



# Nap-Gard®

## 7-2750 Series Rebar Fusion Bonded Epoxy

Revised: 12 April 2017

### DESCRIPTION

Nap-Gard® Product No. 7-2750 Rebar Green FBE is a new generation thermosetting epoxy powder designed to coat reinforcing steel bar to provide corrosion protection, improved wet adhesion and provide lower temperature flexibility. This material is designed for application to straight bars that are subsequently bent and gives little cobwebbing when sprayed on multi-bar lines. It has been certified to meet requirements of ASTM A775/A775M – 07b by Independent testing labs. Nap-Gard® Product No. 7-2750SG Rebar Green FBE is a spray grade and Nap-Gard® Product No. 7-2750FC Rebar Green FBE is a fast cure grade

### TYPICAL POWDER PROPERTIES

		7-2750	7-2750SG	7-2750FC
<b>Color:</b>		Green	Green	<b>Green</b>
<b>Theoretical Coverage:</b>		154 Ft <sup>2</sup> /lb/mil	154 Ft <sup>2</sup> /lb/mil	154 Ft <sup>2</sup> /lb/mil
<b>Specific Gravity:</b>	1.25 ± .05			
<b>Typical Gel Time:</b>	@ 205°C (401°F)	6 - 8 seconds	15 – 22 seconds	4 – 6 seconds
ASTM D3451-06	@ 238°C (460°F)	4 - 6 seconds	8 – 12 seconds	2 – 4 seconds
<b>Shelf Life*</b>	@ 25°C (77°F)	6 months	12 months	6 months

Transportation: The material is stable during transportation at temperatures below 25°C (77°F) and 50% RH.

### TYPICAL PROPERTIES OF APPLIED FILM†

<b>Recommended Film Thickness</b>	ASTM A775/A775M – 07b: 8.1		7-12 mils
<b>TEST / REQUIREMENT</b>	<b>METHOD</b>	<b>CRITERIA</b>	<b>RESULT</b>
<b>Flexibility</b>	TM - 10.227	180° bend; 3.75" diameter pin: # 6 bar @ 23°C	Pass, no cracking
		180° bend; 3.75" diameter pin: # 6 bar @ 0°C	Pass, no cracking
<b>Adhesion</b>	ASTM D4541-09 Annex A1	Dry Adhesion	Average - 5400 psi
		Wet Adhesion - after exposure in RO water for 48 hours @ 75°C.	Average - 5100 psi
	CSA Z245.20-10; Clause 12.14	Wet Adhesion - after exposure in RO water for 72 hours @ 75°C.	Rating of 1, 1, 1
<b>Cathodic Disbondment</b>	CSA Z245.20-10; Clause 12.18	48 hours, 65 °C, 1.5V, 3% NaCl	Average - 3.7 mm

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## TESTING OF COATING TO A775-97 (Annex A1)

<b>A1.3.5 Flexibility</b>	Bend#6 rebar/round 6 in. mandrel (10 mils)	No cracking on outside radius	Pass, no cracking @ 24°C20K
<b>A1.3.7 Abrasion Resistance</b>	ASTM D4060-10 / CS17, 1 Kg weight, 1000 cycles	<100 mg removal per 1000 cycles	14 mg average removal
<b>A1.3.8 Impact Test</b>	ASTM G14- 04 /9 Nm (80in/lb)	No cracking /shattering except @ impact area	No cracking /shattering
<b>A1.3.2 Cathodic Disbondment</b>	7 days, 1.5V, 3%NaCl, 23°C	<4.0 mm avg. Disbondment	2.8 mm avg. radial Disbondment
<b>A1.3.3.3 Salt Spray - 800 h.,</b>	ASTM B117-09	<3.0 mm avg. Disbondment	2.3 mm avg. radial Disbondment
<b>A1.3.4 Chloride Permeability</b>		<1.0 X1.04 moles/liter	1.2 105 moles/liter
<b>A1.3.6 Relative Bond Strength to Concrete</b>	ASTM A944-10	>85%	88% relative bond strength

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## TESTING OF COATING TO ASTM A775/A775M - 07b (Annex A1) CONT.

<b>A1.3.1 Chemical Resistance</b>	ASTM G20-10 46 days @ 24°C	Holiday free: No blisters, softening, lose bond, nor develop holidays	Passing all requirements
		With intentional holidays: No blisters, softening, lose bond, develop holidays, nor exhibit undercutting around intentional holiday	Passing all requirements

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## GENERAL APPLICATION PARAMETERS

### Surface Preparation:

Clean the surface of the steel reinforcing bar by abrasive blast cleaning to a near white finish in accordance with SSPC-SP10 or to NACE #2. The cleaning shall remove all visual mill scale, rust and other foreign matter, and shall achieve a uniform anchor profile of 2.0-4.0 mils over the surface of the bar.

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## CURE SCHEDULE GUIDELINES

### Cure Specifications:

Nap-Gard® 7-2750 Rebar Green FBE coating cures by residual heat.

- Pre-heat the bars to 425°F (218°C) to 463°F (239°C) [Depending on bar size].
- Apply Nap-Gard® 7-2750 powder coating to the film thickness required by electrostatic spraying.
- Minimum time to quench is 30 seconds. \*\*
- Guideline booth exit temperatures for the 7-2750 coatings are as follows:
  - No. 3-6 bar 425°F- 435°F
  - No. 7-10 bar 415°F - 425°F
  - No. 11-18 bar 400°F - 415°F
- Inspect for damage and repair using an approved repair material listed below:
  - Nap-Gard® 7-1868
  - Tremec Series 66 – G4056 Hi-Build Epoxoline®



Nap-Gard® 7-2750FC Rebar Green FBE coating cures by residual heat.

- Pre-heat the bars to 425°F (218°C) to 463°F (239°C) [Depending on bar size].
- Apply Nap-Gard® 7-2750FC powder coating to the film thickness required by electrostatic spraying.
- Guideline for minimum time to quench as follow: \*\*
  - 20 seconds for booth exit temperature at 425°F- 435°F
  - 15 seconds for booth exit temperature at 435°F- 445°F
  - 10 seconds for booth exit temperature at 445°F- 463°F
- Inspect for damage and repair using an approved repair material listed below:
  - Nap-Gard® 7-1868
  - Tnemec Series 66 – G4056 Hi-Build Epoxoline®

Nap-Gard® 7-2750SG Rebar Green FBE coating cures

- Pre-heat the bars to 350°F (177°C) to 463°F (239°C).
- Apply Nap-Gard® 7-2750SG powder coating to the film thickness required by electrostatic spraying.
- Follow recommend cure schedule (see below)\*\*.
- Cure should be verified by DSC or other methods.
- Inspect for damage and repair using an approved repair material listed below:
  - Nap-Gard® 7-1868
  - Tnemec Series 66 – G4056 Hi-Build Epoxoline®

Application Temperature	Minimum Post Cure Time
177°C (350°F)	10 minutes
204°C (400°F)	7 minutes
232°C (450°F)	4 minutes

\*\*CAUTION - Time to quench will vary with application parameters and rebar sizes. Therefore, the above information shall be used only as a guideline by the applicator to develop proper time to quench. Cure should be verified by DSC or other methods.

Always consult product Material Safety Data (MSDS) prior to handling.

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