

September 2004

POLYLITE® 33234 Series
Low-Profile, Low-Styrene Marine Laminating Resins

DESCRIPTION

POLYLITE® 33234 series are pre-promoted(*), thixotropic (*), low-profile, unsaturated polyester resins developed for fabricating small to large FRP structures (boat hulls, decks & other marine applications) where high production rates at room temperature are required. POLYLITE® 33234 resins can also be used for other, non-boat building applications.

Many of the products in this series have a maximum VOC content of 35 percent and comply with California Rule 1162 and Rule 50. These resins are formulated for curing with methyl ethyl ketone peroxide (MEKP) catalyst and may be used for fabrication of general FRP articles using either hand lay-up or spray-up fabrication processes.

*NOTE: Version -01 is NOT promoted and needs POLYLITE® 46525 promoter solution **in addition to an MEKP-type catalyst for room temperature cure. Please refer to specific properties for each version under the Typical Liquid Properties section.**

FEATURES	BENEFITS
<ul style="list-style-type: none"> Less than 35% weight VOCs 	<ul style="list-style-type: none"> Complies with California Rule 1162 and Rule 50 regulating VOC emissions
<ul style="list-style-type: none"> Good handling properties 	<ul style="list-style-type: none"> Rapid wetting of reinforcements Improved turnover and fabrication time Maintenance fo desired resin-to-glass ratio Reduced air entrapment
<ul style="list-style-type: none"> Improved cosmetics 	<ul style="list-style-type: none"> Minimal print-through of reinforcement materials Low post-cure tendencies
<ul style="list-style-type: none"> Tough 	<ul style="list-style-type: none"> Resists impact, thermal, and demolding crack
<ul style="list-style-type: none"> Stable gel time 	<ul style="list-style-type: none"> Consistent gel and cure times at various catalyst levels
<ul style="list-style-type: none"> Versatile 	<ul style="list-style-type: none"> Suitable for hand lay-up or spray-up applications
<ul style="list-style-type: none"> High heat distortion temperature 	<ul style="list-style-type: none"> Mechanical properties maintained at high temperatures
<ul style="list-style-type: none"> No wax additives 	<ul style="list-style-type: none"> Good secondary bonding performance
<ul style="list-style-type: none"> SPC/SQC controlled 	<ul style="list-style-type: none"> Consistent performance batch to batch

The information herein is general information designed to assist customers in determining whether our products are suitable for their applications. Our products are intended for sale to industrial and commercial customers. We require customers to inspect and test our products before use and to satisfy themselves as to contents and suitability for their specific applications. We warrant that our products will meet our written specifications. **Nothing herein shall constitute any other warranty express or implied, including any warranty of merchantability or fitness for a particular purpose,** nor is any protection from any law or patent to be inferred. All patent rights are reserved. The exclusive remedy for all proven claims is limited to replacement of our materials and in no event shall we be liable for special, incidental or consequential damages.

LIQUID PROPERTIES @ 25 °C

VERSION	%NV RCI 18- 001	VISCOSITY CPS RCI 18-021	THIX INDEX RCI 18- 021	GEL TIME (mins) RCI 18- 050	INTERVAL (mins) RCI 18-050	PEAK EXOTHERM (°F) RCI 18-050	SPECIFIC GRAVITY RCI 18-030	COLOR LIQUID RCI 18- 043	INITIATOR Per 100 g resin
33234-01 un- promoted	66.7	600	2.5	30.0	11.5=	315	1.10	amber opaque	1.1 g Norac [®] MEKP-925 AND 0.6 g Promoter‡ 46525
33234-07	65.5	550	3.0	37.0	13.0=	289	1.10	Blue, opaque	1.25 g Norac [®] MEKP-9H
33234-08	64.0	550	3.0	39.0	20=	255	1.10	Blue, opaque	1.25 g Norac [®] MEKP-9H
33234-11	66.5	700	3.5	37.0	13=	299	1.10	Blue, opaque	1.50 cc DDM-9
33234-15	66.7	650	3.0	42.0♥	56.5	290	1.10	amber opaque	1.25 cc DDM-9
33234-17	66.2	750	4.0	16.5	10.5=	330	1.10	pink opaque	1.50 cc DDM-9
33234-21	64.5	725	3.9	20.0	12.0=	330	1.10	blue opaque	1.50 wt.% Superox [®] 46702
33234-24	66.0	475	2.8	21.5	13.0=	325	1.10	amber opaque	1.0 cc HiPoint- 90
33234-25	66.7	650	3.2	22	12.0=	298	1.10	amber opaque	1.5 cc Norac [®] MEKP-9H
33234-26	66.5	700	3.5	15.0	9.0=	355	1.10	Blue- grey, opaque	1.5 cc HiPoint- 90
33234-36	66.7	600	3.0	45.5	12.0=	325	1.10	Blue, opaque	1.5 cc Norac [®] MEKP-9H
33234-40	66.7	600	3.05	36♥	12.5=	295	1.10	Blue, opaque	1.5 cc Norac [®] MEKP-9H
33234-41	66.7	575	2.9	40♥	13.0=	320	1.10	Blue, opaque	1.5 g Cadox [®] L50VR
33234-42	66.0	475	2.08	30	14.0	30.0	1.10	amber opaque	1.4 g HiPoint- 90
33234-43	66.7	575	2.9	45♥	13.5	310	1.10	Blue, opaque	1.5 g Cadox [®] L50VR
33234-48	67.0	500	2.9	17.0	9.0=	290	n/a	amber opaque	1.25 cc DDM-9
33234-50	66.7	600	3.0	53.0	13.5=	325	1.10	Blue, opaque	1.5 cc Norac [®] MEKP-9H
33234-54	66.7	600	3.0	42.5	13.5=	323	1.10	Blue, opaque	1.5 cc Norac [®] MEKP-9H
33234-58	65.0	575	3.5	41.0	19.0=	320	1.10	Amber, opaque	1.25 g Norac [®] MEKP-9H
33234-60	66.7	637.5	2.9	30.0♥	10.0	351	1.10	Blue, opaque	1.5 cc Norac [®] MEKP-9H
33234-61	66.5	637.5	2.9	39.0	10.0	347	1.10	Blue, opaque	1.5 cc Norac [®] MEKP-9H

* Brookfield LVF, spindle #3 @ 60 rpm for versions 01, 07, 08, 11, 15, 16, 25, 26, 35, 36, 41, 43, 48, 50, 54, 58, 60, 61

* Brookfield RVT, spindle #2 @ 20 rpm for versions 17, 21

* Brookfield RVT, spindle #2 @ 50 rpm for versions 24, 42

‡ Reichhold product

= Gel to peak, minutes

♥ RCI 18-068 (Sunshine)

Seta Closed Cup Flash Point of all Polylite[®] 33234 resins is 31.6 °C (89 °F)

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Shelf Life is three months. Minimum shelf life performance refers to product in the original, unopened container. Shelf stability is affected by storage conditions. See the "Storage" section of this bulletin for further details.

TYPICAL MECHANICAL PROPERTIES*

Properties at 25°C / 77°F	Unit	1/8" / 3.2 mm Clear Casting	Test Method
Hardness Barcol 934-1	-	42	ASTM D 2583-99
Tensile Strength	psi	7500	ASTM D 638-02
Tensile Modulus, x10 ⁵	psi	5.0	ASTM D 638-02
Tensile Elongation at break	%	1.7	ASTM D 638-02
Heat Distortion Temperature (HDT)	°C / °F	77 / 171	ASTM D 648
Flexural Strength	psi	13790	ASTM D 790
Flexural Modulus, x10 ⁵	psi	5.0	ASTM D 790

STORAGE

This product is available as non-returnable 55-gallon metal drums (500 lbs. net) or 40,000-44,000 lb. tank truck.

Keep away from ignition sources: flames, pilot lights, electrical sparks, and sparking tools. **NO SMOKING.** Do not store in direct sunlight. Store separate from oxidizing materials, peroxides, and metal salts. Keep container closed when not in use. To ensure maximum stability and maintain optimum resin properties, resins should be stored in closed containers at temperatures below 75°F (25°C). Copper or copper containing alloys should be avoided as containers. Inventory levels should be kept to a reasonable minimum with first-in, first-out stock rotation.

Shelf Life can be two to three months. Minimum shelf life performance refers to product in the original, unopened, container. Shelf stability is affected by storage conditions.

SAFETY

NEVER ADD METAL SALTS (PROMOTERS) OR PROMOTED RESINS TO A PEROXIDE. When adding peroxides to a resin solution, promptly and thoroughly mix the resulting product. Never add organic peroxides to a hot diluent or process. Prevent contamination with foreign materials, including without limitation, accelerators or promoters (such as dimethyl aniline, other amines, and cobalt compounds), heavy-metal oxides or salts (particularly those of cobalt, iron, and copper), strong acids, and sanding dusts. Use containers made of glass, polypropylene, Teflon®, polyethylene, or ceramic to prevent contamination of this material during its handling.

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