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## DESCRIPTION

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Nukote ALU-FR is high solids, aliphatic, single component, liquid applied, moisture cured, fire rated urethane topcoat for polyurea or polyurethane or hybrid elastomeric waterproofing membranes. Nukote ALU-FR may be used as a standalone coating in light duty applications over primed wood, metal, concrete and asphalt. It offers good flexibility, color stability and weather resistance

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## FEATURES

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- Fire Retardant –Complies to ANSI UL 790,ASTM E-108
- High tensile strength
- UV stable
- Good elongation
- Good tear resistance
- Good weather ability
- Color and gloss retention

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## TYPICAL USES

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- Fire rated top coat in pedestrian and vehicular deck coatings
- Fire rated protective coating for concrete and masonry
- Fire rated top coat for aromatic polyurea and polyurethane elastomers
- Fire rated top coat for roof and party decks

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## COLORS

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Clear and white. Tint base with separate color packs are available for Stone Grey, Battleship Grey, Indian Sand, and ash Brown are available subject to minimum quantity.

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## PACKAGING

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1-gallon (3.79 liters), 5-gallons (19 liters), 50-gallons (190 liters)

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## COVERAGE

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Calculation for theoretical coverage: 130 Ft<sup>2</sup>/gal @ 10 mils (3.2 m<sup>2</sup>/liter @ 250 microns).

Coverage will be lower on subsequent coats or on aggregate broadcasted surface.

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## STORAGE

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Twelve to fifteen months in factory delivered, unopened drums. Store on pallets and keep away from extreme heat, freezing, and moisture. Store at temperatures between 50 °F and 100 °F (10 °C and 37 °C).

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## MIXING

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Nukote ALU-FR might not be diluted under any circumstances. When using the tint base, a one quart (0.95 liter) color pack is provided and should be premixed before adding to tint base. Before application, mix Nukote ALU-FR using a mechanical mixer (Jiffy Mixer) at slow speeds or by hand for at least five minutes. Mix Nukote ALU-FR thoroughly until a homogeneous mixture and color is obtained.

<b>TECHNICAL DATA (All values @ 77 °F / 25 °C)</b>	<b>US</b>	<b>Metric</b>
Solids by volume (ASTM D2697)	80%	80%
Volatile organic compounds (ASTM D2369)	< 0.002 lb./gal	< 188 gm/ liter
Theoretical coverage	130 Ft <sup>2</sup> /gal @ 10 mils	3.2 m <sup>2</sup> /liter @ 250 microns
Specific Gravity of materials (ASTM D792)	10.5 lbs./gal	1.26 kg/ liter
Viscosity at 77 °F /25 °C in cps (ASTM D4878)	4000-6000	4000-6000
Shelf life @ 77 °F /25 °C	12 to 15 Months	12 to 15 Months
Elongation (ASTM D412-C)	40-60 %	40-60%
Tensile Strength (ASTM D412-C)	1500-2100	11-15 Mpa
Hardness (ASTM D2240)	90 - 100 Shore A	90 - 100 Shore A
Tear Strength (ASTM D 624) Die C	340-400 Pli	60-70 Kn/m
Flexibility (2mm mandrel ASTM D522)	Pass	Pass
Impact Resistance (ASTM G14), No Holidays	> 160 in-lbf	> 18 J (N-m)
Flash point - pensky martin	> 200 °F	> 93 °C
Application temperature	50 °F to 100 °F	10 °C to 40 °C
Abrasion Resistance (ASTM D4060) weight loss	< 25 mg loss Taber CS 17 wheel 1Kg/500 rev	
<b>PROCESSING PROPERTIES (Under standard lab conditions)</b>		
Mix Ratio V/V	Accelerator may be required in adverse weather conditions	
Pot life (1 gallon)	2 to 3hours	
Recoat interval (minimum, maximum)	16 to 36 hours	
Light foot traffic	24 hours	
<i>Properties and values are highly dependent on equipment, spray gun, mix chamber temperature, pressure and related parameters. Values are slightly different for clear. Variations are possible and expected.</i>		

## **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 2 to CSP 5 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 2 to 3 mils (50 -75 microns). Soluble salts must be removed to an acceptable levels. **Refer to NCSI surface preparation manual for detailed procedures for different types of substrates.**

#### **Existing roof:**

Remove all unnecessary and non-functional equipment and debris from the roof. Remove all dirt, and foreign material detrimental to adhesion or application of fluid-applied roofing by thoroughly cleaning all roof surfaces with a high-pressure (2,500 - 3,000 psi) wash. Surfaces contaminated with oil, grease, animal fats, etc. must be removed using tri-sodium phosphate and water, or other solutions as required by job conditions. Remove all cleaning solutions with plenty of fresh water. **Note: If algae is present on the surface, the cleaning must include bleach and algicide in the washing of the substrate.** Membranes with seam and flashing failure shall must be repaired then detailed with flashing tape. Detail repaired areas with two pre-coats of recommended elastomeric base coat at the suggested Membrane thickness. Elastomeric base coat shall extend a minimum of 50 mm beyond the edges of the repair. Round projections, machine legs, sign posts, guide wire straps, inside and outside corners, etc. should be flashed using a compatible sealant. Seal watertight gutters, parapet walls and caps. Repair any damaged metal. Caulk and seal watertight all screws, seams, skylights, joints, pipes, voids, protrusions and any areas where water could enter through the roof. . Clean and seal all drains watertight. Allow roof and other prepared surfaces to dry completely before proceeding with priming and/or coating application.

#### **APPLICATION:**

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The first coat of Nukote ALU-FR should be applied as soon as the base or base coat is prepared and ready to receive the protective coat. For best results, airless sprayer or Phenolic resin core roller may be used but extra care should be taken not to cause air bubbles. A catalyst may be required to fast cure Nukote ALU-FR in adverse weather conditions. For an anti-skid surface, broadcast clean, dry, fine aggregate into the first coat of ALU-FR. Sweep off the excess aggregate after the first coat has cured and apply the second coat to seal and cover aggregates. **Note:** Thickness values of cured film are averages and can vary due to finish of surface. High sloped roofs may require multiple coats to achieve specified dry film thickness.

At 75 °F (24 °C) and 50% relative humidity, allow each coat to cure a minimum of 16 hours between each coat. If more than 48 hours passes between coats, re-prime the surface with Nukote IC Prime, inter coat primer before proceeding. Allow 24 hours before permitting light pedestrian traffic and at least 72 hours before permitting heavy pedestrian or vehicular traffic on to the finished surface. Uncured Nukote ALU-FR is very sensitive to heat and moisture. Higher temperatures and/or high humidity will accelerate the cure time. Use caution in batch sizes and thickness of application. Low temperature and/or low humidity extend the cure time. To accelerate cure Nukote catalyst may be used and recommended for use in adverse weather conditions. If accelerated curing is required, add one quart (950 ml) of Nukote Hardener in a 5-USG pail (19) pail of Nukote ALU-FR and mix thoroughly. This accelerated will cure in 6 -8 hours at 25°C and 50% relative humidity

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## **EQUIPMENT CLEAN UP**

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Equipment should be cleaned with an environmentally safe solvent, as permitted under local regulations, immediately after use. Cleans well with methyl ethyl ketone or acetone. Clean spills or drips with solvent while still wet.

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## **LIMITATIONS**

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Surfaces must be dry, clean and free of foreign matter. Surface may be slippery when wet. Nukote ALU-FR may lose sheen and become flat and stained over time. Nukote ALU-FR has limited chemical resistance properties. Containers that have been opened must be used as soon as possible. Do not dilute under any circumstance. Clear coating may turn opaque and cloudy due to moisture penetration, especially in exterior applications.

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## **WARNING**

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This product contains Isocyanate and curatives. US DOT classify this product as PAINT, DG, Class 3, UN 1263. PG 111, Flammable Liquid.

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## **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.*