Technical Data Sheet

Protect 1000 AM

Antimicrobial Epoxy Coating System

PROTECTIVE INDUSTRIAL POLYMERS
7875 Bliss Parkway North Ridgeville, OH 44039
440-327-0015 440-353-0549 - FAX

DESCRIPTION:
Protect 1000 AM is a two or three-component (when pigmented), universal, 100% solids, antimicrobial epoxy resin coating system that can be applied as a clear or pigmented coating or primer. Protect 1000 AM is supplied with an antimicrobial curing agent. This product produces a gloss finish.

Protect 1000 AM has been modified with an antimicrobial component that is integral to the manufactured product. The product is protected against bacterial and fungal growth. The antimicrobial properties will remain effective for the life of the product.

USES:
Use as a primer, build coat, broadcast, grout filler and top coat simply by selecting and mixing with the correct curing agent.

ADVANTAGES:
- Match the curing agent to the needs of the project.
- Extremely low odor
- High build application
- Excellent impact and abrasion resistance
- Seals substrate reducing water vapor intrusion
- Resists staining from cleaning and industrial chemicals
- Complies with VOC regulations for industrial maintenance coatings in the OTC and CA*. (*excluding SCAQMD when thinned to maximum)

STORAGE: Materials should be stored in un-opened containers between 65°F (18°C) and 90°F (32°C) and at or below 50% RH.

SHELF LIFE: 1 year from date of manufacture (un-opened).

PACKAGING KITS/ PART NUMBERS:

3 Gallon Clear Kit:
Protect 1000-A/5SF
Protect 1000AM-B/1
15 Gallon Clear Kit:
Protect 1000-A/5 (2 ea.)
Protect 1000AM-B/5
159 Gallon Clear Kit:
Protect 1000-A/55 (2 ea.)
Protect 1000AM-B/55

3.125 Gallon Pigmented Kit:
Protect 1000 -A/5SF
Protect 1000AM-B/1
CPU-###/P
15.63 Gallon Pigmented Kit:
Protect 1000-A/5 (2 ea.)
Protect 1000AM-B/5 (1 ea.)
CPU-###/P (5)
165.6 Gallon Pigmented Kit:
Protect 1000-A/55 (2 ea.)
Protect 1000AM-B/55
CPU-###/P (53)
OPTIONS:

Color-Many standard and custom colors are available. Please refer to the price list for available colors. Brilliant or pastel colors may require multiple coats or double color packs to obtain full hide on a substrate of dis-similar color.
Various aggregates of different size shapes and composition can be incorporated into **Protect 1000 AM** to improve traction in slip hazard areas.

LIMITATIONS:
Contamination and surface defects: If contaminates including oil, silicone, mold release agents and/or other materials are present, resin systems may fisheye or crawl away from the surface. All surface contaminates should be removed with a suitable detergent prior to application. Solvent cleaning of silicone based contaminates is NOT RECOMMENDED. Please contact Technical Service for additional recommendations. **Protect 1000 AM** may amber over time from UV exposure. Top coating with a pigmented aliphatic urethane will provide UV stability.

MATERIAL PROPERTIES*:

Properties	Test Method	Results
Flash Point	ASTM D3278	≥215 °F (102°C)
Volume Solids (mixed)	ASTM D2369	100 %
Mixed Viscosity	ASTM D2196	400-700 cPs
Dry Time	ASTM D5895	Tack Free 4-6 hr Dry 6-10 hr Full Cure 7 days
VOC-Volatile Organic Compound	ASTM D3960	0 g/l clear & pigmented ≤250 g/l with max thinning

CURED PROPERTIES*:

Properties	Test Method	Results
Abrasion Resistance Tabor CS-17, mg loss/1000 cycles/1000g mass	ASTM D4060	75 mg
Coefficient if Friction-COF James Test	ASTM D2047	0.55 0.65(w/NS-36)
Tensile Strength	ASTM D2370	12,000 psi
Adhesion to Concrete	ASTM D4541	350 psi concrete failure
Impact	ASTM D2794	40 in.lbs Direct & Reverse
Hardness (Pencil)	ASTM D3363	2H

Technical Data Sheet

Protect 1000 AM

Antimicrobial Epoxy Coating System

PROTECTIVE INDUSTRIAL POLYMERS
7875 Bliss Parkway North Ridgeville, OH 44039
440-327-0015 440-353-0549 - FAX

Dry Film Thickness	at 15 mils WFT	15 mils

*Properties and results are based on laboratory testing at 72°F (22°C) %50 RH, theoretical calculations and estimates. Typical properties, as stated, are to be considered as representative of current production and should not be treated as specifications.

CHEMICAL RESISTANCE*: Consult Protective Industrial Polymers for specific requirements.

RECOMMENDED APPLICATION RATE:
7-10 mils as a primer (optional additional of xylene solvent);
up to 30 mils as a coating.

Primer Applications:
Up to 1 gallon of xylene solvent can be added per 3.00 gallons of resin (total 4.00 gallons) for a maximum concrete penetration. VOC rating at this dilution is < 250 g/l. Protect 1000 AMCR-B is the recommended hardener for this application.

CURING AGENT:

Protect 1000 AM-B is a general purpose curing agent with good UV and chemical resistance properties. Protect 1000 AMHB exhibits excellent gloss and aesthetics with extremely low blush propensity. Protect 1000 AMHB is not intended for direct-to-concrete applications where there are known or suspected high levels of water vapor transmission.

INSPECTION AND APPLICATION:
Caution! Follow all precautions and instructions prior to installation.

SUBSTRATE: The substrate must be free of curing membranes, silicate surface hardener, paint, or sealer and be structurally sound. If you suspect concrete has been treated or sealed, proceed with complete removal process. Consult your PIP representative for further instruction if silicate hardeners or membranes have been utilized.
MOISTURE: These coatings may be used if the concrete exhibits a maximum moisture vapor transmission (MVT) of 3 pounds per 1000 sq. ft. over 24 hours using calcium chloride testing ASTM F1869 and a maximum internal relative humidity of 75% using ASTM F2170.

VAPOR/CONTAMINATION: Testing for MVT does not guarantee against future problems. If there is no known vapor barrier or the vapor barrier is inadequate, there is an elevated risk of bond failure. Other factors including the migration of oils, chemicals, excessive salts or Alkali Silica Reaction (ASR) from the concrete from may also elevate the risk of adhesion difficulties. Consult your PIP representative for approved mitigation treatments.

TEMPERATURE AND HUMIDITY: During the application and cure of the coating, the substrate temperature, material temperature and room conditions must be maintained between 65°F (18°C) and 90°F (32°C). Relative Humidity (RH) should be limited to 30-80%. DO NOT apply coatings unless the surface temperature is more than five degree over the dew point.

APPLICATION EQUIPMENT:

- **Protective equipment and clothing as called for in the MSDS**
- **Jiffy® Mixer Blade model ES**
- **Clean container for mixing material**
- **Low speed high torque drill motor**
- **High quality short nap roller covers- ¼-3/8 inch nap**
- **Application Squeegee**

PREPARATION:
Surface dirt, grease, oil and contaminates must be removed by detergent scrubbing and rinsing with clean (clear) water.
Mechanical Preparation: Shot Blasting or grinding the surface is the preferred method of preparation. The success of industrial diamond grinding as a concrete preparation method will vary depending on technique and the hardness of the concrete.

JOINTS: All non moving joints (control joints) can be filled with a rigid or semi-rigid joint compound. Construction joints may be filled with semi-rigid joint filler and might need to be re-built and re-cut depending on conditions. Isolation or expansion joints must be filled with a flexible material designed for expansion and should not be coated over.

MIXING: *In bulk packaging containers such as full 5-gallon containers and drums, pre-mix the Part A prior to in field metering.*
Mix ratio for curing agent 1000AMis 2 Parts A to 1 part B by volume. A pint of CPU color is recommended per 3 gallon mix. The color pack should be added and mixed in homogenously prior to adding the Part B hardener. Mix all components together for 2-3 minutes with a Jiffy® ES mix blade attached to a slow speed drill. Mix only enough material at one time that can be applied without exceeding the pot life. ***Note:*** Once this material is mixed it can't be resealed for later use.

APPLICATION:

***APPLY* Protect 1000 AM** to the floor surface using a notched or flat squeegee depending on desired thickness. Leaving the material sit in the pail longer than 5 minutes will result in an increase of viscosity and reduce leveling properties. Back roll and evenly spread the wet coating using a ¼-3/16" inch nap non-shed roller. Care should be taken to overlap and cross lap, but not over roll the coating introducing air to the surface.

***RECOAT:* Protect 1000 AM** can be top coated with other PIP urethanes or epoxies within 24 hours (see exception under Protect 1000 AMFS-B curing agent) at 70-75F 30% RH without sanding or may be used as a topcoat over existing (sound) PIP epoxy coatings. If the re-coat window has expired, the prior cured coating surface must be sanded with 100 grit sand paper or sanding screen installed on a swing-type floor buffer. Sand to a uniform dulled surface. Remove all sanding debris with a vacuum and damp mop. Scrub with detergent and rinse with clean water. Surface must be dry before coating.

SPREADING RATE: When **Protect 1000 AM** is applied as a primer, surface irregularities and porosity in the concrete may affect coverage rate. Be sure to plan accordingly as there may be a need

Technical Data Sheet

Protect 1000 AM

Antimicrobial Epoxy Coating System

PROTECTIVE INDUSTRIAL POLYMERS

7875 Bliss Parkway North Ridgeville, OH 44039
440-327-0015 440-353-0549 - FAX

for extra material to provide proper coverage. Material applied too heavy may blister or can be soft during curing. Too little material may produce dry spots and a non-uniform look. The best practice is to measure and grid the floor to be sure of proper application rate.

CURING (DRYING): Allow the coating to cure (dry) for a minimum 24 hours after application at 75°F (24°C) and 50% RH before opening the floor to light traffic, allow more time for low temperatures and higher humidity or for heavier traffic. Full coating properties may take up to 7 days to develop.

TECHNICAL SUPPORT: For application questions, please contact your salesman or PIP technical service at 440-327-0015.

DISPOSAL: Dispose in accordance with federal, state, and local regulations.

READ MATERIAL SAFETY DATA SHEET (MSDS) FOR SAFETY AND PRECAUTIONS. USE PRODUCT AS DIRECTED FOR INDUSTRIAL USE ONLY. KEEP OUT OF REACH OF CHILDREN.

MAINTENANCE GUIDELINES:
Allow floor coating to cure at least one week before cleaning by mechanical means (IE: sweeper, scrubber, disc buffer).
CARE: Increased life of the floor will be seen with proper maintenance and will help maintain a fresh appearance of your new Protective Industrial Polymers floor. Regularly sweep to avoid ground in dirt and grit which can quickly dull the finish, decreasing the life of the coating. Spills should be removed quickly as certain chemicals may stain and can permanently damage the finish.
Only soft nylon brushes or white pads should be used on your new floor coating. Premature loss of gloss can be caused by hard abrasive bristle Polypropylene (Tynex®) brushes.
CAUTION: Heavy objects dragged across the surface will scratch all floor coatings. Avoid gouging or scratching the surface.
Pointed items or heavy items dropped on the floor may cause chipping or concrete pop out damage. Plasticizer migration from rubber tires can permanently stain the floor coating. If a rubber tire is planned to set on the floor for a long period of time, place a piece of acrylic sheet between the tire and the floor to prevent tire staining. Rubber burns from quick stops and starts from lift trucks can heat the coating to its softening point causing permanent damage and marking.
REPAIR: Repair gouges, chip outs, and scratches as soon as possible to prevent moisture and chemical under cutting and permanent damage to the floor coating.

CONDITIONS OF SALE AND LIMITATION OF WARRANTY AND LIABILITY:

Protective Industrial Polymers Inc. warrants that goods shipped will conform to the manufacturer's written specifications. Protective Industrial Polymers accepts no responsibility or liability for consequential damage resulting from failure in performance regardless of whether or not our products are found to conform to our specification or have failed due to other means. Liability is limited to the supply of replacement product for only the areas proved to be defective. The term of limited warranty shall be one year from date of purchase of materials. Installation of all products purchased must be by approved professional installers recognized by Protective Industrial Polymers. Contact your sales representative or Customer Support for confirmation of contractors. A modification to any component nullifies any warranty. Proper record of field conditions must be maintained by the installer (I.E. surface and atmospheric conditions, usage rates, and lot numbers of product installed). Protective Industrial Polymers reserves the right of inspection of any installed product, installation and maintenance records and may conduct additional testing as is reasonably required to determine cause. Warranty is only in force for products or materials that have been paid in full.
Protective Industrial Polymers disclaims liability for incidental and consequential damages resulting from a breach of any warranty, expressed or implied including damages caused by, but not limited to, the following: Acts of GOD including fire, flood and warfare, Building or structural weakness including settling, casualty, or accident, Exposure to destructive chemicals not specified in the proposal or processes, Gouging of the floor coating surface by not providing reasonable protection and maintenance or any improper use of the floor, Facilities equipment and machinery being installed after floor system was applied, Business interruption, Premature use of floor without proper cure period, Damages by acts of others to property and personal. Moisture Vapor Transmission (MVT) and ASR (Alkali Silica Reaction) Disclaimer and Exclusion: Although rare, some floors at or below grade level are sometimes subjected to saturation by moisture from beneath the concrete floor slab. This moisture can travel through the concrete and collect between floor toppings creating the potential for delaminating from hydrostatic pressure and or ASR. Conditions contributing to this include heavy rainfall, broken pipes, excess hydration within fresh concrete, and other factors or defective and old concrete. These factors are difficult, if not impossible to predict. Protective Industrial Polymers recommends testing for MVT and/or the presence of ASR in the concrete substrate prior to applying any polymer floor topping. The recommended test method for MVT utilizes calcium chloride test kits. ASR can be predicted by a higher than normal pH within the concrete. If high pH should be detected, it is recommended a lab test for ASR. If and when delamination of the floor occurs because of a moisture condition that exists beneath or in the concrete slab or failure of the concrete due to ASR, this Limited Warranty does not extend to such delaminating or topping failure.
This writing constitutes the sole and only agreement of warranty relating to Protective Industrial Polymer products. Any prior agreements, promises or representations by Protective Industrial Polymers not expressly set forth in this agreement are of no force and effect.

THIS WARRANTY IS IN PLACE AND IN LIEU OF ALL OTHER WARRANTIES, EPRESSED OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE AND OF ANY OTHER OBLIGATIONS OF PROTECTIVE INDUSTRIAL POLYMERS.