PRODUCT BULLETIN

March 2018

POLYLITE® 31509 Series

RTM and Casting Resins

DESCRIPTION

POLYLITE® 31509 is a series of medium-reactivity, isophthalic, polyester resins formulated to provide resilience and impact resistance. POLYLITE® 31509 has excellent corrosion resistance in dilute mineral acids and in strong salt solutions. POLYLITE® 31509 resins are designed for RTM, casting, filament winding, spray-up, and hand lay-up techniques. It is ideal for applications where inherent impact resistance is required.

Benefits & Features

- Batch-to-batch consistency and uniformity from production utilizing Statistical Process Control (S.P.C) & Statistical Quality Control (S.Q.C) techniques
- Good structural performance, resilience and impact resistance, and good thermal cycling and heat aging due to high molecular-weight resilient base polymer
- Excellent wet-out of reinforcements and accommodation of high filler loading due to low viscosity
- Superior corrosion and blister resistance due to lack of esterification catalysts
- Properly fabricated parts may be used in certain food-contact applications due to components which conform to FDA 177.2420, Title 21

PROPERTIES – LIQUID

Property[1]	Unit	31509-01	31509-02	31509-07	31509-09	31509-11	31509-13
Appearance	-	Clear-Slight Haze	Clear-Slight Haze	Clear-Slight Haze	Clear-Slight Haze	Clear-Slight Haze	Clear-Slight Haze
NVM	%	53	55	52	53	55	55
Viscosity [2]	cps	225	400	225	225	400	400
Gel Time	minutes	12.5[3]	21.5[4]	21.5[5]	24.5[6]	27[5]	37[5]
Gel to Peak	minutes	18[3]	32[4]	32[5]	38[6]	37[5]	49[5]
Peak Exotherm	°C/°F	182/360[3]	160/320[4]	160/320[5]	158/316[6]	160/320[5]	160/320[5]
Specific Gravity[7]	-	1.07	-	1.07	1.07	1.08	1.08

1) All properties at 25°C/77°F unless otherwise noted
2) Brookfield Viscometer RVF Spindle #2 at 20 RPM, @ 25°C
3) Method COMP13 and COMP14 with 0.23 g 6% Co + 0.04 g DMA + 1.4 g MEKP 925 + 0.7 g 46-731 or Luperox 224 per 100.0 g of filled resin. Filled resin = 100 g resin + 39 g DF80 filler. Run gel at 90°F bath until gel occurs-place in 25°C air for GTP and RTP
4) Method 18-050 with 1.0 g MEKP-9H + 0.25 g 12% Co + 0.08 g DMA per 100.0 g of resin
5) Method 18-050 with 1.0 g MEKP-9H per 100.0 g of resin
6) Method 18-050 with 1.0 g CADOX D50a per 100.0 g of resin
7) Method 18-030 @ 25°C

PROPERTIES – PHYSICAL

Property[1]	Unit	Neat Resin Casting[2]	Test Method
Tensile Strength	psi	12,000	ASTM D 638
Tensile Modulus	psi	520,000	ASTM D 638
Tensile Elongation	%	3.5	ASTM D 638
Flexure Strength	psi	22,000	ASTM D 790
Flexure Modulus	psi	560,000	ASTM D 790
Heat Deflection Temperature	°C/°F	91/196	ASTM D 648
Hardness, Barcol Model 934-1	HB	47	ASTM D 2583

1) Physical properties were determined using internal Polynt test methods that are similar to those listed above.
2) Initiator type and ratio: 1.0 g of MEKP-9H per 100.0 g of resin; Cure conditions: 16 hrs. @ 73°F; Post-cure conditions: 2 hrs. @ 150°F, 2 hrs. @ 250°F

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 POLYLITE® 31509 Series resins 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.