# REC COAT 1709

## TWO COMPONENTS FIRE RATED PROTECTIVE COATING FOR STEEL

### DESCRIPTION

**REC COAT 1709** is an ASTM E119 certified, durable two- component intumescent epoxy coating that provides fire protection to commercial structural steel members. **REC COAT 1709** is corrosion resistant, with a semi-smooth finish, that is suitable for both interior and exterior architectural exposed steel members. It may be finish coated to obtain desired color and gloss feature designs.

- Up to three hours fire protection on a wide range of beams and columns. Up to four hours fire protection on fully exposed (4 sided) I-Sections.
- An exterior, durable intumescent - topcoat not required
- Outstanding impact and abrasion resistance - minimal damage and repairs
- High film build per coat properties
- Mesh free
- Superior application properties, suitable for on-site/off-site application
- Chemical resistant

### PRIMARY APPLICATIONS

For use on exposed structural steel that requires an aesthetic finish. Suitable for use in interior and exterior up to C5 (ISO12944- 2) environments.

- Hospital buildings
- Public buildings
- Atriums
- Airports
- Warehouses
- Clean rooms
- Parking garages
- Educational buildings/gymnasiums
- Convention centers
- Bridges
- Transportation terminals
- Heavy duty manufacturing facilities.

### TECHNICAL INFORMATION

| TEST NAME | TEST METHOD | RESULTS |
|---|---|---|
| **Adhesion** | ASTM D4541 | >350 psi (2.5Mpa) |
| **Compressive Strength** | ASTM D695 | >2,900 psi (20Mpa) |
| **Durometer Hardness** | ASTM D2240 | Shore D >65 |
| **Flexural Strength** | ASTM D790 | >1,450 psi (10Mpa) |
| **Izod Impact Strength** | ASTM D256 | >0.62 ft·lb/in$^2$ (1.3KJ/m$^2$) |
| **Surface Burning** | ASTM E84 Class 1 | Flame Spread Index 0 Smoke Developed Index 5 |

| | |
|---|---|
| Color: | Pale blue (white base/blue additive), no tinting allowed |
| Volume Solids: | 100% (ASTM-D2697-91) |
| Mix Ratio: | 2A:1B by volume (2.37A:1B by weight) |
| VOC:<br>Unreduced:<br>Reduced 3-5%: | <br>0 g/L ; 0.0 lb/gal, mixed<br><100 g/L ; 0.83 lb/gal, mixed |

**RECOMMENDED SPREADING RATE PER COAT:**

| | Plural Component Spray | | Single Leg Spray* | |
|---|---|---|---|---|
| | **Min.** | **Max.** | **Min.** | **Max** |
| **Wet mils** (mm) | **20** (0.5) | **275** (7) | **20** (0.5) | **200** (5) |
| **Dry mils** (mm) | **20** (0.5) | **275** (7) | **20** (0.5) | **200** (5) |
| **~Coverage sq ft/gal** (m$^2$/L) | **6** (0.1) | **80** (2) | **8** (0.2) | **80** (2) |

*Thinned equal to or less than 3% by volume
Maximum sag tolerance with overlap typically 280.0 mils (7 mm) dry by plural component spray.
Consult your Reckon Fire Protection Representative regarding the **REC COAT 1709** Application Manual for all application methods.

| DRYING SCHEDULE @ 200 MI | | | | |
|---|---|---|---|---|
| | @ 41°F/5°C | @ 50°F/10°C | @ 73°F/23°C | @ 104°F/40°C |
| **To touch:** | 20 hours | 8 hours | 4 hours | 2 hours |
| **To handle:** | 30 hours | 20 hours | 12 hours | 2 hours |
| **To recoat:** | 20 hours | 8 hours | 4 hours | 2 hours |
| Drying time is temperature, humidity, solvent reduction, and film thickness dependent. | | | | |
| Pot Life: | 45 minutes @ 73°F (23°C)<br>30 minutes @ 86°F (30°C) | | | |
| Sweat-in-time: | None | | | |
| Flash Point: | Above 220°F (104°C) | | | |
| Reducer: | Above 80°F (27°C): Xylene, up to 5% by volume.<br>Below 80°F (27°C): 50/50 blend Xylene/MEK up to 5% by volume | | | |
| Clean Up: | Xylene, MEK ; for VOC Restricted Areas (=25 g/L, or =3%): use R7K111 | | | |

## APPROVALS

- Certified to ASTM E119 and CAN/ULC-S101
- Intertek: SWC/IF 180-02 / 240-03 / 240-04
- UL 2431
- ASTM E84
- ICC-ES: AC523 number ESR 4767
- Suitable for use in USDA inspected facilities
- NSF Certified Environmental Product Declaration (EPD)

## DIRECTIONS FOR USE

### SURFACE PREPARATION

Surface must be clean, dry, and in sound condition. Remove all oil, dust, grease, dirt, loose rust, and other foreign material to ensure adequate adhesion.
Minimum recommended surface preparation:
Carbon Steel: SSPC-SP6/NACE 3 (Sa 2), 2-3 mils (50-75 microns) angular profile*
Galvanized Steel: AMPP Guide 21550-2025, 2-3 mils (50-75 microns) angular profile*
*Peak count density, per SSPC-PA 17, of 90-120 peaks per linear inch (35-50 peaks per linear centimeter) required.

### APPLICATION CONDITIONS

**REC COAT 1709** must be applied in a dry environment where atmospheric conditions can be controlled. It must not be exposed to condensation, damp, or wet conditions during or after application until fully cured.
Temperature: 41°F (5°C) minimum* (air, surface, and material)
Relative humidity: 85% maximum**
*At application temperatures below 60°F/15°C, drying and curing times will be extended.
**Relative humidity must be <85% to ensure proper film formation.
If it is desired to overcoat outside the times stated on the data sheet.

### APPLICATION EOUIPMENT

**Plural Component Spray**

Consult **Reckon** Representative regarding the **REC COAT 1709** Application Manual. Production application rate is optimum using plural PFP equipment, properly configured following the guidelines set in the application manual. Equipment must meet the parameters defined in the application manual and be approved by Reckon. Such equipment includes, but not limited to:

- Wiwa Duomix 333 PFP

- Graco XM PFP Plural-Component Sprayer

**Single-Leg Airless Spray**

**REC COAT 1709** is suitable to apply using single-leg airless (68:1 or greater) equipped with ram feed system. Approved equipment include:

- Wiwa Herkules 75:1
- Graco Xtreme PFP Sprayer 70:1

**Trowel**

**REC COAT 1709** may be applied using various design trowels deemed to be appropriate for the structure configuration.

**RECOMMENDED SYSTEMS**

**REC COAT 1709** can only be used with approved primers and topcoats. Please contact your Reckon representative for specific options.

**REC COAT 1709** may be applied direct to metal, without a primer, when prepared according to an SSPC-SP6/NACE 3. Primers must be approved as per the **REC COAT 1709** Primer Guide. Contact your Reckon representative for further information.

Where topcoats are specified on a project, these must be approved as per the **REC COAT 1709** Topcoat Guide.

Subsequent maintenance and repaint must also be done with an approved topcoat. Contact your **REC COAT 1709** representative for further information

**RECOMMENDED THICENESS**

Contact your Reckon representative for material take off estimates and **REC COAT 1709** loading/DFT requirements.

**ADDITIONAL NOTES**

Overcoating should take place within seven days of application of the previous coat of **REC COAT 1709**. If seven days is exceeded, mechanical abrading of the **REC COAT 1709** surface is required to ensure proper adhesion.

The specified DFT of **REC COAT 1709** must be verified prior to applying a finish coat.

Drying times, recoat windows, curing times and pot life should be considered as a guide only.

The curing reaction of epoxies begins immediately when the two components are mixed, and since the reaction is dependent on temperature, the curing time and pot life will be approximately halved by a 20°F (10°C) increase in temperature and doubled by a 20°F (10°C) decrease in temperature.

Alternative primers are approved: consult your Reckon representative for details.

There may be slight variations in color from batch to batch. Any variations in color, when using plural component spray, may indicate a fault with the spray equipment and this should be checked to ensure the correct ratio of base and additive are being delivered.

**REC COAT 1709** wets out very easily. Therefore, when reduction is necessary, reducing 3% by volume is optimum. In addition, minimal or no solvent usage during finishing is recommended.

**REC COAT 1709** is highly reinforced. Rollers that are excessively wet with solvent may reveal the fiber reinforcement, producing areas of gray shading. This is a cosmetic matter and has no ramifications on performance or longevity. By allowing sufficient time for the applied material to tack up, dry finish rolling will reduce this effect

## PACKING

**REC COAT 1709** is available in 6,12 and 30 kg kit.

## STORAGE

- Shelf Life: 24 months @ 25°C from date of manufacture.
- Materials must be stored in a warehouse with temperatures between 5$^{o}$C and 35$^{o}$C.
- Material should not be used after the shelf-life expiry date.
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## HEALTH & SAFETY

For the full health and safety hazard information and howto safely handle and use this product, make sure that youobtain a copy of the Safety Data Sheet (SDS) from our office or website.



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