

# Product Information

## ChemXP™-Nov Flake

### PRODUCT DESCRIPTION

**ChemXP™-Nov Flake** is a two-component, glass flake filled coating/lining system based on Epoxy Novolac resin.

### COATING LAYERS COMPOSITION

The coating system consists of a primer (**ChemXP™-Nov Primer**) and two coats of **ChemXP™-Nov Flake** applied at 15-20 mils (375-500 microns) DFT, target 18 mils (450 microns) DFT per coat. Total applied thickness is 30-40 mils (750-1000 microns) DFT with a target of 36 mils (900 microns) DFT. **ChemXP™-Nov Flake** is available in Industrial gray and Crimson colors.

### FIELDS OF APPLICATION

**ChemXP™-Nov Flake** has excellent resistance to alkalis, salts and many types of acids. It exhibits particularly good resistance to 98% sulfuric acid and all concentrations of sodium hydroxide. **ChemXP™-Nov Flake** is an ideal corrosion protection material for concrete and steel structures in process and storage areas. Applications include protection of tanks, vessels, trenches, pits, vaults, dikes and secondary containment at chemical plants, power plants and other industries where chemical processes are present.

### FEATURES

- Excellent chemical resistance including exposure to 98% sulfuric acid and 50% sodium hydroxide
- Easy to apply
- Solvent free

### CHEMICAL RESISTANCE

Information on the chemical resistance properties is available upon request.

### SURFACE PRE-TREATMENT

#### Carbon steel

For immersion or frequent spillage conditions, abrasive blast to "White Metal" in accordance with SSPC SP-5, NACE Specification #1 or SA 3. For fumes or occasional spill exposure and dry environments, abrasive blast to "Near White" in accordance with SP-10, NACE #2 or SA 2 1/2. A minimum surface profile of 3 mils (75 microns) is required. After blast cleaning the steel surface shall be primed or coated before the formation of any rust bloom. For direct to metal coating options consult Tennant Coatings.

### Concrete

The concrete shall have a minimum compressive strength of 3500 psi (25 N/mm<sup>2</sup>) and a minimum surface strength of 200 psi (1.4 N/mm<sup>2</sup>) for coatings and 300 psi (2.1 N/mm<sup>2</sup>) for linings. The concrete must be thoroughly cured and dry at the time of application. The residual moisture content should not exceed 4%. ASTM D 4263 plastic sheet test method is recommended to ensure concrete is moisture free. If moisture is detected, repeat test until dry.

Abrasive blast or mechanically abrade surface to remove the weak laitance and surface contaminants.

### APPLICATION

- Prime the substrate with **ChemXP™-Nov Primer** and allow the primer to cure.
- **ChemXP™-Nov Flake** is applied by roller, brush or plural component spray equipment designed to accommodate 4:1 volume mix ratio.
- **ChemXP™-Nov Flake** is applied in two coats at 15-20 mils (375-500 microns) DFT per coat for a total of 30-40 mils (750-1000 microns) DFT. Application by roller or brush may require additional coats to achieve the total recommended thickness.
- Allow 7 days cure at 70°F (21°C) before placing the lining into concentrated sulfuric acid service.

Review installation procedures for further instructions.

**Note:** During application the lined surface should be shaded from direct or indirect sunlight when possible.

### MIX RATIO

The mix ratio of **ChemXP™-Nov Primer** resin to **ChemXP™-Nov Primer B** is 2:1 by volume. Mix ratio of **ChemXP™-Nov Flake** resin to **ChemXP™-Nov Flake B** is 4:1 by volume.

### CONSUMPTION

Layer	Thickness mils (microns)	Coverage
PRIMER on steel	2-5 (50-125)	250-300 ft <sup>2</sup> /gal
PRIMER on concrete	2-5 (50-125)	160-200 ft <sup>2</sup> /gal
BASECOAT <b>ChemXP™-Nov Flake</b> Resin & Hardener	15-20 (375-500)	65-75 ft <sup>2</sup> /gal
TOPCOAT <b>ChemXP™-Nov Flake</b> Resin & Hardener	15-20 (375-500)	65-75 ft <sup>2</sup> /gal

## ChemXP™-Nov Flake

### WORKING TIME & RECOAT TIME

Temperature	Working Time	Min Recoat	Max Recoat
50°F (10°C)	60 min	12 hrs	7 days
70°F (21°C)	30 min	6 hrs	2 days
90°F (32°C)	15 min	3 hrs	1 day

### CURE TIME (to place in service)

Temperature	Minimum Cure time	Minimum Cure time for concentrated Sulfuric Acid
70°F (21°C)	3 days	7 days
90°F (32°C)	2 days	3 days

Generally **ChemXP™-Nov Flake** can be placed in service after the final cure time intervals have been achieved. Shorter or longer intervals may apply depending on service conditions. Consult Tennant for specific recommendations.

**CLEANING:** Acetone

### SAFETY MEASURES

The material safety data sheets of the individual components as well as the legal requirements for handling hazardous materials must be observed.

### PACKING UNITS

The products are supplied in the following standard package sizes:

Description	Package Size
<b>ChemXP™-Nov Primer</b>	.75, 3, 15, 45 gal kits
<b>ChemXP™-Nov Flake</b>	1, 4 gal kits

### STORAGE

The materials must be stored in a cool and dry place. At storage temperature of 70°F (21°C) the shelf life is as follows:

<b>ChemXP™-Nov Primer</b> (resin)	24 months
<b>ChemXP™-Nov Primer B</b>	24 months
<b>ChemXP™-Nov Flake Resin &amp; Hardener</b>	24 months

If the storage time is exceeded, the materials must be tested before use. Higher storage and transport temperatures will reduce the shelf life. The containers must be kept tightly closed. Liquid products must be stored frost-proof.

Technical Data	Testing Standard	Unit	Value
Density	ASTM D1475	lbs/gal kg/l	9.89±0.25 1.19
Flexural Strength	ASTM D 790	Psi MPa	5500 38
Tensile Strength	ASTM D638	Psi MPa	3400 23
Linear Coefficient of Thermal Expansion	ASTM C 531	in/in°F cm/cm°C	15-17 x 10 <sup>-6</sup> (27-30 x 10 <sup>-6</sup> )
Adhesion Strength - Concrete	ASTM D7234	Psi N/mm <sup>2</sup>	Exceeds concrete strength
Minimum Adhesion Strength - Steel	ASTM D4541	Psi N/mm <sup>2</sup>	1000 7
Volatile Organic Compounds	EPA Method 24	g/L lbs/gal	27 0.23
Maximum Operating Temperature*			
Immersion Steel		°F °C	120 49
Immersion Concrete		°F °C	130 54
Splash/Spill Concrete		°F °C	220 104
Continuous Dry		°F °C	350 177

\*Maximum operating temperature limits may vary depending on actual service conditions

All data provided in this Product Information are based on the best of our knowledge and they are to inform generally about our products and their application spectrum. In view of the multitude of possible operating conditions and parameters, the given specifications can only be seen as general information, which do not guarantee special product properties for each particular case. In case of order all essential properties for an individual application should concretely be enquired. On request our Technical Service will furnish a feature profile for such application without undue delay.

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