

POLYURETHANE 500

PRODUCT DESCRIPTION AND USE

Polyurethane 500 is a high solids, two component, water-based aliphatic polyurethane. This unique material provides performance properties equal to conventional solvent-based catalyzed urethanes without the associated health and environmental problems. It offers substantial performance improvements over first generation catalyzed water-based polyurethanes, including higher film build capabilities, improved chemical resistance and resistance to hot tire staining.

Polyurethane 500 gives hard, fast curing coatings that feature good gloss, easy cleanability and superior abrasion resistance. Resistance to yellowing from U.V. light is excellent. For exterior desert applications, a special U.V. absorber package can be incorporated to insure long-term chalk resistance and gloss retention.

Polyurethane 500 has been developed as a high performance finish coat for various seamless flooring, coating, and architectural concrete applications where odor cannot be tolerated. It is the ideal top coat for areas that require maximum gloss retention, ease of cleaning, and resistance to heavy foot traffic. Typical areas of application would include clean rooms, hospitals, concrete counter tops and high traffic retail areas. Polyurethane 500 is also suitable for aircraft hangars, automotive repair facilities and garage floors. It is available in a satin finish.

Chemical Composition

Hydroxyl functional resin dispersion crosslinked with aliphatic polyisocyanate.

Colors

Clear and 9 standard colors

Limitations

- If multiple coats are required, coating must be deglossed with a black janitorial pad or fine sanding screen.
- Material must be mixed mechanically for proper performance.
- Material must be reduced with 15% water prior to application.
- Application rate must be kept above 250 sq. ft. per gallon to avoid curing bubbles that occur in thicker applications.
- Applications over textured surfaces such as trowel-knockdown polymer concrete must be done with a 3/4" nap roller and pulled tightly to avoid leaving excessive product in recessed areas.
- Work life is considerably shortened over 90 degrees F.
- Do not apply material if the humidity is over 90% and ventilation is poor. Improper cure will result.

WARRANTY INFORMATION

Arizona Polymer Flooring guarantees that this product is free from manufacturing defects and complies with our published specifications. In the event that the buyer proves that the goods received do not conform to these specifications or were defectively manufactured, the buyer's remedies shall be limited to either the return of the goods and repayment of the purchase price or replacement of the defective material at the option of the seller. ARIZONA POLYMER FLOORING MAKES NO OTHER WARRANTY, EXPRESSED OR IMPLIED, AND ALL WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE HEREBY DISCLAIMED. Arizona Polymer Flooring shall not be liable for damages caused by application of its products over concrete with excessive moisture vapor transmission or alkalinity. Arizona Polymer Flooring shall not be liable for any injury incurred in a slip and fall accident. Manufacturer or seller shall not be liable for prospective profits or consequential damages resulting from the use of this product.

TECHNICAL DATA

Physical Properties

Mixing Ratio, by Volume	2-1
Solids Content, by Weight (Clear).....	53%
Solids Content, by Weight (Pigmented)	66%
VOC, grams/liter	100
Pot Life (77 degrees, 1 quart mass)	3 hours
Pot Life (95 degrees, 1 quart mass)	50 minutes
Pot Life is reduced by increasing temperature and/or mass.	
Dry Times (77 degrees, 30% R.H.)	
Dry to Touch	6 hours
Recoat.....	12 hours
Light Traffic	18 hours
Full Cure.....	7 days
Higher temperatures and lower humidity will accelerate cure times.	
Lower temperatures and higher humidity will lengthen cure time.	

Performance Properties

Gloss, 60° (clear material)	88
Pendulum hardness, sec (ASTM D-4336)	175
Tabor Abrasion - 1000 gm. load 1000 cycles, CS 17 wheel.....	39 mg. loss

CHEMICAL AND STAIN RESISTANCE (ASTM D-1308 24 HOUR IMMERSION)

Urine.....	no effect
Blood	no effect
Betadine.....	no effect
Whiskey.....	no effect
Black Ink	no effect
Brake Fluid.....	no effect
Gasoline.....	no effect
Skydrol	no effect
Xylene	no effect
MEK.....	no effect
50% Sodium Hydroxide	no effect
10% Hydrochloric Acid.....	no effect
10% Sulphuric Acid.....	no effect
10% Acetic Acid.....	no effect

GENERAL INFORMATION

Moisture Vapor Emissions/Alkalinity Precautions

All interior concrete floors not poured over an effective moisture vapor retarder are subject to possible moisture vapor transmission and related high levels of alkalinity that may lead to blistering and failure of the coating system. It is the coating applicator's responsibility to conduct calcium chloride and relative humidity probe testing to determine if excessive levels of vapor emissions or alkalinity are present before applying any coatings. These test kits are available from APF. Arizona Polymer Flooring and its sales agents will not be responsible for coating failures due to undetected moisture vapor emissions or related high levels of alkalinity.

Surface Preparation

Surface must be clean, structurally sound and free of chalk, wax, loose paint or curing compounds. Application over concrete requires the use of a primer. Previously coated surfaces must be mechanically cleaned and abraded with steel wool or 50 grit sandpaper or an aggressive black pad to insure intercoat adhesion.

Mixing Instructions

Mix only that amount of material that can be used in a 3 hour period at 77°F. Higher temperatures reduce work time. In hot weather, it is advisable to mix smaller batches. Premix Part A before adding part B. Mixing ratio is 2 parts A to 1 part B. **Add part B slowly while mechanically agitating part A with a slow speed drill. Mix for 2 full minutes until completely homogenized. Material cannot be properly mixed by hand. Use a small “squirrel cage” mixer for mixing small amounts.**

Thinning

Material must be thinned 15% with water prior to use to achieve a low application viscosity. This equates to one quart of water for each 1 ½ gallons of mixed material. **The reduction water must be added after part A and B have been drill mixed.**

Application Recommendations

Polyurethane 500 should be applied 250-400 sq. ft. per gallon by brush, roller or airless spray. Do not allow to puddle or accumulate in joint areas. Applications heavier than 250 sq. ft. per gallon will create bubbles in the cured coating. If multiple coats are required, coating must be deglossed with a black janitorial pad or fine sanding screen.

Handling Precautions

Use only with adequate ventilation. Appropriate cartridge-type respirator must be used during application in confined areas. Avoid contact with skin; wear protective gloves. Read Material Safety Data Sheet before using.

Slip and Fall Precautions

OSHA and the American Disabilities Act (ADA) have now set enforceable standards for slip-resistance on pedestrian surfaces. The current coefficient of friction required by ADA is .6 on level surfaces and .8 on ramps. Arizona Polymer Flooring recommends the use of angular slip-resistant aggregate in all coatings or flooring systems that may be exposed to wet, oily or greasy conditions. It is the contractor and end users' responsibility to provide a flooring system that meets current safety standards. Arizona Polymer Flooring or its sales agents will not be responsible for injury incurred in a slip and fall accident.