PRODUCT BULLETIN

June 2020

STYPOL® 040-8006, 040-8084

Polyester Closed Molding Resins for RTM

DESCRIPTION

STYPOL® 040-8006 and 040-8084 are pre-promoted unsaturated polyester resins containing styrene monomer. They are formulated especially for fabrication of reinforced plastic parts, using the RTM (Resin Transfer Molding) process. They may be used as is, or with a filler.

BENEFITS & FEATURES

- Fast wet-out
- Early development of Barcol hardness
- Good cure in thin sections
- Excellent retention of physicals after water boil

PROPERTIES – LIQUID

Property[1]	Unit	040-8006	040-8084
Viscosity	cps	105[2]	90[3]
Gel Time	minutes	7	30
Weight Per Gallon	lbs/gal	9.0	9.0

1) All properties at 25°C/77°F unless otherwise noted
2) Brookfield Viscometer LVF Spindle #2 at 30 RPM
3) Brookfield Viscometer LVF Spindle #2 at 60 RPM
4) 1.25% Arkema Luperox® DDM-9

PROPERTIES - PHYSICAL

Property[1]	Unit	Neat Resin Casting[2]	Laminate[3]	Test Method
Tensile Strength	psi	7,000	13,000	ASTM D 638
Tensile Modulus	psi	520,000	910,000	ASTM D 638
Tensile Elongation	%	1.4	1.3	ASTM D 638
Flexure Strength	psi	13,000	23,000	ASTM D 790
Flexure Modulus	psi	550,000	1,020,000	ASTM D 790
Flexural Strength after 2-hour water boil	psi	N/A	22,000 (95% retention)	ASTM D 790
Heat Deflection Temperature	°C/°F	69/156	N/A	ASTM D 648
Hardness, Barcol Model 934-1	HB	47	48	ASTM D 2583
Izod Impact (un-notched)	ft-lb/in	2.3	14.3	ASTM D 256

1) Physical properties were determined using internal Polynt test methods that are similar to those listed above
2) Neat resin casting catalyzed with 1.0% BPO. Casting was cured at 180°F (82.2°C) and post cured for 1 hour at 240°F (115.5°C)
3) Laminate - Resin initiated with Arkema Luperox® DDM-9

APPLICATION

STYPOL® 040-8006 and 040-8084 are formulated with low viscosities for thorough wet-out of reinforcing materials and rapid fill times. In order to fully realize the benefits of their low viscosities, temperature control is recommended. Resin viscosity is affected by temperature. At cooler temperatures, the resin viscosity is higher, and at warmer temperatures, the viscosity is lower. An example of the effect of temperature on viscosity is represented below.

Filled System [1] – STYPOL®040-8006 (80%), Q-325 (20%)				
Temperature	60°F	70°F	80°F	90°F
Filled Viscosity [2]	345 cps	275 cps	195 cps	145 cps

[1] Filled system was 80% STYPOL® 040-8006 and 20% Huber Engineered Materials Hubercarb™ Q-325 20%

[2] Brookfield Viscometer LVF Spindle #2 at 30 RPM

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-Reichhold products available for commercial use.

SHELF LIFE & STORAGE

The shelf life of STYPOL® 040-8006 and 040-8084 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.