



WHITECHEM POLYUREA PA 1005

1 – PRODUCT DESCRIPTION

WHITECHEM POLYUREA PA 1005 is a two component, rapid curing, UV resistant, 100% color stable new generation polyaspartic based polyurea surface coating system for both decorative and protective applications. On account of the UV and color fast properties, it is ideal for use as thin layer coating and clear topcoat sealer for surface protection on existing coating systems. After the product is completely cured, it forms a glossy, smooth top layer with high scratch, abrasion and chemical resistance. Polyaspartic system can be applied in a single or multiple coats by roll, brush or squeegee to a variety of substrates including concrete and metal.

2 – FEATURES

- Excellent color stability and gloss retention
- Excellent UV light resistance
- Long working and gel time
- Fast reactivity and cure time (applicable to pedestrian traffic after 3-4 hours)
- Rapid return to service (return to service in 24 hours)
- Easy application and spreading
- Excellent adhesion to concrete and metal substrates
- High abrasion, impact and corrosion resistance
- Excellent chemical resistance
- Resistant to chlorine and saltwater
- High hydrolysis resistance
- Perfect thermal stability
- Available in transparent and several RAL colours

3– APPLICATION AREAS

- As top layer over polyurea coatings where UV resistance and color stability is required
- Clear sealer over decorative concrete surfaces
- Swimming pools, terraces and garage floors
- Industrial and commercial flooring
- Restaurant and hospital flooring
- Water parks, amusement parks and decorative applications
- Aircraft hangers
- Deck coatings
- Wind energy plants



4 – SURFACE PREPARATION & APPLICATION PROCEDURE

Surface Preparation: Polyaspartic coating adheres perfectly to dry and clean metal and concrete surfaces. Concrete substrates must be prepared mechanically using abrasive blast cleaning to remove cement laitance and achieve an open textured surface. Weak concrete must be removed and surface defects such as voids must be fully exposed. Repairs to the substrate, filling of voids and surface levelling must be carried out using appropriate products. All dust, loose and friable material must be completely removed from all surfaces before application of the product, preferably by brush and/or vacuum. The substrate should be dry to 85% RH and free from rising damp and ground water pressure. Concrete moisture content can vary widely depending on work-site conditions. Sealing wet or humid concrete can lead to blistering and/or delamination of coating. Relative air humidity for application should be lower than 85%. Be aware of condensation; the substrate must be at least 5°F (3°C) above dew point to reduce the risk of condensation of the coating. Prior to application, confirm substrate moisture content, relative air humidity and dew point. The application surface has to be primed in order to achieve an even surface and good adhesion. After the primer is cured, apply the product. For metal substrates sandblasting and priming is recommended for best performance.

Mixing: Before using both components have to be stirred well and separately then component B has to be poured into component A completely and then the combined products must be mixed thoroughly with a paddle mixer on slow speed for two minutes until a homogenous liquid achieved. Stir gently, avoid over mixing or creating a vortex that would introduce air. After the mixing product should be rested for 2-3 minutes. Do not mix below the dew point, which will shorten the pot life. Do not apply in direct sunlight when temperatures and humidity are high.

Application: The product can be applied by roller, brush or squeegee. Roller application is the recommended process. Ideally the roller should be an industrial grade phenolic resin core with a synthetic nap. Small chip brushes may be used along the perimeter and in more difficult to reach areas. Maximum application thickness in a single application is 0,25 mm. Material will be dry to the touch 1-2 hours after application, dependent on ambient temperature, slab temperature and humidity. When applying two coats the first coat must be tack free before applying the second coat and the product may be recoated within 2-24 hours following application. The times specified can only be used as guidelines. The exact times have to be determined by testing on site. All application equipments must be cleaned with acetone, MEK, MIBK and xylene like solvents.

Nonskid Finish: Polyurea PA 1005 can be used to produce a durable nonskid finish with different textures. The desired nonskid additive should be added to the resin component and thoroughly blended prior to mixing with the iso component. Apply at a maximum wet film thickness of 0,15



mm for best results. If wet film thickness is too high the nonskid effect will be lost and surface appearance will not be uniform. If higher film build is required apply multiple thin coats for best performance and uniform appearance. Optionally, the non-skid coat can be applied as the final coat only.

5- PACKAGING

10 kg set including;
6 kg bucket (Amine side)
4 kg bucket (Isocyanate side)

6- SHELF LIFE & STORAGE CONDITIONS

Polyurea components are sensitive to moisture. Keep polyurea components in tightly closed containers. Store polyurea components between 20 -30 °C. Nine months of storage time, If stored according to stated conditions.

7- SAFETY

Contains isocyanate MDI. Avoid breathing vapors. Avoid contact with skin and eyes. Take precautions during application. Wear suitable protective clothing, gloves and eye/ face protection. Adequate ventilation of the working area is recommended. Refer to SDS sheet prior to use.

8- TECHNICAL FEATURES

Component Properties

	UNIT	METHOD	AMINE COMPONENT (A)	ISO COMPONENT (B)
Density (25°C)	gr/cm ³	ASTM D 1217	1,07-1,1	1,15-1,17
Viscosity (25°C)	mPa.s	ASTM D 4878	1000-1100	720-750
Shelf life	-----	-----	9 months	9 months

Physical Properties

	METHOD	DATAS
Chemical structure		A: Amine Resin B:HDI Prepolymer
Mix ratio (by weight)	--	60:40 (A:B)
Consumption (g/m ²)	--	150-200



Recommended thickness (µm)	--	150-200
VOC content (%)	ASTM D1259	0
Solid content (%)	ASTM D2697	95
Gel time (min)	--	30-35*
Tack free time (min)	--	50-60*
Pedestrian traffic time (hr)	--	3-4 *
Full cure time (day)	--	7*
Min. recoat time (hr)	--	2*
Max. recoat time (hr)	--	24*
Tensile strength (MPa)	ASTM D638	>30
Elongation at break (%)	ASTM D638	4-6
Hardness (Shore D)	ASTM D2240	65-70
Abrasion resistance (mg)	EN ISO 5470-1	<15 (H22, 1000 cycle)

*Drying time is temperature, humidity and film thickness dependent. Thicker films will take longer to through-cure. High humidity will shorten cure time Properties were tested at 25°C 50% R.H.

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