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PRODUCT BULLETIN

Creatively connecting knowledge and application.

October 2004

POLYLITE® 32166-15 & 32166-20

POLYESTER ACRYLIC-MODIFIED SOLID SURFACE RESINS

DESCRIPTION

POLYLITE® 32166-15 and POLYLITE® 32166-20 are casting resins developed to produce non-gel coated, solid surface products (similar to DuPont Corian®). Maximum HAP content on both of these products is 35% making them MACT compliant.

APPLICATION

- Resins in the POLYLITE® 32166 series are rigid, with medium reactivity and low viscosity. They are UV-stabilized and stain resistant containing MMA and are pre-promoted for room temperature cure using methyl ethyl ketone peroxide Syrgis® MEKP 900 or equivalent). Often 2.4-pentanedione peroxide (Syrgis® Azox) is used in conjunction with MEKP. **The use of vacuum and post cure is strongly recommended in the manufacture of densified, solid surface products.**

FEATURES	BENEFITS
• Acrylic-modified • Based on Isophthalic acid and Neopentyl glycol	• Look, feel, and smell of cast acrylic • Resists water degredation • Good stain resistance • High heat distortion temperature • Superior thermal shock performance • Resists many organic and inorganic solutions and solvents
• Low viscosity • High solids content Low Styrene	• Permits high filler levels, reducing cost • MACT Compliant • Meets California Rule 50 and SCAQMD Rule 1162
• Specially promoted	• Excellent filler suspension • Short production cycles • Controlled gel and cure drift • Light color

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PROPERTIES

PHYSICAL DATA IN LIQUID STATE AT 25°C / 77°F - POLYLITE® 32166-15

Properties	Unit	Value	Test Method
Non-Volatiles, NV	%	66.5	18-001 / B070
Viscosity - Brookfield, LVF, spindle #3/60 rpm	Cps / mPa·s	1050	18-021/ASTM D 2196-86
Thixotropic Index		-	18-021/ASTM D 2196-86
Specific gravity/Density	g/cm³	1.09	18-030/ISO 2811-2001
Gel time *	minutes	13.0	18-050
Total Time to Peak	minutes	22.5	18-050
Peak Exotherm	°C / °F	171 / 340	18-050
Flash point (Seta Closed Cup)	°C / °F	32 / 89	
Color Liquid		Blue-grey	18-043
Shelf life, minimum	months	3	

PHYSICAL DATA IN LIQUID STATE AT 25°C / 77°F - POLYLITE® 32166-20

Properties	Unit	Value	Test Method
Non-Volatiles, NV	%	66.5	18-001 / B070
Viscosity - Brookfield, LVF, spindle #3/60 rpm	Cps / mPa·s	1050	18-021/ASTM D 2196-86
Thixotropic Index		-	18-021/ASTM D 2196-86
Specific gravity/Density	g/cm³	1.11	18-030/ISO 2811-2001
Gel time *	minutes	16.5	18-050
Total Time to Peak	minutes	26.0	18-050
Peak Exotherm	°C / °F	171 / 340	18-050
Flash point (Seta Closed Cup)	°C / °F	32 / 89	
Color Liquid		Blue-grey	18-043
Shelf life, minimum	months	3	

* 1.0% by volume Syrgis® MEKP 900 per 100 grams resin

TYPICAL MECHANICAL PROPERTIES

Properties at 25°C / 77°F	Unit	1,8" /3,2 mm Clear Casting	Test Method
Hardness Barcol 934-1	-	45	ASTM D 2583-99
Flexural Strength	psi	20,920	ASTM D 790
Flexural Modulus	kpsi	604	ASTM D 790
Tensile Strength	psi	11,270	ASTM D638-02
Tensile Modulus	xpsi	540	ASTM D 638-02
Tensile Elongation at break	%	2.76	ASTM D 638-02
Water absorption - After 24 hours at RT	% weight gain	0.12	ASTM D 570-98
-After 2 hours at 100°C	% weight gain	0.71	ASTM D 570-98
Heat Deflection Temperature	°C/°F	65/149	ASTM D-648
Compressive Strength	psi	18,310	ASTM D695M
Boiling Water Resistance	kpsi	380	ASTM D695M

Clear Castings were prepared by mixing Syrgis® FS100/9 at 1.25 grams per 100 grams of resin allowing the resin to gel overnight (16 hours) at room temperature (73^0F) then postcured for 4 hours at 150^0F.

HANDLING AND CURING

To ensure maximum stability and maintain optimum resin properties, resins should be stored in closed containers at temperatures below 24°C/75°F and away from heat ignition sources and sunlight. Resin should be warmed to at least 18°C/65°F prior to use in order to assure proper curing and handling. All storage areas and containers should conform to local fire and building codes. Copper or copper containing alloys should be avoided as containers. Store separate from oxidizing materials, peroxides and metal salts. Keep containers closed when not in use. Inventory levels should be kept to a reasonable minimum with first-in, first-out stock rotation.

Additional information on handling and storing unsaturated polyesters is available in Reichhold's application bulletin "Bulk Storage and Handling of Unsaturated Polyester Resins." For information on other Reichhold resins or initiators, contact your sales representative or authorized Reichhold distributor.

SAFETY

READ AND UNDERSTAND THE MATERIAL SAFETY DATA SHEET BEFORE WORKING WITH THIS PRODUCT

Obtain a copy of the material safety data sheet on this product prior to use. Material safety data sheets are available from your Reichhold sales representative. Such information should be requested from suppliers of all products and understood prior to working with their materials.

DIRECTLY MIXING ANY ORGANIC PEROXIDE WITH A METAL SOAP, AMINE, OR OTHER POLYMERIZATION ACCELERATOR OR PROMOTER WILL RESULT IN VIOLENT DECOMPOSITION.