

NEVADA COATINGS SYSTEM

JANUARY 01, 2008

NEVADA COATINGS SYSTEM

NCS Extra Tough for Below Tile and Stone



POINTS OF INTEREST:

- ◆ Completely Waterproof...
- ◆ Installs Quickly...
- ◆ Overlay in 30 minutes...
- ◆ 10 Year Warranty...

INSTALLATION USES:

- ▶ Anti-Fracture Membrane
- ▶ Stone
- ▶ Terrazzo
- ▶ Under Vinyl
- ▶ Specialty Floor Systems
- ▶ Green Roof Systems
- ▶ Waterproofing
- ▶ Tile
- ▶ Under Carpet
- ▶ Under Wood Flooring
- ▶ Concrete Floors

NCS EXTRA TOUGH MEMBRANE

NCS -Extra Tough Membrane is a uniquely blended polymer system designed to install quickly with rapid drying, thus allowing concrete, tile, stone carpet and many other products to be installed over the membrane within 30 minutes. NCS Extra Tough is formulated in 100% solid solution and comprised of specially blended Polyurea Resins which result in substantial physical properties achieved in as little as 30 minutes from initial application.

Once NCS Extra Tough is dry to the touch, concrete, tile and stone can be placed directly over the surface without negatively affecting the integrity of the membrane. NCS Extra Tough is installed by spray, roller or brushing.

NCS Extra Tough is installed in thicknesses of 40–45 mils to as much as 125 mils (please contact NCS for design specifications). NCS Extra Tough should incorporate traditional drainage mats and or drainage systems as deemed necessary.

NCS Extra Tough is warranted to be free from manufacturing defects for a period of 10 years. Project specific warranties can be obtained by contacting NCS representatives or approved applicators.

Technical:

Tensile (PSI) ASTM D412	2720
Elongation (%) ASTM D412	>250
Tear (PLI) ASTM 2240	>330
Hardness Shore D	310
Taber Abrasion (mg loss)	
ASTM D4060	60
Adhesion ASTM D	4541
Concrete (unprimed)	> 250 psi
Concrete (primed)	> 400 psi
Wood (unprimed)	> 250 psi
Steel (unprimed)	> 400 psi
Steel (primed)	> 800 psi



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NCS Extra Tough: Installation Instructions

**SIMPLE SYSTEMS
FOR COMPLICATED
PROJECTS**

**EASILY INSTALLED
OVER ANY TYPE
SURFACE**

**POWERED
BY
REACTAMINE TECHNOLOGY**



Concrete:

1. Remove all laitance and debris from any area receiving the NCS Extra Tough Waterproofing System.
2. Install NCS Primer (refer to NCS Data Sheets).
3. As soon as NCS Primer is tacky, install the NCS Extra Tough Waterproofing to desired thickness.
4. Allow the NCS Extra Tough to dry until tack free (usually 30 minutes).
5. Open to foot traffic or backfill within 30 minutes or when tack free.

Wood:

1. Prepare all joints using NCS Crack Fill (refer to NCS Crack Fill Data Sheets).
2. Install NCS Primer (refer to NCS Primer Data Sheets).
3. As soon as NCS Primer is tacky, install NCS Extra Tough Waterproof Membrane to desired thickness.
4. Allow the NCS Extra Tough to dry until dry to the touch and no tackiness is felt.
5. Allow to dry one hour before foot traffic.

Two Component 100 % Polyurea that achieves superior performance in industrial, commercial and residential environments.

NCS displays extremely fast cure times with incredible adhesion to a multitude of substrates.

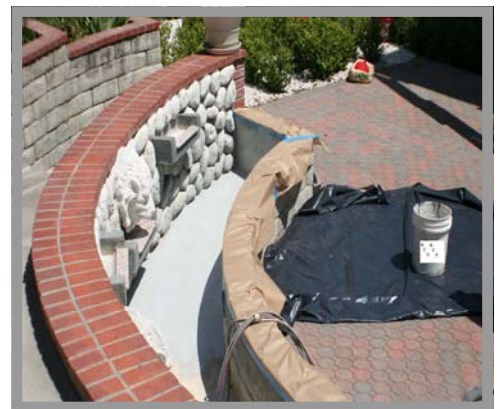
NCS Systems can be applied in conditions often seen as detrimental to traditional coatings, from temperatures as low as 20 degrees to over 120 degrees Fahrenheit.

Installation of NCS Extra Tough can be affected if water is present on or in the substrate. It's important to ensure all surfaces are completely dry. Contact NCS for information on Primers to displace moisture in the surface enhancing the overall adhesion NCS systems.

Typical tools for installation of NCS Extra Tough System.



Types of Construction:



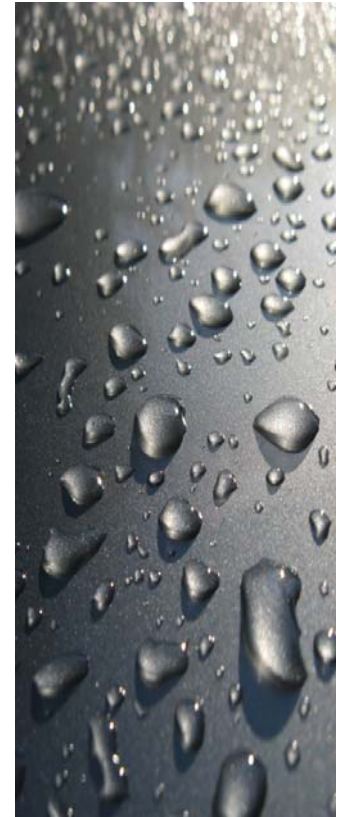
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NCSS Extra Tough MEmbrane: Chemical Resistance:

Chemical Resistance:

Chemical Result (25°C)

Acetic Acid (100%)	C	Muriatic Acid (10%)	R	
Acetone	C	NaCl / H ₂ O (10%)	R	
Ammonium Hydroxide (50%)	RC	Nitric Acid (50%)	R	R=Recommended Little or no visible damage
Benzene	C	Phosphoric Acid (10%)	R	
Brine-Saturated H ₂ O (310g/l)	R	Phosphoric Acid (50%)	NR	
Chlorinated H ₂ O	R	Potassium Hydroxide (10%)	R,DIS	RC=Recommended Conditional Some effect, swelling, discoloration
Clorox® (10%) H ₂ O	R	Potassium Hydroxide (20%)	R	
Diesel Fuel	RC	Propylene Carbonate	RC	
Gasoline	RC	Skydrol®	C	C=Conditional Cracking-wash down within 1 hour of spillage to avoid effects
Gasoline / 5 % MTBE	RC	Sodium Hydroxide (25%)	R	
Gasoline / 5% Methanol	RC	Sodium Hydroxide (50%)	R,DIS	
Hydrochloric Acid (37%)	R	Sodium Hypochlorite (10%)	R	
Hydrofluoric Acid (10%)	NR	Sodium Bicarbonate	R	NR=Not Recommended
Hydraulic Fluid (oil)	RC	Stearic Acid	R	Dis=Discoloration
Isopropyl Alcohol	R	Sugar / H ₂ O	R	
Lactic Acid	RC	Sulfuric Acid (10%)	R	
MEK	RC	Sulfuric Acid (50%)	R	
Methanol	R	Toluene	R	
Methylene Chloride C		1,1,1-Trichlorethane	C	
Mineral Spirits RC		Trisodium Phosphate	R	
Motor Oil	R	Vinegar / H ₂ O (5%)	R	
MTBE	C	H ₂ O	R	
		H ₂ O (14 days @ 82°C)	RC	
		Xylene	RC	



NCS 6000-Extra Tough Membrane: Additional Information

<u>Adhesion Results</u> ASTM D-4541 Elcometer		<u>Typical Processing Properties</u>	
Concrete (No Primer)	>250 psi Concrete Failure	Gel Time	20 Seconds
Concrete (Epoxy Primer)	>400 psi Concrete Failure	Tack Free	10 Minutes
Steel (No Primer)	>400 psi Substrate Failure	Back Fill over Covering	60 Minutes
Steel (Epoxy Primer)	>800 psi Primer Failure		
Wood (No Primer)	>250 psi Delamination	<u>Equipment</u>	
NCS Primer + 289		Plural Spray Ratio 1-1	
Shelf Life 6 Months (60-100 Degree Fahrenheit	Temperature 125-150 Fahrenheit	
		Spray Pressure 2000 psi	

Coverage Guide

Coating	S.F. /Gal
20 mils	70
30 mils	48
40 mils	36
50 mils	29
60 mils	24
80 mils	18
100 mils	14
250 mils	5.5

For information on solvents that can be used with NCS Extra Tough, contact: info@NevadaCoatings.com

Disclaimer

The technical data and any other printed information furnished by **Nevada Coatings Systems (NCS)** is true and accurate to the best of our knowledge. **NCS Extra Tough** conforms to in-house quality control procedures and should be considered free of defects. Due to the wide range of applications of this product, it is impossible to assume responsibility for any errors in regard to application, coverage, workmanship, over-spray or injuries resulting from the use of **NCS Extra Tough**. NCS makes no warranty, expressed or implied, of its products and shall not be liable for indirect or consequential damage in any event. For project specific warranties, refer to NCS warranty.

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MATERIAL SAFETY DATA SHEET

NCS Extra Tough Membrane

1. Product and Company Identification

Product Name: NCS (NexAmine) Extra Tough Membrane

Chemical Family: Aspartic Ester

2. Hazards Identification

Emergency Overview

CAUTION! Color: Yellow Form: liquid Odor: Slight.

Toxic gases/fumes are given off during burning or thermal decomposition and may cause allergic skin and respiratory reaction. Use cold water spray to cool fire-exposed containers to minimize the risk of rupture. May cause respiratory tract irritation.

Potential Health Effects

Primary Routes of Entry: Skin Contact, Eye Contact, Ingestion, Inhalation

Medical Conditions Aggravated by Exposure:

Skin disorders, Respiratory disorders, Eye disorders

HUMAN EFFECTS AND SYMPTOMS OF OVEREXPOSURE

Inhalation-Acute Inhalation

Inhalation is unlikely due to the low vapor pressure. If misted or handled at elevated temperatures, high concentrations may cause respiratory tract irritation.

Skin-Acute Skin

Based on materials with similar chemical structures Not expected to be irritating. Not expected to be a skin sensitizer.

Eye-Acute Eye

Based on materials with similar chemical structures Not expected to be irritating.

Ingestion-Acute Ingestion

For Component: Aliphatic Carboxylic Ester

May be harmful if swallowed.

General Effects of Exposure-Chronic Effects of Exposure

No applicable information was found concerning any adverse chronic health effects from overexposure to this product. Repeated or prolonged overexposure may cause effects as noted under acute health effects.

Carcinogenicity:

No Carcinogenic substances as defined by IARC, NTP and/or OSHA

3. Composition/Information on Ingredients

Hazardous Components

Weight % Components CAS-No.

1 - 5% Aliphatic Carboxylic Ester 623-91-6

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4. First Aid Measures

Eye Contact

In case of contact, flush eyes with plenty of lukewarm water. Get medical attention if irritation develops.

Skin Contact

In case of skin contact, wash affected areas with soap and water. Immediately remove contaminated clothing and shoes. Get medical attention if irritation develops.

Inhalation

If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention if irritation develops.

Ingestion

Do not induce vomiting. If conscious, give 2 glasses of water. Get immediate medical attention.

5. Fire-Fighting Measures

Suitable Extinguishing Media: All extinguishing media are suitable.

Special Fire Fighting Procedures: Firefighters should be equipped with self-contained breathing apparatus to protect against potentially toxic and irritating fumes. Use cold water spray to cool fire-exposed containers to minimize risk of rupture.

Unusual Fire/Explosion Hazards: Toxic and irritating gases/fumes may be given off during burning or thermal composition.

6. Accidental release measures

Spill and Leak Procedures: Cleanup personnel must use appropriate personal protective equipment. Cover spill with inert material (e.g., dry sand or earth) and collect for proper disposal. Prevent from entering open drains and waterways.

Evacuate and keep unnecessary people out of spill area. Ventilate area to remove vapors or dust.

7. Handling and Storage

Storage Temperature:

minimum: 0 °C (32 °F)

maximum: 50 °C (122 °F)

Storage Period:

6 Months @ 25 °C (77 °F)

Handling/Storage Precautions: Avoid contact with skin or clothing. Avoid contact with eyes. Use only with adequate ventilation/personal protection. Wash thoroughly after handling. Keep container closed when not in use. Do not breathe vapors or spray mist. Store in a dry place away from excessive heat. Material is hygroscopic and may absorb small amounts of atmospheric moisture.

Further Info on Storage Conditions: Avoid contact with moisture/water. Material can be stored safely at am-

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8. Exposure Controls / Personal Protection

Country specific exposure limits have not been established or are not applicable.

Industrial Hygiene/Ventilation Measures

General dilution and local exhaust as necessary to control airborne vapors, mists, dusts and thermal decomposition products below appropriate airborne concentration standards/guidelines. Curing ovens must be ventilated to prevent the build up of explosive atmospheres and to prevent off gases from entering the work place.

Respiratory Protection

In spray applications, an organic vapor/particulate respirator or air supplied unit is necessary., The use of a positive pressure supplied air respirator is recommended if the airborne concentration is unknown or if spraying is performed in a confined space or area with limited ventilation.

Hand Protection

Permeation resistant gloves.

Eye Protection

Chemical safety goggles or safety glasses with side-shields.

Skin and body protection

Wear cloth work clothing including long pants and long-sleeved shirts.

Additional Protective Measures

Employees should wash their hands and face before eating, drinking, or using tobacco products. Educate and train employees in the safe use and handling of this product. Emergency showers and eye wash stations should be available.

9. Physical and chemical properties

Form: liquid **Color:** Yellow

Odor: Slight **pH:** Not Established

Freezing Point: Not Established **Boiling Point/Range:** Not Established

Flash Point: > 93.33 °C (> 200 °F) (Pensky-Martens Closed Cup (ASTM D-93))

Lower Explosion Limit: Not Established **Upper Explosion Limit:** Not Established

Vapor Pressure: < 0.000007 mmHg @ 25 °C (77 °F) **Density:** 1.07 g/cm³

Solubility in Water: Insoluble **Autoignition Temperature:** Not Established

VOC Content: Not Established **Viscosity, Dynamic:** no data available

Bulk Density: 8.89 lb/gal **Hygroscopicity:** hygroscopic

10. Stability and Reactivity

Hazardous Reactions: Hazardous polymerization does not occur.

Stability: Stable

Materials to avoid: Oxidizing agents

Conditions to avoid: Avoid extreme heat.

Hazardous decomposition products: By Fire and Thermal Decomposition: Carbon oxides, nitrogen oxides

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11. Toxicological Information

Toxicity Data for Aspartic Ester

Acute Oral Toxicity: LD50: > 2,000 mg/kg (Rat)

Acute Inhalation Toxicity: LC50: 4923 mg/m³, aerosol, 4 h (Rat)

Skin Irritation: rabbit, Non-irritating

Eye Irritation: rabbit, Non-irritating

Sensitization: Maximisation Test (GPMT): non-sensitizer (Guinea pig) Mutagenicity

Genetic Toxicity in Vitro: Ames: negative (Salmonella typhimurium)

Toxicity Data for Aliphatic Carboxylic Ester

Acute Oral Toxicity: LD50: 1,780 mg/kg (Rat)

12. Ecological Information

Ecological Data for Aspartic Ester

Biodegradation: 30 %, Exposure time: 28 d, Not readily biodegradable.

Acute and Prolonged Toxicity to Fish: LC0: > 87 mg/l (Zebra fish (Brachydanio rerio), 96 h)

Acute Toxicity to Aquatic Invertebrates: EC0: 96.8 mg/l (Water flea (Daphnia magna), 48 h)

Toxicity to Aquatic Plants: EC50: > 41.2 - < 84.2 mg/l, (Green algae (Scenedesmus subspicatus), 72 h)

Toxicity to Microorganisms: EC50: > 10,000 mg/l, (Other bacteria)

Ecological Data for Aliphatic Carboxylic Ester

Acute and Prolonged Toxicity to Fish: 38 mg/l (Fathead minnow (Pimephales promelas), 96 h)

13. Disposal considerations

Waste Disposal Method: Waste disposal should be in accordance with existing federal, state and local environmental control laws.

Empty Container Precautions: Recondition or dispose of empty container in accordance with governmental regulations. Do not reuse empty container without proper cleaning. Empty containers retain product residue (dust, liquid, vapor and/or gases) and can be dangerous. Do not heat or cut container with electric or gas torch.

14. Transportation information

Land transport (DOT)

Non-Regulated

Sea transport (IMDG)

Non-Regulated

Air transport (ICAO/IATA)

Non-Regulated

CONTACT

Nevada Coatings Systems - 69900 Stellar Dr; Rancho Mirage, CA 92270

Info@NevadaCoatings.com 760-898-5408

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15. Regulatory Information

United States Federal Regulations

OSHA Hazcom Standard Rating: Hazardous

US. Toxic Substances Control Act: Listed on the TSCA Inventory.

US. EPA CERCLA Hazardous Substances (40 CFR 302):

Components-None

SARA Section 311/312 Hazard Categories:

Acute Health Hazard

US. EPA Emergency Planning and Community Right-To-Know Act (EPCRA) SARA Title III Section 302 Extremely Hazardous Substance (40 CFR 355, Appendix A):

Components-None

US. EPA Emergency Planning and Community Right-To-Know Act (EPCRA) SARA Title III Section 313 Toxic Chemicals (40 CFR 372.65) - Supplier Notification Required:

Components-None

US. EPA Resource Conservation and Recovery Act (RCRA) Composite List of Hazardous Wastes and Appendix VIII Hazardous Constituents (40 CFR 261): If discarded in its purchased form, this product would not be a hazardous waste either by listing or by characteristic. However, under RCRA, it is the responsibility of the product user to determine at the time of disposal, whether a material containing the product or derived from the product should be classified as a hazardous waste. (40 CFR 261.20-24)

State Right-To-Know Information

The following chemicals are specifically listed by individual states; other product specific health and safety data in other sections of the MSDS may also be applicable for state requirements. For details on your regulatory requirements you should contact the appropriate agency in your state.

Massachusetts, New Jersey or Pennsylvania Right to Know Substance Lists:

Weight % Components CAS-No.

>=1% Aspartic Ester CAS# is a trade secret

1 - 5% Aliphatic Carboxylic Ester 623-91-6

California Prop. 65:

To the best of our knowledge, this product does not contain any of the listed chemicals, which the state of California has found to cause cancer, birth defects or other reproductive harm.

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16. Other Information

NFPA 704M Rating

HMIS RATINGS:	HEALTH	FLAMMABILITY	REACTIVITY
	2	1	1
0 =Minimal	1=Slight	2=Moderate	3=Serious 4=Severe

This information is furnished without warranty, express or implied. This information is believed to be accurate to the best knowledge of Nevada Coatings, Inc. The information in this MSDS relates only to the specific material designated herein. Nevada Coatings, Inc. assumes no legal responsibility for use of or reliance upon the information in this MSDS.

NOTES:

NEVADA COATINGS SYSTEM

Nevada Coatings Systems Inc. 10 Year Limited Warranty

CONTRACTOR:

NCS APPLICATOR:

OWNER:

ADDRESS:

NCS System:

MATERIALS PRODUCED BY NEVADA COATINGS OR ITS AFFILIATES AND INSTALLED BY THE APPROVED APPLICATOR LISTED ABOVE, ARE WARRANTED TO BE FREE FROM MANUFACTURER DEFECTS FOR A PERIOD OF TEN (10) YEARS FROM THE DATE OF INSTALLATION; NEVADA COATINGS OR ITS AFFILIATES WILL REPLACE ANY MATERIALS THAT DO NOT CONFORM TO OUR STANDARDS .

IN ORDER FOR THIS WARRANTY TO REMAIN IN EFFECT, THE FOLLOWING CONDITIONS MUST BE MET:

1. STRUCTURAL COMPONENTS OF THE DECK ASSEMBLY ARE TO BE CONFIGURED AND BUILT PER ARCHITECTURAL SPECIFICATIONS AND NEVADA COATINGS OR ITS AFFILIATES PRINTED SPECIFICATIONS. ONLY THE USE OF MATERIALS PRODUCED BY NEVADA COATINGS FOR ROUTINE SCHEDULED MAINTENANCE OF THE DECKS ARE PERMITTED.

2. IF REQUIRED BY THE SYSTEM DESIGNS, THE SYSTEM SHALL HAVE BEEN RESEALED BY THE APPROVED APPLICATOR WHO INSTALLED THE SYSTEM , IDENTIFIED ABOVE.

AT THE THIRD YEAR BY: AT THE SIXTH YEAR BY:

AT THE NINTH YEAR BY:

3. NEVADA COATINGS OR ITS AFFILIATES AND THE APPLICATOR SHALL HAVE BEEN PAID IN FULL FOR ALL MATERIAL AND LABOR SUPPLIED ON THIS PROJECT.

4. THE DECK SYSTEM IS NOT TO BE COVERED WITH ANY TYPE OF SURFACE MATERIALS WHICH DO NOT CONFORM TO OUR STANDARDS . DISCOLORATION, DETERIORATION OR DAMAGE FROM EXTERNAL CONTAMINANTS OR SOURCES, WHICH ARE NOT A PART OF THE NEVADA COATINGS SYSTEM, ARE NOT A PART OF THIS WARRANTY. THIS 10 YEAR WARRANTY, REQUIRES THAT ALL MAINTENANCE BE FOLLOWED DURING THE TERMS OF THE WARRANTY. ADDITIONALLY NEVADA COATINGS OR ITS AFFILIATES SHALL BE NOTIFIED WITHIN 10 DAYS OF DAMAGE TO THE DECK COATING OF POSSIBLE WARRANTY RELATED ISSUES. THE DECK SYSTEM MUST BE INSPECTED BY A NEVADA COATINGS FACTORY REPRESENTATIVE IN ORDER TO EXTEND THIS WARRANTY.

NEVADA COATINGS OR ITS AFFILIATES SHALL BE LIABLE ONLY FOR MATERIALS PROVEN TO BE DEFECTIVE. INSTALLATION LABOR IS THE SOLE RESPONSIBILITY OF THE INSTALLING CONTRACTOR. NO OTHER WARRANTIES EXPRESSED OR IMPLIED SHALL BE ACCEPTABLE UNDER THIS WARRANTY. IT SHALL BE THE SOLE RESPONSIBILITY OF THE OWNER TO NOTIFY NEVADA COATINGS SYSTEMS FOR ALL INSPECTIONS AND WARRANTY RELATED CLAIMS...