Technical Data Sheet

PIP 4300 PA

Polyaspartic Coating

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

DESCRIPTION:

PIP 4300 PA is a 2 or 3-component (when pigmented), 100 % solids modified aliphatic/polyaspartic floor coating material that exhibits fast cure, excellent UV resistance and has very low odor. **PIP 4300 PA** is an ideal coating for use in decorative applications where a rapid cure, UV resistant, low odor, high build coating is desired. **PIP 4300 PA** exhibits good resistance to the most common chemicals, has zero VOC's and meets all USDA guidelines for use in federally inspected facilities.

USES:

PIP 4300 PA provides excellent abrasion resistance and long-lasting protection for any Protective Industrial Polymers' floor coating system. This unique, fast-setting material is ideal for areas that need to be returned to service quickly but also need good abrasion, chemical and UV resistance.

ADVANTAGES:

- 100% Solids
- Fast return to service
- Solvent-free
- Good overall chemical resistance
- Very low odor
- Superior UV resistance

STORAGE: All products should be properly stored above the floor on pallets or shelves, and in an area that has a constant minimum temperature of 50^0 F (10^0 C).

SHELF LIFE: Un-opened containers 1 year from date of manufacture.

PACKAGING KITS/ PART NUMBERS:

PIP 4300 PA – 3 gallon kit
4300-A/5SF
4300-B/1
CP-Uxxx/P Color Pack (optional)

PIP 4300 PA – 15 gallon kit
4300-A/5 (2)
4300-B/5
CP-Uxxx/P Color Pack (optional) (5)

LIMITATIONS:

- Use extreme caution when humidity exceeds 70% indoors.
- Do not allow to puddle during application.
- Allow each coat to dry to 'tack-free' or clear prior to re-coat.
- When re-coating, apply the next coat within 24 hours of completing the previous coat.
- Do not apply this product heavier / thicker than the recommended spread rate / mil thickness.

APPLICATION PROPERTIES*:

Volume Mix Ratio	2 to 1 (Resin to Hardener)
Viscosity (mixed)	400-600 CPS Typical
Solids Content (%)	100% (ASTM D-2697)
VOC	0 g/l (EPA Method 24)
Application Temp	30°-85° F (0°-29° C)
Working Time	10-12 Minutes @ 75°F (24°C)
Recoat Time (minimal foot traffic for recoat)	2-3 Hours @ 75°F (24°C)
Moderate Foot Traffic	4 Hours @ 75°F (24°C)
Open to Forklift traffic	12-16 Hours @ 75°F (24°C)

Flexibility	ASTM D1737	Passes ¼"
Elongation	ASTM 2370	10%
Tensile Strength	ASTM D412	5000 psi
Abrasion Resistance	ASTM D4060	45mg. loss
	(CS-17 wheel 1000 cycles, 1000 gram load)	
Coefficient of friction	ASTM 2047	0.60
Gardner Impact Resistance		160 in/lbs
UV Resistance	delta E QUV-A, 500 hrs	3.2
Hardness	Shore D	75

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: Moisture and moisture vapor transmission rates are dynamic in nature and may change over time. Initial testing does not guarantee future results. If the relative humidity of the concrete substrate is over 75% (using ASTM F2170), Protective Industrial Polymers must be consulted and issue a written moisture mitigation recommendation prior to product use.

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) for best outcome. Relative Humidity (RH) should be limited to 30-70%. As the relative humidity and temperature increase, working time, pot life, leveling and cure time decrease rapidly. DO NOT apply coatings unless the surface temperature is more than five degree over the dew point.

© Protective Industrial Polymers Inc.

Technical Data Sheet

PIP 4300 PA

Polyaspartic Coating

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

APPLICATION EQUIPMENT:

- **Protective equipment and clothing as called for in the SDS (Safety Data Sheet)**
- **Jiffy® Mixer Blade model ES.**
- **Clean container to mix materials in.**
- **Low speed high torque drill motor.**
- **High quality short nap roller covers ¼ inch mohair.**
- **Application Squeegee or application trays.**
- **Disc sanding equipment with 80-100 mesh sanding screens.**
- **Vacuum equipment.**

PREPARATION:
Surface dirt, grease, oil and contaminates must be removed by detergent scrubbing and rinsing with clean (clear) water.
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. It is best practice to use a concrete epoxy primer before application of PIP 4300 PA.

MIXING:
Volume Mix Ratio: 2A : 1B : .125C (color optional)
Use a Jiffy® ES mix blade attach to a slow speed drill (using a paint stick to mix is not adequate). Mix only enough material at one time not to exceed the pot life. ***Note:*** Once this material is opened and mixed it can't be resealed for later use. If pigmented coating is desired, first add color pack, (CPU- xxx) to Part A and mix for 1 minute. 1 pint to 1 quart of color pack can be added depending on opacity and color choice requirements. Then add Part B and mix all components together for an additional 1-1.5 minutes.

APPLICATION:
RECOMMENDED APPLICATION RATE:
PIP 4300 PA can be applied at 8-10 mils (160- 200 SF/gallon per coat on a neat smooth surface. For application over a silica sand or quartz broadcast, maximum application rate is 100SF/gallon (16 mils consumption rate). This will result in a textured surface. Apply by brush, roller or squeegee.

PIP 4300 PA is designed and formulated as a fast curing coating and thus has a working time of approximately 10-12 minutes at 75˚F/24˚C. and 40% RH. The working time varies greatly depending upon ambient and surface conditions. (See Chart in next section). It is challenging when applying PIP 4300 PA in high humidity conditions. Under these conditions, the working time and leveling time of the material is greatly reduced because the moisture accelerates the cure. It is best to limit the amount of surface area of the coating that is exposed to moisture. In other words, leaving the material sit on the floor for a time without leveling (as commonly done with epoxies) with a roller will be detrimental. Mix, spread and level the material as quickly as possible with a squeegee and roller. Immediately pour next adjacent mix and repeat as close as possible. Minimize rolling into the previous section to prevent undesired stipple or poor leveling. Mix small batches if necessary. The cure rate is not accelerated when sitting in the bucket, unlike epoxy materials. Only mix one mix at a time. Low humidity levels will affect this product in the opposite way. When the humidity is low working and curing times are greatly increased.

Curing-

Use the charts below only as a general guide to curing times related to temperature and humidity. Actual job conditions, and temperatures of materials at time of application will effect curing times.

Protect 4300 Walk on Time (HRS)					
	% RH Relative Humidity				
TEMP	20%	35%	50%	65%	80%
50F	10.00	8.00	6.50	4.50	3.00
60F	8.00	6.50	4.75	3.50	2.75
72F	5.50	4.50	3.50	2.75	2.25
82F	4.00	3.50	3.00	2.25	1.75
95F	3.25	2.50	2.25	1.50	1.25

Protect 4300 Wet Edge/ Open Time (MIN)					
	% RH Relative Humidity				
TEMP	20%	35%	50%	65%	80%
50F	28.0	22.0	17.0	13.0	9.0
60F	22.0	17.0	13.0	10.0	7.8
72F	16.0	13.0	10.0	8.0	6.5
82F	12.0	10.0	7.5	5.0	3.5
95F	8.0	7.0	6.0	3.5	2.5

PIP 4300 PA cures from the top down through the film, therefore the coating may stay soft for an extended amount of time especially when in low humidity conditions. This will not affect the overall performance of the final cured system. Ultimate physical characteristics will be achieved in 7-10 days.

Application of a second coat of PIP 4300 PA must be done within 24 hours unless sanded or abraded removing all gloss.

PIP 4300 PA test data and re-coat times are based on environmental temperatures of 75^0 F (24^0 C) and 40% RH.

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 SDS (SAFETY DATA SHEET) 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).

© Protective Industrial Polymers Inc.

Technical Data Sheet

PIP 4300 PA

Polyaspartic Coating

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

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.

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.

WARRANTY AND CONDITIONS OF USAGE

WARRANTY AND LIMITATION OF LIABILITY: Protective Industrial Polymers Inc. ("PIP") warrants that its products shall conform to the manufacturer's written specifications and shall be free from defects for one (1) year from the date of purchase. PIP MAKES NO WARRANTIES, IMPLIED OR OTHERWISE, AS TO THE MERCHANTABILITY OR FITNESS FOR PARTICULAR PURPOSES OF ITS PRODUCTS AND EXCLUDES AND DISCLAIMS THE SAME, INCLUDING, WITHOUT LIMITATION, FAILURE OF THE PRODUCT DUE TO ACTS OF GOD, FLOODING, EXTREME OR ABNORMAL TEMPERATURES, HUMIDITY AND MOSITURE, STRUCTURAL CONDITIONS, SITE PREPARATION AND CONDITIONS, ACCIDENTS, DAMAGE CAUSED BY INSTALLATION OF MACHINERY, EQUIPMENT OR FIXTURES WITHOUT ADEQUATE FLOOR PROTECTION OR WITHOUT ADEQUATE TIME FOR CURING, FAILURE TO COMPLY WITH CONDITIONS OF USAGE (SPECIFIED BELOW), VANDALISM, NEGLIGENT OR INTENTIONAL ACTS OF THIRD PARTIES OR OTHER CASUALTIES. If any PIP product fails to conform to this warranty, PIP shall either replace the product at no cost to Buyer or refund the cost of the product, in PIP's sole discretion. Replacement of any product or a refund of the cost of any product shall be the sole and exclusive remedy available to buyer, and buyer shall have no claim for incidental, special or consequential damages, including, without limitation, business interruption damages. Any warranty claim must be made within one (1) year from the date of delivery of products. PIP does not authorize anyone on its behalf to make any written or oral statements which in any way alter PIP's warranty or installation and storage information or instructions in its product literature or on its packaging labels. Any installation of PIP products which fails to conform to such installation information or instructions or the "Conditions of Usage" (specified below) shall void this warranty. Product demonstrations, if any, are done for illustrative purposes only and do not constitute a warranty or warranty alteration of any kind. Buyer shall be solely responsible for determining the suitability of PIP's products for the Buyer's intended purposes.

CONDITIONS OF USAGE: Installation of all products purchased must be by professional installers periodically published by PIP or otherwise approved by PIP in writing. Modification to any of PIP's products voids the warranty. The installer shall maintain a written contemporaneous record of field conditions (including, without limitation, surface and atmospheric conditions, usage rates, and lot numbers of products installed). PIP reserves the right of inspection of any installed product, installation and maintenance records and records of field conditions and may conduct additional testing as is reasonably required to investigate any warranty claims. Warranty shall only apply for products or materials that have been paid for in full. 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. PIP 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 is ASTM F 2170-11. 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 beyond the capacity of the individual product installed 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 PIP products.

© Protective Industrial Polymers Inc.