DESCRIPTION:

NUKOTE PP300 is a specialized, high performance polyurea coating designed and developed to protect buried and exposed structures. It is a great choice when increased tensile strength is needed. It can be applied in a variety of industrial facilities including power, manufacturing and mineral processing industries in addition to AWWA Type III and IV SAPL applications. Nukote PP300 is a two-component, 100% solids, hybrid polyurea with tensile properties that outperform typical coatings used in industrial applications. This aromatic Polyurea Elastomer displays good resistance to a broad range of chemicals including hydrogen sulfide, methane, excellent thermal stability, abrasion resistance and UV resistance. Nukote PP300 exhibits excellent adhesion to most substrates with or without use of a suitable Nukote primer.

FEATURES:

- 100% solids with zero VOC
- Fast reactivity and cure time resulting in almost immediate return-to-service time
- Performs in constant temperatures from -20 °F to 200 °F (-30 °C to 90 °C)
- Retains physical properties on weathering
- Excellent elongation and tear properties
- Puncture resistant
- Excellent corrosion protection
- Excellent abrasion resistance
- Excellent thermal Stability
- Resistant to many solvents, acids and alkalis (consult NCSI)

TYPICAL USES:

- Spray PIP structural replacement liners for concrete and steel pipe
- Erosion, abrasion, vibration, and control applications
- Concrete structures where higher tensile and tear properties are desired
- Carbon fiber inlay applications for structural reinforcement
- Mining Slurry Lines
- Sludge Catchers

COLORS:

Standard medium grey only. Custom colors, blended to match most RAL numbers, are available upon request subject to minimum order quantity.

PACKAGING:

100-gallon (380-liter) drum sets, shipped in metal drums of 50 gallons (190 liters) each of side A and side B
10-gallon (38-liter) kits, shipped in plastic pails of 5 gallons (19 liters) each of side A and side B
275-gallon (1045 liter) totes.

COVERAGE:

Nukote PP300 may be applied at any rate to achieve the desired thickness.
Calculation for theoretical coverage: 40 Ft^2 /gal @ 40 mils (1 m^2/liter @ 1mm).

TECHNICAL DATA (All values @ 77 ºF / 25 ºC)	US	Metric
Solids by volume (ASTM D2697)	100%	100%
Volatile organic compounds (ASTM D2369)	0 lb./gal	0 gm/ lit
Theoretical coverage	40 ft^2/gal @ 40 mils	1 m^2 / l @ 1 mm
Specific Gravity of materials (ASTM D792)	A:10.3, B:8.84 lb./gal	A:1.23, B:1.06 kg/ liter
Viscosity at 77 ºF /25 ºC in cps ±10% (ASTM D4878)	A-600 ± 200 B-1000 ± 500	A-600 ± 200 B-1000 ± 500
Shelf life @ 77 ºF /25 ºC	12 Months	12 Months
Tensile strength (ASTM D412-C)	6000 ± 500 psi	42 ± 3 MPa
Elongation (ASTM D412-C)	3.5 ± 0.5 %	3.5 ± 0.5 %
Hardness (ASTM D2240)	80 ± 5 Shore D	80 ± 5 Shore D
Flexural Strength	10,730 psi	74 MPa
Flexural Modulus	290,000 psi	2,000 MPa
Compressive Strength (ASTM D695)	8,763 psi	60 MPa
Shear Strength (ASTM D732)	4,800 psi	33 MPa
Impact Resistance (ASTM G14), No Holidays	> 200 in-lbf	> 20 J (N-m)
Water absorption -24 hours (ASTM D570)	<0.5 %	<0.5 %
100% Elastic Modulus (ASTM D 638)	59500 psi	410 MPa
Rupture Modulus (ASTM D 638)	111,700 psi	770 MPa
Flash point Pensky Martin	>200 °F	>93 °C
Service temperature (Dry)	-20 °F to 200 °F	-30 °C to 90 °C
PROCESSING PROPERTIES (Under standard lab conditions)		
Mix Ratio V/V	1:1	
Gel time @ 160 ºF /70 ºC	2 - 15 seconds	Adjustable with catalyst
Tack free time@ 160 ºF /70 ºC (DFT & Temperature dependent)	20 - 60 Seconds	
Post cure time	24 hours	
(The above properties and values are dependent on equipment settings, spray gun, mix chamber temperature, pressure and related parameters and variations are possible and expected). The above values are as per NCSI Standard lab practices & methodology at various film thickness)		

STORAGE:

Twelve months in factory delivered, unopened drums. Keep away from extreme heat, freezing, and moisture. The use of drum heaters is encouraged to reduce material viscosity at low temperatures.

MIXING:

Nukote PP300 shall not be diluted under any circumstance. Thoroughly mix Nukote PP300 Part B resin material with air driven power equipment until a homogeneous mixture and color is obtained, usually accomplished through the dedicated spray equipment.

SURFACE PREPARATION:

Metal:

All surfaces shall be clean and free from contamination. The surface shall be assessed and treated in accordance with ISO 8504, Abrasive blast the surface to minimum NACE-2/SSPC SP-10Sa 2.5, as per ISO 8501-1, for a visual assessment of surface cleanliness with an anchor profile of 3 to 4 mils (75 -100 microns). Soluble salts must be removed to an acceptable level depending prior to application of PP300.

Concrete:

The surface shall be dry, smooth, structurally sound and free of depression, scale, or foreign deposits of any kind. Remove all curing compounds. Abrasive blast, sweep blast or water blast to remove all laitance and expose voids. Use a good quality epoxy filler or mortar for blow hole filling, skim coat or repairs. Prime, fill imperfections in the substrate surface to limit out-gassing. All concrete surfaces at or below grade level shall be tested for moisture. On-grade or below-grade concrete surfaces shall have a moisture barrier installed to protect them from moisture transmission. The surface preparation shall meet and conform to Joint NACE 6/SSPC-SP 13 standards and achieve a surface profile of CSP 3 to CSP 6 as per ICRI Guideline No.03732 for optimum performance.

Refer to NCSI surface preparation manual for detailed procedures for different types of substrates.

APPLICATION:

Nukote PP300 must be applied utilizing high-pressure, heated plural component spray proportioning equipment, similar to those manufactured by Graco®. The proportioning equipment utilized must be capable of supplying material at a minimum of 2,000 psi and 165˚ F (74˚ C). Ongoing, routine maintenance per manufacturer's recommendations is required to ensure correct proportioning of material. Likewise, all other components of the spray system (e.g. spray gun, 360 Ringtech® robotics, spin cast unit, transfer pumps, etc.) must be maintained and confirmed to be in proper working condition prior to commencing work. Appropriate PPE is required to be worn at all times when spraying material.

For optimum performance, the substrate shall be abrasive blasted. Concrete substrates should be allowed to cure a minimum of 30 days. On concrete, Nukote PP300 should always be applied over a suitable primer for maximum adhesion. Please review your specific project with Nukote technicians. For all submersed applications, a primer is absolutely essential. Recommended DFTs are a function of the project performance specifications, please contact a Nukote technician for assistance developing project and application specifications. On horizontal surface applications, a texture "stipple" coat can be applied for non-skid purposes, after reaching the initial desired film thickness.

The following procedures or conditions are required for proper application of material to achieve optimum physical properties:

- Surface or ambient air temperatures should be above 40° F (5° C) and the surface temperature must be at least 10˚ F (6° C) above the dew point.
- Material should be preheated in drums or totes to a minimum temperature of 130° F (54° C).
- Resin (B-Side) must be thoroughly mixed with an air mixer until material is homogenous and a uniform color is achieved.
- Material should be pumped through the spray hose back into respective storage containers to facilitate heating and mixing.
- Heated hoses must maintain a product temperature of 165˚ F (74˚ C) for material delivered to the spray gun.
- When initiating spraying, the gun should be held off-target (i.e. sprayed onto cardboard, plastic, etc.) for approximately 20 seconds in order to discharge material that is not fully heated. Once the spray pattern is confirmed to be appropriate, spraying may commence on the substrate.
- 10-20 seconds after spraying, material should be checked to verify that the gel time is appropriate. Due to high exothermic temperatures, care should be taken to avoid burns.
- The product should be sprayed in passes of 30-50 mils and care should be taken to avoid applying too much material. Excessive thickness will create problems with the product due to the exothermic chemical reaction.
- On overhead surfaces, the material should be allowed to cool down – to between 120˚ F (50˚ C) and 180˚ F (80˚ C) – prior to spraying additional passes. This will help to minimize drips or sags and prevent excessive exotherm. At greater thicknesses, additional time is required for latent heat to dissipate.
- The recommended onboard pressure imbalance setting is 300 psi in order to prevent spraying off-ratio.
- Any indication of irregular output requires immediate attention. Care must be taken to ensure that inline filters in the spray system are clean throughout the spray process.

EQUIPMENT CLEAN UP:

Cured product may be disposed of without hazardous materials restrictions. The uncured Isocyanate and resin portions shall be mixed together and disposed of in accordance with local regulations. A “drip-free” container shall be disposed of according to local environmental laws and ordinances.

LIMITATIONS:

Do not open until ready to use, and store in a sealed container after opening. Adding a nitrogen blanket to any opened containers is recommended strongly prior to storage.

WARNING:

This product contains Isocyanate and curatives.

WARRANTIES AND DISCLAIMERS:

Nukote Coating Systems International, a Nevada, USA Corporation warrants that the two components of this product shall conform to the technical specifications published in the product literature. The quality and fitness of the product

is dependent upon the proper mixture and application of the components by the applicator. Nukote Coating Systems has no role in the application of the finished polymer other than to manufacture and supply its two components. It is vital that the person applying this product understands the product and is fully trained and certified in the use of plural component equipment and application of plural component materials. There are no warranties that extend beyond the description on the face of this instrument, except when provided in writing, directly by Nukote Coating Systems International and executed under seal by a company officer.