

POLYMER COMPOSITES, INC.

Technical Bulletin

1871 South Lake Place Ontario, CA 91761 (909) 673-1625, FAX (909) 673-1605

MAX SEAL

- ✓ ***Solvent resistance***
- ✓ ***Superior scrub resistance***
- ✓ ***Extreme Water Repellant Characteristic***
- ✓ ***Excellent outdoor durability-gloss retention***
- ✓ ***Fast dry times <60 minutes***
- ✓ ***Outstanding adhesion to metals, plastics, concrete etc.***
- ✓ ***Retards fungal and algae growth***
- ✓ ***Resist dirt pick-up***

DESCRIPTION

MAX SEAL is a single component, low VOC, aqueous polyurethane/acrylic hybrid polymer coating developed specifically for coating composites, steel, wood, ceramic, concrete, plastics, and other substrates. MAX SEAL is a non-yellowing coating that exhibits exceptionally toughness and clarity that cures at room temperature without the need for catalysts or cross-link agent. MAX SEAL is ready to use or can be further thinned down with water for micro-thin coating applications. It exhibits a high luster and high gloss finish that is stain resistant and weather resistant. MAX SEAL is non-flammable, low skin irritant, and does not contain chlorinated or Ozone Depleting Chemicals (ODC).

MAX SEAL can also be used as a clear anti-rusting coating for metals such as steel, copper, brass and other soft metals that are susceptible to corrosion or oxidation. MAX SEAL exhibits excellent adhesion and abrasion resistance to many substrates. It also has a neutral pH making it safe for craft projects. MAX SEAL can withstand long-term outdoor exposure and will resist fungal growth.

The exceptional toughness, flexibility and high luster finish makes MAX SEAL an ideal topcoat for wood and metal coatings projects. It demonstrates minimal "flash rusting" when applied directly on unprimed steel and excellent weatherability on primed surfaces. Long-term outdoor exposure test of MAX SEAL coatings demonstrates excellent color stability and chalking resistance. It also exhibits excellent resistance to water and common household cleaners.

MAX SEAL can be utilized as a stain and water sealer for:
Wood Table And Counter Tops, Granite Counter Tops
Pottery And Carvings
Metal Surfaces, Leather Crafts
Concrete, Stucco, Marble Tile
Outdoor Wood And Wicker Furniture
Sporting Goods Coating
Weather Resistant Coating, Rust Preventative Coating

APPLICATION AND USAGE

Apply MAX SEAL by brush, dip, roller, HVLP spray, airless spray or airbrush. It is very low viscosity, making it suitable for coating intricate and high detailed patterns. Apply several thin coatings of MAX SEAL, allowing about 10 minutes before recoating and no sanding is needed in between coats. Typical coverage of 150 to 180 square feet per gallon can be achieved with brush or roller application on porous surface (two to three-coat applications).

For less porous surface, typical coverage of 800-1000 sq.ft/gallon is suggested. Optimum coating performance is achieved after full 24 to 36 hours of room temperature cure. Drying time will vary based on the coating thickness, porosity of the substrate and ambient temperature and humidity. Normally, films will achieve dry to the touch condition within 15 to 30 minutes at 25°C and 45% relative humidity. MAX SEAL must be kept from repeated freezing and thawing. Use clean water for equipment cleanup or removing overspray before it sets dry to the touch.

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PHYSICAL PROPERTIES

Pounds per Gallon	9.2 Lbs.
Form and Color	Milky Liquid
Viscosity	320 to 500 cPs at 25 °C Spindle 3, 100 RPM
Solids Content	45% (by weight)
Cure Schedule (full cure)	3 to 7 days at Room Temperature
pH	6.7 to 7.2
VOC	<10 grams/liter (N-Vinyl Foramide)

Mechanical Properties

Drying Time, (ASTM D 5895-96)	
Set to touch	<25 minutes
Tack free	<40 minutes
Dry Hard	<120 minutes
Stain Resistance	Excellent Against Tea, Coffee, Mustard, Ketchup, Juices, Wine, Motor oil, Grease
Gloss (ASTM D253)	>90 at 60°
Weather Resistance (ASTM 1006)	Negligible loss in mechanical properties after 1 year of direct sunlight exposure. Over 1,000 hours in accelerated weather chamber with less than 5% change in properties.
Weight gained after 10 days of water immersion	<1%
Water Vapor Trans. (ASTME-96)	<1.0 perms per mil
Organic and Fungal Growth	No visual growth after 3 months outdoor exposure
Adhesion (ASTM D3359)	5A- Dry Tape 5A- Wet Tape (24 hours 70°F) 5B- Wet Tape (100 hours 70°F)
Impact Resistance (ASTM D 2794)	>160 Reverse, in-lb
Hardness (ASTM 4366)	Persoz 129

Test specimens where cured for 36 hours at room temperature plus a post baked of 25 minutes at 170° F. Post baking is equivalent to 20 days at ambient temperature. This process is used to insure complete removal of coalescing solvent.

PACKAGING AND STORAGE

MAX SEAL is available in quarts, pails and 55-gallon units. Use size kits and special packaging requests are also available. Store MAX SEAL in a cool dry place. **Do not store above 30 °C for prolonged period or allow to freeze.** MAX SEAL is warranted for twelve months from the date of shipment.

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SAFETY NOTE

This product is for industrial use only. Please review all precautions before using this product. As with all products of the same nature, avoid prolonged inhalation and repeated skin contact. Always wear safety goggles and impervious rubber gloves when handling this material. Large mass curing of this product is not recommended for it may produce noxious fumes.

IMPORTANT NOTICE

The information contained herein is based on data believed to be accurate at the time of publication. Data and parameters cited have been obtained by PCI using materials under controlled conditions. Data of this type should not be used for specification for fabrication and design. It is the user's responsibility to determine this products fitness for use.

PCI warrants only that this product will only meet the cited parameters within the established conditions. There is no warranty of merchantability, fitness of use, nor any other express implied warranty. The user's exclusive remedy and the manufacturer's liability are limited to refund of the purchase price or replacement of the product within the agreed warranty period.

Polymer Composites, Inc. will not be liable for incidental or consequential damages of any kind.

The user should thoroughly test any proposed use of this product and independently conclude satisfactory performance in the application. Likewise, if the manner in which this product is used requires government approval or clearance, the user must obtain said approval.

Determination of the suitability of any kind of information or product for the use contemplated by the user, the manner of use and whether there is any infringement of patent is the sole liability of the user.