PRODUCT BULLETIN

February 2019

STYPOL®

040-3145, 040-3145LV, 040-3146, 040-3147
Unfilled Isophthalic CIPP Resin

DESCRIPTION

Polynt-Reichhold's STYPOL® unfilled isophthalic polyester resins have been developed with enhanced physical properties and chemical resistance for the cured-in-place pipe (CIPP) rehabilitation process.

STYPOL® 040-3145 is an unpromoted version of STYPOL® 040-3146. This product exhibits equal physical properties and achieves identical ASTM test results as STYPOL® 040-3146.

STYPOL® 040-3145LV is a lower viscosity version of STYPOL® 040-3145.

STYPOL® 040-3146 is an unfilled pre-promoted isophthalic-based resin.

STYPOL® 040-3147 is an unpromoted, low viscosity, high styrene version of STYPOL® 040-3146 designed for fast wet-out.

STYPOL® 040-3145 and STYPOL® 040-3146 have been tested and meet or exceed many national standards for pipeline rehabilitation.

BENEFITS & FEATURES

- Prevents degradation in a variety of chemical environments due to premium polymer composition
- Resists drainage and slugging in laterals and crevices due to special thixotropic formulation
- Improves storage and shipping stability of impregnated liners due to improved inhibitor system
- STYPOL® 040-3147 allows fast wet-out due to low viscosity

PROPERTIES – LIQUID

Property[1]	Unit	040-3145	040-3145LV	040-3146	040-3147
Viscosity	cps	3,400[2]	3,000[2]	4,400[2]	480[3]
Thix Index	-	3.75	3.75	3.75	3.75
Gel Time[4]	minutes	14	13	16	28
Start to Peak[5]	minutes	16	TBD	21	33
Peak Exotherm	°C/°F	185/365	TBD	191/375	196/385
Initiated Stability	hours	>24	>24	>24	>24
Weight per Gallon	lbs/gal	9.3	9.3	9.3	8.9
Specific Gravity	g/cm^3	1.12	1.12	1.12	1.07

1) All properties at 25°C/77°F unless otherwise noted
2) Brookfield Viscometer RVF Spindle #4 at 20 RPM
3) Brookfield Viscometer RVT Spindle #2 at 50 RPM
4) 1.0% Akzo Nobel Perkadox® 16 and 0.5% Akzo Nobel Trigonox® 42S per 100 g mass, reactivity at 140 °F
5) Start to Peak – Time interval beginning when the resin reaches 80 °F and ends when the resin reaches its maximum temperature during cure

PROPERTIES – PHYSICAL

The physical properties of STYPOL® 040-3145 and STYPOL® 040-3146 are shown below.

Property[1]	Unit	Neat Resin Casting[2]	Laminate[3]	Test Method
Tensile Strength	psi	9,000	8,000	ASTM D 638
Tensile Modulus	psi	550,000	500,000	ASTM D 638
Flexure Strength	psi	18,000	10,000	ASTM D 790
Flexure Modulus	psi	650,000	680,000	ASTM D 790
Heat Deflection Temperature	°C/°F	98/207	N/A	ASTM D 648

1) Physical properties were determined using internal Polynt test methods that are similar to those listed above
2) Neat resin casting catalyzed with 1% BPO-98. The casting cured at room temperature and post-cured for 1 hour at 186.8°F (86°C) and 2 hours at 248°F (120°C)
3) Laminate with 6 mm felt liner

APPLICATION

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® 040-3145, 040-3145LV, and 040-3147 is 180 days from the date of manufacture from Polynt. The shelf life of STYPOL® 040-3146 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 LITERATURE

MB-367 CIPP IR Scans for Stypol® 040-3141, -3145, -3146, -3148, & -3152
MB-368 CIPP Stypol® ASTM F-1216 Amoco Test Results
MB-369 CIPP Resin Flexural Creep Test
MB-370 Stypol® CIPP D2990 Flexural Creep Test Results

SAFETY & WARRANTY

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