

## DESCRIPTION

Nukote's experience in the international industrial coatings industry is world renowned and unrivaled by any other polyurea supplier. Based on this experience, NCS has designed Nukote HT as the premium pure polyurea available for industrial applications, especially those that require higher temperature and higher tensile properties. Nukote HT is a two-component, 100% solids; pure polyurea that significantly outperforms coatings traditionally used in transmission lines and industrial applications and recommended for use with cathodic protection systems.

Nukote HT has also proven exceptional coatings for the oil and gas industry, where traditional coatings use for everything from pipelines, offshore oil rigs, processing plants and primary and secondary containment were not meeting industry standards. Nukote HT has been tested from the Alaska's frozen tundra to Indonesia's tropical jungle and everywhere in between. It can be applied at temperatures ranging from -30 °C to 170 °C. This aromatic polyurea elastomer displays excellent chemical resistance, thermal stability and UV resistance. Nukote HT is also specifically designed for application on NCS automated pipe lathes.

## FEATURES:

- Below and above grade pipeline applications
- Fresh or saltwater submersed pipeline application
- 100 % solids with NO VOC's
- Excellent elongation for cold bends and resistance to puncture
- Seamless members even after field joining
- Excellent corrosion protection
- Low permeability
- Fast reactivity and cure time with no catalysts
- Applicable in temperatures from -30°C to 120°C
- Performs in constant temperatures from -30 °C to 150 °C
- Coated pipes can be transported and installed immediately
- Excellent Cathodic disbondment performance
- Simple inexpensive field joining and repair.

## TECHNICAL DATA

### (Physical properties –Typical values)

Solids by Volume	: 100 %
Volatile Organic Compounds	: 0 gm / lit
Theoretical coverage @ 1mm	: 1 m <sup>2</sup> / lit
Weight per liter	: A: 1.056, B: 1.052
Viscosity at 25°C in cps (ASTM D 412)	: A: 260, B:425
Shelf life up to 50 °C (months)	: 12 to 18
Tensile strength ASTMD412 (Mpa)	: 20 to 25
Elongation ASTM D 412 (%)	: 350-450
Hardness (Shore D)	: 45 to 55
Flexibility (3 mm mandrel ASTM 1737)	: Pass
Tear strength (Die C ASTM 624) (KN/m)	: 75 to 80
Fire Rating	: Class 2
Flash point Pensky Martin	: >93°C
Service temperature (Dry)	: -30 °C to 160° C
Service temperature (Immersion in water)	: 80°C
Abrasion Resistance ASTM D 4060	
(Taber CS17 1000 mg/ 1000 Rev)	: < 15 mg loss
Cathodic Disbonding ASTM-G95	: < 2 mm
(Cell method) @65°C, 30 days	

### Processing properties under standard lab conditions

Mix Ratio V / V	: 1A:1B
Gel time (adjustable) (seconds)	: 10 to 15
Tack free time (seconds)	: 20 to 30
Post cure time (hours)	: 24
Block Temperature (°C)	: 70 to 75
Hose temperature (A & B) (°C)	: 70 to 75
Constant pressure (Bar)	: 140-145

### CHEMICAL RESISTANCE ASTM D3912 (24 HOUR IMMERSION)

CHEMICAL	RESULTS @ 25 °C
Acetic Acid (5%)	R
Anti-Freeze	R
Brake Fluid (DOT3)	RC
Diesel Fuel	R
Gasoline	R
Hydrochloric acid (10%)	R
Motor Oil	R-DIS
Sodium Hydroxide (10%)	R
Sulphuric Acid (10%)	R-DIS
Transmission fluid	RC
Jet fuel JP4	RC
Xylene	RC

**R:** RECOMMENDED (NO VISIBLE DAMAGE), **RC** (CONDITIONAL RECOMMENDATION) WITH SOME EFFECTS LIKE WITHIN ONE HOUR TO AVOID EFFECTS) SWELLING, DISCOLORATION, CRACKING, WASH DOWN. **NR:** NOT RECOMMENDED. **DIS:** DISCOLORATION.

## TYPICAL USES

In addition to pipelines, Nukote HT's physical properties make it an excellent option for many applications including the following:

- Marine Environment
- Secondary containment
- High temperature tanks
- Paper and pulp mills
- Cold storage facilities
- Landfill containment.
- Refineries
- Power plants
- Mining operations
- Structural steel
- Warehouse
- Power plants

## COLORS

Standard colors are grey and black. Custom colors available upon request.

## PACKAGING

Pack Size: 38 litre kit in plastic pails (19 liter A: 19liter B)  
380 litre kit in metal drums (190 liter A: 190 lit B)

**Side A and Side B are separately packed.**

## COVERAGE:

Nukote HT may be applied at any rate to achieve any desired thickness. Theoretical coverage for 1 mm thickness is one liter per m<sup>2</sup>.

## SURFACE PREPARATION:

Surface preparation is an important entity of the NCS coating procedures. While polyurea products are generally applied directly to the targeted surface-after suitable surface preparations- in some cases it is advisable as per the recommendations of the projects to be suitably primed before applying the polyurea. In such cases please refer to the NCS technical service team.

## Concrete:

The surface of a concrete subfloor should be dry, smooth, and structurally sound. It should also be 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 all voids. Use a good quality epoxy filler / mortar for blow hole filling, skim coat or repairs. All concrete subfloors on or below grade level should be tested for moisture. On-grade or below-grade concrete floors should have a moisture barrier installed to protect from ground moisture.

## 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 SA 2.5 as per ISO 8501-1 for visual assessment of surface cleanliness and with an anchor profile of 75 microns.

**Refer to NCS surface preparation manual for more details**

## MIXING:

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

## APPLICATION

This material must be applied using the high-pressure, heated plural component spray proportioning equipment, such as those manufactured by **GRACO**® or of equivalent specifications.

## EQUIPMENT CLEAN UP:

Cured product may be disposed off without restriction. The uncured isocyanate and resin portions should be mixed together and disposed off in a normal manner. "Drip free" containers should be disposed off according to local environmental laws and ordinances.

## STORAGE

Nukote HT can have a safe life of 12 to 18 months in factory delivered containers. Care is to be taken to keep away from extreme heat, freezing and moisture. The use of drum heaters is encouraged to reduce material viscosity at low temperatures.

## LIMITATIONS

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

## WARNING:

This product contains isocyanate and curatives.

*Before using Nukote products kindly read the product data sheets, material Safety data sheets (MSDS) and guide specifications prior to actual application. For details on training programs, technical guidance and updates on data sheets please contact the nearest Nukote office or representative.*

Nukote Coating Systems International, LLC has a general product warranty and project specific warranties. Both warranties are backed by years of industry experience and insurance policies with a multinational insurance company. For information on the general product warranty please see below or contact NCSI for more information. For project specific warranties, these are available on a case-by-case basis. NCSI technicians must sign off on the specification, and in most cases a NCSI technician will be onsite during application to inspect surface preparation and application. For more detailed warranty contact a NCSI office.

**LIMITED WARRANTY**

**NCSI warrants its products to be free of manufacturing defects. Polyurea and other multi-component products are technically manufactured at the time they are mixed. When mixed in accordance with NCSI guidelines, NCSI warrants the product will meet NCSI's technical specifications. NCSI warrants its products, when properly installed over a properly prepared Substrate will perform as designed and specified.**

Unless otherwise stated in writing, NCSI's sole responsibility shall be to replace the defective product. There are no other warranties by NCSI of any nature whatsoever expressed or implied, including any warranty of merchantability or fitness for a particular purpose in connection with this product. NCSI shall not be liable for damages of any sort, including remote or consequential damages resulting from any claimed breach of any warranty whether expressed or implied. NCSI shall not be responsible for use of this product in a manner to infringe on any patent held by others. In addition, no warranty or guarantee is being issued with respect to appearance, color, fading, chalking, staining, shrinkage, peeling, normal wear and tear or improper application by the applicator. Damage caused by abuse, neglect and lack of proper maintenance, acts of nature or physical movement of the substrate or structural defects are also excluded from the limited warranty. NCSI reserves the right to conduct performance tests on any material claimed to be defective prior to any repairs by owner, general contractor, or applicator.

**DISCLAIMER**

All guidelines, recommendations, statements, and technical data contained herein are based on information and tests we believe to be reliable and correct, but accuracy and completeness of said tests are neither guaranteed nor to be construed as a warranty, either expressed or implied.

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Test performance results were obtained in a controlled environment and NCSI makes no claim that these tests or any other tests accurately represent all environments.

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