

**DESCRIPTION**

NCSI's experience in the international industrial coatings industry is world renowned and rivaled by no other polyurea supplier. Based on this experience, NCSI has designed our Nukote HT as the premium pure-polyurea available for industrial applications, especially those that require higher temperature and higher tensile coatings. Nukote HT is a two-component, 100% solids, pure polyurea that significantly outperforms out-dated coatings traditionally used in industrial applications.

Nukote HT has also proven an exceptional coating for the oil and gas industry, where traditional coatings used for everything from pipelines, offshore oil rigs, processing plants, and primary and secondary containment were not meeting industry need. 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 70°C. This aromatic polyurea elastomer displays excellent chemical resistance, thermal stability and UV resistance. Nukote HT is also specifically designed for application on NCSI automated pipe lathes.

**FEATURES**

- Below/above grade pipeline applications
- Fresh or saltwater submersed pipeline applications
- 100% solids with zero VOC
- Excellent elongation for cold bends
- Resistant to puncture and other damage
- Seamless membranes even after field joining
- Excellent corrosion protection
- Low permeability
- Fast reactivity and cure time with no catalysts
- Applicable in temperatures from -30°C to 70°C
- Performs in constant temperatures from -30°C to 135°C
- Coated pipes can be transported and installed immediately
- In-shop or in-field applications
- Excellent cathodic disbondment performance
- Simple, inexpensive field joining and repair work

**TYPICAL USES**

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

- Marine environments
- Secondary containment
- High temperature tanks
- Storage facilities
- Landfill containment
- Refineries
- Power plants
- Mining operations
- Warehouse floors
- Pipe restoration

**COLORS**

Standard medium gray. Custom colors, blended to match any RAL number, are available upon request.

**PACKAGING**

Nukote HT is available in 38 liter kits shipped in plastic pails, 400 liter drum sets shipped in metal drums and 2090 tote sets shipped in hardened plastic, metal reinforced UN approved totes.

**PHYSICAL PROPERTIES @ 24°C**

|   |                     |
|---|---------------------|
| Solids By Volume .....                    | 100%                |
| Volatile Organic Compounds .....          | 0 g/l               |
| Theoretical Coverage @ 1000 Microns ..... | 1 m <sup>2</sup> /L |
| Weight Per Liter in Kilograms .....       | A:1.12 B:1.04       |
| Viscosity (cps) @ 25 °C .....             | A:650 to 750        |
| Viscosity (cps) @ 25 °C .....             | B:650 to 750        |
| Shelf Life @ 10°C to 50°C .....           | 12 to 18            |
| .....                                     | Months              |
| Tensile Strength @ 25°C ASTM D-412 .....  | >17                 |
| .....                                     | N/mm <sup>2</sup>   |
| Elongation @ 25 °C ASTM D-412 .....       | 400% to             |
| .....                                     | 450%                |
| Hardness (Shore D) ASTM D-2240 .....      | 45 to 50            |
| Flexibility 3mm mandrel ASTM D-1737 ..... | PASS                |
| Tear Strength Die C ASTM D-624 .....      | >90 kN/m            |
| Fire Rating UBC .....                     | Class 2             |
| Flash Point Pensky-Martin .....           | >93°C               |
| Service Temperature Range-Dry .....       | -30°C to            |
| .....                                     | 135°C               |
| Abrasion Resistance ASTM D-4060 .....     | <15 mg loss         |
| Taber CS17 1000mg / 1000rev.              |                     |

**PROCESSING PROPERTIES  
@125 MICRONS 24°C/54% RH**

|                                    |               |
|------------------------------------|---------------|
| Gel Time (Adjustable) .....        | 11 to 15 sec. |
| Tack Free Time (125 microns) ..... | 20 to 30 sec. |
| Post Cure Time .....               | 24 Hours      |
| Volume Ratio (A:B) .....           | 1 to 1        |
| Block Temperature .....            | 60°C to 70°C  |
| Hose Temperatures (A and B) .....  | 60°C to 70°C  |
| Constant Pressure .....            | 136 Bar       |

**CLARIFICATION OF PROPERTY VALUES**

The physical properties shown in the above table are defined in a range of values to allow for compliance when testing of sprayed films or laboratory draw down films. Results derived from independent testing will fall within the ranges shown if the testing performed complies with the standards utilized for each individual property shown. Results vary dependent on several factors, including: the equipment utilized, product mix ratios, application pressures, application temperatures, ambient temperatures, dry film thickness, age of the sample tested, etc. Results also vary dependent on the film type tested with laboratory draw down films deriving higher properties than sprayed films. Test results from films of at least 30-days in age will provide higher values than results from younger films as chemical cross-linking requires this time period to complete.

## COVERAGE

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

## SURFACE PREPARATION

Surface preparation should include blast cleaning to a minimum of 1-mil anchor profile. For lathe applications, NCSI recommends Nukote automated lathes. For complete application information or technical and quality assurance proposals, please contact a Nukote technician.

## MIXING

Nukote HT must not be diluted under any circumstance. 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. 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 utilizing high-pressure, heated plural component spray proportioning equipment, such as those manufactured by GlasCraft®, Gusmer® and Graco®.

## EQUIPMENT CLEANUP

Cured product may be disposed of without restriction. The un-cured 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.

## STORAGE

Twelve to eighteen 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.

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*Please read all information in the general guidelines, product data sheets, guide specifications and material safety data sheets (MSDS) before applying material. Published technical data and instructions are subject to change without notice. Contact your local NCSI representative or visit our website for current technical data and instructions.*

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.

**NCSI has a comprehensive training program for our qualified applicators and distributors. Please contact your local NCSI office or representative or visit our website for information on our training program or for current technical data and instructions.**

### 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.

It is the user's responsibility to satisfy themselves by their own, independent tests, to determine suitability of the product for their own intended use, application and job situation. The user assumes all risk and liability resulting from his use of the product. Neither seller nor manufacturer shall be liable to the buyer or any third person for any injury, loss or damage directly or indirectly resulting from use of, or inability to use, the product. Recommendations or statements, whether in writing or oral, other than those contained herein shall not be binding upon the manufacturer, unless in writing and signed by a NCSI corporate officer. Technical and application information is provided for the purpose of establishing a general profile of the material and proper application procedures.

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.

## 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 isocyanates 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.