PRODUCT BULLETIN

August 2023

DION® 31031 Series

Medium-High Reactivity Pultrusion Resins

DESCRIPTION

DION® 31031 Series resins are resilient isophthalic polyester resins designed for the pultrusion process. Composite profiles produced with this resin system are crack and craze resistant. DION® 31031 resins are excellent for a wide variety of applications such as structural shapes, ladders, tool handles, and cross arms.

BENEFITS & FEATURES

- Batch-to-batch consistency and uniformity from production utilizing Statistical Process Control (S.P.C) & Statistical Quality Control (S.Q.C) techniques
- Excellent resistance to impact cracking, high flexural strength, and suitable for pultruding complex shapes due to high strength and toughness
- Improved UV resistance due to UV stabilization **(DION® 31031-01)**
- Properly fabricated parts may be used in food contact applications due to components conforming to FDA 177.2420, Title 21
- Approved for military applications due to product meeting MIL-R-7575C, Grade A, Class 3 requirements **(DION® 31031-01)**
- Fast line speeds and high gloss due to medium-high reactivity

PROPERTIES – LIQUID

Property(1)	Unit	31031-00	31031-01	31031-05
NVM	%	64	64	67
Viscosity(2)	cps	1,100	1,100	1,100
SPI Gel Time(3)	minutes	4.25	4.25	4.25
SPI Cure	minutes	1.5	1.5	1.5
SPI Peak Exotherm	°C/°F	225/438	225/438	225/438
Weight per Gallon	lbs/gal	9.31	9.31	9.31
Specific Gravity	g/cm^3	1.12	1.12	1.12
Flash Point (Seta Closed Cup)	°C/°F	32/89	32/89	32/89

1) All properties at 25°C/77°F unless otherwise noted
2) Brookfield Viscometer RV Spindle #2 at 20 RPM
3) Catalyzed with 1.0% BPO crystals

PROPERTIES – PHYSICAL

Property[1]	Unit	Neat Resin Casting	Test Method
Tensile Strength	psi	11,000	ASTM D 638
Tensile Modulus	psi	462,000	ASTM D 638
Tensile Elongation	%	4.9	ASTM D 638
Flexure Strength	psi	21,000	ASTM D 790
Flexure Modulus	psi	500,000	ASTM D 790
Heat Deflection Temperature	°C/°F	80/176	ASTM D 648

1) Physical properties were determined using internal Polynt test methods that are similar to those listed above.

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 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 DION® 31031 Series resins is 180 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 PRODUCTS

POLYLITE® 31516-00 Medium-high reactivity resilient terephthalic
DION® 31020-03 High reactivity rigid isophthalic
DION® 31031-00 Resilient isophthalic
DION® 31048-00 Medium-High reactivity resilient isophthalic
DION® 31068-00 Medium-High reactivity resilient terephthalic

SAFETY & WARRANTY

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