
DESCRIPTION:

NUKOTE BM is a standard polyurea and is designed for multipurpose use and developed to perform well for anticorrosion and waterproofing applications on steel, concrete, and many other substrates. It is a two component, 100% solids, rapid-curing pure thermosetting aromatic Polyurea Elastomer suitable as standalone liner, membrane or in combination with other materials or reinforcements. Nukote BM is extremely fast setting, relatively temperature and moisture insensitive and can be applied at temperatures down to -22° F (-30° C) and most challenging ambient conditions. Nukote BM can be applied at thickness of 1mm to 3 mm or greater in multiple passes during single application and returned to service with minimum down time. Nukote BM can be textured easily for anti-skid.

FEATURES:

- 100% Solids with zero VOC
- Fast reactivity and cure time resulting in almost immediate return-to-service time
- Can be applied in temperatures from -22° F (-30° C) and upwards
- Perform in constant temperatures from -22° to 250° F (-30° to 120° C)
- Retains physical properties on weathering
- Excellent elongation properties
- Seamless, resilient, flexible and tough
- Excellent corrosion protection
- Impact, tear and abrasion resistant
- Resistant to many solvents, acids and alkalis (consult NCSI)
- Low permeability waterproofing membrane

TYPICAL USES:

- Marine environments
- Airports
- Food & Chemical processing plants
- Diaries & Livestock facilities
- Oil & Gas, petroleum industries
- Cold storage facilities
- Landfill containment
- Primary & Secondary containment
- Water, waste water and industrial effluent treatment plants
- Power and Desalination Plants

COLORS:

Standard medium grey. Custom colors, blended to match any RAL number, are available upon request subject to minimum quantity.

Clear/Neutral available upon request. Color Packs, when used, must be added to Side-B.

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
UN-approved totes.

COVERAGE:

Nukote BM may be applied at any rate to achieve the desired thickness.

Calculation for theoretical coverage: 40 Ft²/gal @ 40 mils (1 m²/liter @ 1mm).

STORAGE:

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

TECHNICAL DATA (All values @ 77 °F / 25 °C)	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	1m ² / lit @ 1 mm
Specific Gravity of materials (ASTM D792)	A: 9.26, B: 8.01 lbs./gal	A:1.06, B:1.05 kg/liter
	Mixed: 8.70 lbs./gal	Mixed: 1.04 kg/liter
Viscosity at 158° F/70° C in cps ±10% (ASTM D4878)	A-150 ± 20, B-100 ± 20	A-150 ± 20, B-100 ± 20
Shelf life @ 77 °F /25 °C	12 months	12 months
Tensile strength (ASTM D412-C)	2500 ± 200 psi	17 ± 1 MPa
Elongation (ASTM D412-C)	400 ± 50 %	400 ± 50 %
Hardness (ASTM D2240)	45 to 50 Shore D	45 to 50 Shore D
Flexibility (2mm mandrel ASTM 1737)	Pass	Pass
Water Vapor Permeability (ASTM E 96)	0.00042 perm-in	
Water Absorption -24 hours (ASTM D 471)	< 0.5%	< 0.5%
Crack Bridging @ -13° F/-25° C (ASTM C 836), 25 cycles	Pass	Pass
Impact Resistance (ASTM G 17)	> 200 in/lb	> 20 J (N/m)
Fire Rating	Class 2	Class 2
Tear strength (ASTM D642)	400 ± 50 pli	70 ± 9 kN/m
Flash point Pensky Martin	>200 °F	>93° C
Abrasion Resistance (ASTM D 4060) weight loss	< 30 mg loss Taber CS 17 wheel 1Kg/1000 rev	
Service temperature (Dry)	-22 °F to 250 °F	-30 °C to 120 °C
Service temperature (Wet)	40 °F to 120 °F	4 °C to 50 °C

PROCESSING PROPERTIES (Under standard lab conditions)	
Mix Ratio V/V	1:1
Gel time	3 to 5 seconds
Tack free time (DFT & Temperature dependent)	60 to 120 seconds
Recoat time	0 to 6 hours
Post cure time	24 hours
<i>Properties and values are highly dependent on equipment, spray gun, mix chamber temperature, pressure and related parameters. Variations are possible and expected.</i>	

MIXING:

Nukote BM might not be diluted under any circumstance. Thoroughly mix Nukote BM part B resin material with air driven power equipment until a homogeneous mixture and color is obtained. Use appropriate solvent for purge line and flushing of equipment and if spraying stops for a period of time in excess of the pot life of the material

SURFACE PREPARATION:

Concrete:

The surface of a concrete subfloor should 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 latent material and expose voids. Use a good quality epoxy filler or mortar for void and spall filling, skim coat or repairs. Prime, fill imperfections in the substrate surface to limit out-gassing. All concrete substrates, on or below grade level should be tested for moisture content. On-grade or below-grade concrete floors or slabs should have a moisture barrier installed to protect from ground moisture. The surface preparation of concrete should meet and conform to Joint NACE 6/SSPC-SP 13 standards and achieve a concrete surface profile of CSP 3 to CSP 6 as per ICRI Guideline No.03732 for optimum performance.

Metal:

All surfaces should be clean and free from contamination. The surface should be assessed and treated in accordance with ISO 8504, Abrasive blast the surface to minimum NACE-2/SSPC SP-10/Sa 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. *Refer to NCSI surface preparation manual for detailed procedures for different types of substrates.*

APPLICATION:

Must be applied utilizing high-pressure, heated plural component spray proportioning equipment, such as Graco Reactor 2, or equivalent, capable of delivering materials without loss of pressure or drop in temperature for the appropriate hose length on a consistent basis.

For optimum performance, the substrate should be abrasive blasted. Concrete substrates should be allowed to cure a minimum of 30 days. On concrete, Nukote BM 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

essential, after proper preparation. Recommended DFTs are a function of the project, please contact a Nukote technician. On horizontal surface applications, a texture “stipple” coat can be applied for non-skid purposes, after reaching the initial desired film thickness.

EQUIPMENT CLEAN UP:

Cured product may be disposed of without any restrictions. The uncured Isocyanate and resin portions should be mixed together and disposed of in a normal manner. “drip-free” containers should 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 is strongly recommended for use on the ‘A’ component for storage after opening.

Due to its aromatic composition, Nukote BM will tend to yellow or darken in color and will become flat after exposure to UV light. A topcoat can be applied to Nukote BM within six hours of application with an aliphatic polyurethane/polyurea coating for a colorfast finish.

WARNING:

This product contains Isocyanate and curatives.

CHEMICAL RESISTANCE:

Each Nukote product formulation has varying levels of resistance to specific chemicals. Please review the chemical immersion test data included in the Nukote Test Book for general resistance to specific chemicals at specific concentration levels. Chemical concentrations are complex and when combined with temperatures above ambient levels this complexity increases exponentially. Contact Nukote Technical Personnel for specific recommendations for chemical resistance prior to specifying these products in this application type. Consult with NCSI for more details on product and chemical resistance. The following chart is the results of Polyurea immersed in chemicals and tested as per ASTM D 3912.

Chemicals	Resistance	Chemicals	Resistance
Hydrochloric acid upto 10%	R	Ammonium Hydroxide 20%	R
Sulphuric Acid 15%	R	Ammonium Hydroxide 50%	RC
Phosporic Acid 10%	R	Pottasium hydroxide 10%	R
Acetic Acid 10%	R	Pottasium hydroxide 20%	RC
Sea water	R	Gasoline Unleaded	R
Waste water	R	De ionised water	R

Water @ 140° F (60 °C)	R	Motor Oil	RC
Diesel Fuel	R	Hydraulic Fluid	R

R- Resistant, RC – Slight surface change,discolouration with no loss of hardness.

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.