PRODUCT BULLETIN

April 2018

DION® 6631 Series

Isophthalic Polyester Resin

DESCRIPTION

DION® 6631 Series are pre-promoted, thixotropic, corrosion grade isophthalic polyester resins. These versatile products feature high molecular weight and crosslink density, and offer good corrosion resistance in a variety of aqueous and acidic media. The performance of DION® 6631 Series resins has been proven by over 50 years of successful service. A select list of chemical resistance possibilities can be seen in the DION® Corrosion Guide.

BENEFITS & FEATURES

- Batch-to-batch consistency and uniformity from production utilizing Statistical Process Control (S.P.C) & Statistical Quality Control (S.Q.C) techniques
- High molecular weight isophthalic polymer which offers good corrosion resistance and strength retention at elevated temperatures.
- Improved hydrolytic stability with no esterification catalyst in product
- Usable in food and beverage contact application with components being listed under FDA 177.2420 Title 21
- Can be used in many potable water applications due to laminates based on DION® 6631 Series ability to meet BS6920 requirements
- Approved for use in military applications with laminates meeting MIL-R-7575C Grades A and B, and Class 0 and 3 electrical properties

PROPERTIES – LIQUID

Property(1)	Unit	6631-00	6631-02	6631-03	6631-06
Appearance	-	Amber	Amber	Amber	Amber
NVM	%	51.5	51.5	53.5	51.5
Viscosity	cps	550(2)	500(2)	600(2)	500(3)
Thix Index	-	2.5	2.5	2.25	3.0
Gel Time	minutes	15.0(4)	20.0(4)	27.5(4)	30.5(5)
Gel to Peak	minutes	12.5	14.0	16.0	16.0
Peak Exotherm	°C/°F	174/346	171/340	163/326	198/388
Specific Gravity	-	1.06	1.06	1.07	1.06
Flash Point (Seta Closed Cup)	°C/°F	32/89	32/89	32/89	32/89

1) All properties at 25°C/77°F unless otherwise noted
2) Brookfield RVF #2 @ 20 rpm for versions 00, 02, 03, 20, and 42
3) Brookfield LVF #3 @ 60 rpm for versions 06, 12, and 45
4) 0.63 cc DDM-9 per 50.00 g of resin for versions 00, 02, 03, and 42
5) 1.50 g DDM-9 per 100.00 g of resin for version 06

PROPERTIES – LIQUID (CONTINUED)

Property[6]	Unit	6631-12	6631-20	6631-42	6631-45
Appearance	-	Cobalt Pink	Pink	Amber	Cobalt Pink
NVM	%	52.5	54.0	53.5	51.5
Viscosity	cps	600[8]	600[7]	600[7]	475[8]
Thix Index	-	2.3	2.0	2.25	2.5
Gel Time	minutes	22.5[10]	15.0[11]	42.5[9]	16.5[12]
Total Time to Peak	minutes	-	29.5	-	-
Gel to Peak	minutes	14.0	-	23.5	12.0
Peak Exotherm	°C/°F	195/383	161/322	160/320	198/388
Specific Gravity	-	1.075	1.06	1.07	1.06
Flash Point (Seta Closed Cup)	°C/°F	32/89	32/89	32/89	32/89

6) All properties at 25°C/77°F unless otherwise noted
7) Brookfield RVF #2 @ 20 rpm for versions 00, 02, 03, 20, and 42
8) Brookfield LVF #3 @ 60 rpm for versions 06, 12, and 45
9) 0.63 cc DDM-9 per 50.00 g of resin for versions 00, 02, 03, and 42
10) 1.50 g MEKP-9 per 100.00 g of resin for version 12
11) 0.63 cc MEKP 900 per 50.00 g of resin for version 20
12) 1.25 g MEKP-925 per 100.00 g of resin for version 45

PROPERTIES – PHYSICAL

Property[1]	Unit	Neat Resin Casting	Test Method
Tensile Strength	psi	9,000	ASTM D 638
Tensile Modulus	psi	590,000	ASTM D 638
Tensile Elongation	%	2.4	ASTM D 638
Flexure Strength	psi	17,000	ASTM D 790
Flexure Modulus	psi	520,000	ASTM D 790
Heat Deflection Temperature	°C/°F	107/225	ASTM D 648
Hardness, Barcol Model 934-1	HB	40	ASTM D 2583

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

TYPICAL LAMINATE PROPERTIES AT ELEVATED TEMPERATURES[1]

Temperature (°C/°F)	Tensile Strength (psi)	Tensile Modulus (psi)	Flexural Strength (psi)	Flexural Modulus (psi)
25/77	20,000	1,630,000	31,000	1,380,000
66/150	23,000	1,510,000	29,000	1,200,000
93/200	25,000	1,380,000	24,000	850,000
121/250	17,000	870,000	15,000	500,000
149/300	13,000	870,000	4,000	300,000

1) Laminate Construction: V/M/M/WR/M/WR/M/M (V = 10-mil C-glass veil, M = 1.5 oz/ft^{2}chopped strand mat, WR = 24-oz/yd^2 woven roving); Glass Content: 40% by weight; Thickness: 0.25”

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 DION® 6631 Series 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.