexure Modulus	psi	570,000	2,320,000	ASTM D 790
Heat Distortion Point at 264 psi	°C/°F	69/156	-	ASTM D 648
Glass Content	%	-	68.5	ASTM D 2584

1) Physical properties were determined using internal Polynt test methods that are similar to those listed above.
2) Neat Resin Casting - Stypol® RSP initiated with 2% United Initiators Norox® MEKP-925H. The casting cured for 16 hours at room temperature and post cured for 5 hours 100°C.
3) Laminate construction - 5 plies of 2.0 oz CSM infused with Stypol® RSP. The panel was post cured for 5 hours at 100°C. *Reference UP-08-6654

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APPLICATION

STYPOL® RSP04021 and STYPOL® RSP10021 are quality control tested using United Initiators Norox® MEKP-925 and MEKP-925H respectively. Arkema Luperox® DHD-9 and NOROX® MEKP-925 are expected to yield similar performance. Arkema Luperox® DDM-9 initiator, Norox® MEKP-9 and Norox® MEKP-9H, Akzo Nobel Cadox® L-50a and Cadox® D-50 may also be used but gel and cure times may vary.

The initiator level should not exceed 2.4% or fall below 0.9% for proper cure. An initiator level of 2.00% at 77°F is considered ideal. This product should not be used when temperature conditions are below 60°F, as curing may be adversely affected.

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 STYPOL® RSP04021 and RSP10021 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.

SAFETY & WARRANTY

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