

FUSION-BONDED EPOXY (FBE) DOWEL COATINGS - OVERVIEW

Fusion-bonded epoxy coatings are used to enhance corrosion resistance of steel dowels embedded in concrete, particularly in slabs exposed to moisture or chlorides.

The coating serves as a **protective barrier only**; it does not affect dowel load transfer or structural capacity.

Coating selection is typically driven by **specifier familiarity, exposure conditions, and handling durability**.



GREEN FUSION-BONDED EPOXY

- **Covered by ASTM A775 & ASTM 1078**
- Green epoxy is the **most familiar and commonly referenced** dowel coating in the industry and is widely accepted by engineers due to its long history in concrete construction.
- **ASTM A775**
 - Originally developed for epoxy-coated reinforcing bar.
 - Includes bend test requirements, which are not directly applicable to dowel systems.
- **ASTM A1078**
 - Also applies to fusion-bonded epoxy coatings.
 - Often **more applicable to dowels**, as it does not require rebar-style bend testing.
 - Focuses on coating performance and durability for finished steel elements.

Coatings applied in-house at BoMetals CRSI approved Fusion Bonded Epoxy Coatings facility.



PURPLE FUSION-BONDED EPOXY

- **Covered by ASTM A934.**
- Includes inspection and performance requirements focused on coating integrity for finished shapes.
- Commonly selected where **coating durability and abrasion resistance** during handling and placement are priorities.
- **ASTM A934**
 - Applies to **prefabricated steel elements** that are cut or formed first and then epoxy-coated.



RED OXIDE COATING (PRIMER)

- Red oxide is generally considered a **non-spec coating**.
- Functions as a **primer or temporary corrosion inhibitor** for storage and handling.
- Not intended to provide long-term corrosion protection like epoxy coatings.
- Red oxide should be viewed as a primer, not a performance coating.

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