3M™ Scotchkote™ Fusion Bonded Epoxy Coating 426

Product Description

3M™ Scotchkote™ Fusion Bonded Epoxy Coating 426 is a one-part, heat curable, thermosetting epoxy coating designed for improved corrosion protection of reinforcing steel in severe marine and corrosive environments. The epoxy is applied to preheated steel as a dry powder which melts and cures to a uniform coating thickness. This bonding process provides excellent adhesion and coverage on concrete reinforcing steel bar and other steel members which have been prefabricated to any size or shape. Scotchkote 426 coating is resistant to cathodic disbondment and corrosive agents such as deicing salts, airborne salt spray, sea water, harsh chemicals, acid rain, carbonation, contaminated aggregate and concrete additives.

Features

- Provides superior resistance from disbondment without pretreatments.
- Superior for prefabricated steel reinforcement.
- Good corrosion protection, even under hot, wet, salty conditions.
- Easy visual inspection of reinforcement surfaces.
- Color coded for easy identification of prefabricated reinforcement.
- Storage in all climatic conditions with minimal damage.
- Consistent performance test results under all application conditions.
- Resistance to cathodic disbondment and hot-water immersion adhesion loss.
- Improved UV resistance.
- Resists deicing salts.
- Meets CAN/CSA-Z 245.20-M92 and British Gas GBE/CW6 without pretreatment.
- Meets ASTM A 775/A 775M and AASHTO M 284, AASHTO M 254, and ASTM A 884, except flexibility.
- Meets ASTM A 934/A 934M.
Test Data - Coatings

Hot Water Immersion Resistance
167°F (75°C), 48 hours

Scotchkote 426 rebar coating
British Gas GBE/CW6 0 mm
CSA Z 245.20 1 Rating

Flexible Rebar Coating with Surface Treatment
British Gas GBE/CW6 6 mm
CSA z 245.20 3 Rating

Flexible Rebar Coating
British Gas GBE/CW6 12 mm
CSA Z 245.20 5 Rating

Cathodic Disbondment (Salt Crock) Resistance
150°F (66°C), 40 hours, 3% NaCl, 3 volts

Scotchkote 426 rebar coating
2 mmr disbondment

Flexible Rebar Coating with Surface Treatment
5 mmr disbondment

Flexible Rebar Coating
15 mmr disbondment

Cathodic Disbondment
Scotchkote 426 at 1.5V: CDT; 73°F, 3% ASTM G-8 Electrolyte
## Test Data - Coatings

<table>
<thead>
<tr>
<th>Property</th>
<th>Test Description</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemical Resistance</td>
<td>ASTM A 934/A 934M 45 days at 75° F (24°C); 3 molar (25%) CaCl₂; 3 molar (10.7%) NaOH; Saturated Ca(OH)₂</td>
<td>No blistering, softening, bond loss or holidays.</td>
</tr>
</tbody>
</table>
| Resistance to Applied Voltage (Cathodic Disbondment or Salt Crock) | Modified ASTM G-95, 175°F (79°C); 3V, 3% NaCl, 14 days  
ASTM A 934 150°F (66°C); 3V, 3% NaCl, 48 hours  
ASTM A 934 74°F (23°C); 1.5 V, 3% NaCl, 168 hours | 9.5 mmr  
4.3 mmr  
0.8 mmr |
| Salt Spray Resistance                         | ASTM A 934 95°F (35°C); 5% NaCl, 800 hours                                        | < 1 mm                                                                  |
| Chloride - Permeability                       | ASTM A 934 75°F (24°C), 45 days                                                  | 1.41 x 10⁻⁵ molar                                                      |
| Coating Flexibility                          | ASTM A 934 No. 6 (No. 20) Rebar. 6° around a 6 in. (150 mm) diameter mandrel, completed within 5 seconds. 75°F (24°C) | No cracking visible on outside radius                                  |
| Relative Bond Strength in Concrete            | ASTM A 944                                                                       | > 80% of mean strength for uncoated bar                                 |
| Abrasion Resistance                           | ASTM D 1044 CS-17, 1000 g weight, 5000 cycles                                    | 0.1 g. loss                                                            |
|                                               | ASTM A 934, 1000 g weight, 1000 cycles                                           | 19 mg.                                                                 |
| Impact                                        | ASTM A 934/A 934M                                                                | No shattering, cracking or bond loss outside impact area               |
| Water Imersion                                | British Gas GBE/CW6 122°F (50°C)                                                 | 7 days, 1.0 mm disbondment  
28 days, 2.2 mm disbondment                                             |
| Hardness                                      | Knoop Hardness                                                                  | > 20                                                                   |

### General Application Steps

A. Remove oil, grease and loosely adhering deposits.

B. Abrasive blast clean the surface to NACE No. 2/SSPC-SP10 ISO 8501:1, Grade SA 21/2 near white finish.

C. Preheat metal to approximately 450°F (232°C).

D. Deposit Scotchkote 426 coating by electrostatic spray to the thickness required. Some overspray may occur.

E. Allow to cure according to Cure Specifications.

F. Electrically inspect for holidays after coating has cooled to 250°F (121°C) or lower.
Cure Specifications
Scotchkote 426 coating must be cured according to the following schedule in order to achieve maximum performance properties. Cure time is based on metal temperature.

<table>
<thead>
<tr>
<th>Application Temperature</th>
<th>Minimum Time to Cure</th>
</tr>
</thead>
<tbody>
<tr>
<td>450°F/232°C</td>
<td></td>
</tr>
<tr>
<td>Scotchkote 426 Fast</td>
<td>30 seconds</td>
</tr>
<tr>
<td>Scotchkote 426 Long Gel</td>
<td>90 seconds</td>
</tr>
</tbody>
</table>

Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Color</td>
<td>Violet</td>
</tr>
<tr>
<td>Specific Gravity Powder</td>
<td>1.47 ± .03</td>
</tr>
<tr>
<td>Coverage based on specific gravity</td>
<td>131 ft²/lb/mil</td>
</tr>
<tr>
<td></td>
<td>(0.681 m²/kg/mm)</td>
</tr>
<tr>
<td>Gel Time</td>
<td></td>
</tr>
<tr>
<td>Scotchkote 426 Fast</td>
<td>400°F(204°C)</td>
</tr>
<tr>
<td>Scotchkote 426 Long Gel</td>
<td>450°F(232°C)</td>
</tr>
<tr>
<td></td>
<td>13-20 seconds</td>
</tr>
<tr>
<td></td>
<td>2-5 seconds</td>
</tr>
<tr>
<td></td>
<td>6-10 seconds</td>
</tr>
</tbody>
</table>

Handling and Safety Precautions
Read all Health Hazard, Precautionary, and First Aid statements found in the Material Safety Data Sheet, and/or product label of chemicals prior to handling or use.

Ordering Information/Customer Service
For ordering information, technical information, product information or to request a copy of the Material Safety Data Sheet:
Phone: 800/722-6721 or 512/9393
Fax: 877/601-1305 or 512/984-6296

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