Nap-Gard®
7-2750 Series
Rebar Fusion Bonded Epoxy

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

<table>
<thead>
<tr>
<th></th>
<th>7-2750</th>
<th>7-2750SG</th>
<th>7-2750FC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Color:</td>
<td>Green</td>
<td>Green</td>
<td>Green</td>
</tr>
<tr>
<td>Theoretical Coverage:</td>
<td>154 Ft²/lb/mil</td>
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</tr>
<tr>
<td>Specific Gravity:</td>
<td>1.25 ± .05</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Typical Gel Time:</td>
<td>@ 205°C (401°F)</td>
<td>6 - 8 seconds</td>
<td>15 – 22 seconds</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4 - 6 seconds</td>
<td>8 – 12 seconds</td>
</tr>
<tr>
<td>Shelf Life*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>@ 25°C (77°F)</td>
<td>6 months</td>
<td>12 months</td>
</tr>
</tbody>
</table>

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

TYPICAL PROPERTIES OF APPLIED FILM†

<table>
<thead>
<tr>
<th>TEST / REQUIREMENT</th>
<th>METHOD</th>
<th>CRITERIA</th>
<th>RESULT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flexibility</td>
<td>TM - 10.227</td>
<td>180º bend; 3.75” diameter pin: #6 bar @ 23°C</td>
<td>Pass, no cracking</td>
</tr>
<tr>
<td></td>
<td></td>
<td>180º bend; 3.75” diameter pin: #6 bar @ 0°C</td>
<td>Pass, no cracking</td>
</tr>
<tr>
<td>Adhesion</td>
<td>ASTM D4541-09 Annex A1</td>
<td>Dry Adhesion</td>
<td>Average - 5400 psi</td>
</tr>
<tr>
<td></td>
<td>CSA Z245.20-14; Clause 12.14</td>
<td>Wet Adhesion - after exposure in RO water for 48 hours @ 75°C.</td>
<td>Average - 5100 psi</td>
</tr>
<tr>
<td>Cathodic Disbondment</td>
<td>CSA Z245.20-14; Clause 12.18</td>
<td>48 hours, 65 ºC, 1.5V, 3% NaCl</td>
<td>Rating of 1, 1, 1</td>
</tr>
</tbody>
</table>

*Shelf Life: 6 months for 7-2750, 12 months for 7-2750SG, 6 months for 7-2750FC

†Recommended Film Thickness: ASTM A775/A775M – 07b: 8.1 7-12 mils

Revised: 28 March 2018
### TESTING OF COATING TO A775-07b (Annex A1)

#### A1.3.5 Flexibility
Bend #6 rebar/round 6 in. mandrel (10 mils) No cracking on outside radius Pass, no cracking @ 24°C

#### A1.3.7 Abrasion Resistance
ASTM D4060-10 / CS17, 1 Kg weight, 1000 cycles <100 mg removal per 1000 cycles 11.7 mg average removal

#### A1.3.8 Impact Test
ASTM G14- 04 /9 Nm (80 in/lb) No cracking /shattering except @ impact area No cracking /shattering

#### A1.3.2 Cathodic Disbondment
7 days, 1.5V, 3%NaCl, 23°C <4.0 mm avg. Disbondment 3 mm avg. radial Disbondment

#### A1.3.3 Salt Spray - 800 h.,
ASTM B117-09 <3.0 mm avg. Disbondment 2 mm avg. radial Disbondment

#### A1.3.4 Chloride Permeability
ASTM G20-10 <1.0 X 10⁻⁴ moles/liter 0.28 X 10⁻⁴ moles/liter

#### A1.3.6 Relative Bond Strength to Concrete
ASTM A944-10 >85% 88% relative bond strength

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

#### A1.3.1 Chemical Resistance
ASTM G20-10 46 days @ 24°C Holiday free: No blisters, softening, lose bond, nor develop holidays

With intentional holidays: No blisters, softening, lose bond, develop holidays, nor exhibit undercutting around intentional holiday

Passing all requirements

#### 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.

#### 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
  - Tnemec 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®

<table>
<thead>
<tr>
<th>Application Temperature</th>
<th>Minimum Post Cure Time</th>
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<tbody>
<tr>
<td>177°C (350°F)</td>
<td>10 minutes</td>
</tr>
<tr>
<td>204°C (400°F)</td>
<td>7 minutes</td>
</tr>
<tr>
<td>232°C (450°F)</td>
<td>4 minutes</td>
</tr>
</tbody>
</table>

**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.