

Tech Talk Q&A

Professor Zinc Says

“Hot dip galvanizing is hard to damage... and easy to fix!”

Q. "What is the best way to handle field repair of galvanized coating damaged at the construction site?"

A. There's an ASTM spec for that, and lots of available information.

ASTM A780 Practice for Repair of Damaged and Uncoated Areas of Hot-Dip Galvanized Coatings details how to repair a damaged hot-dip galvanized coating. The specification explains how to use the various repair methods as well as the required coating thickness for the repaired area. Touch-up materials are required to meet a coating thickness of at least 2.0 mils (50.8 µm) for one application, and the final coating thickness of the repair area is dictated by the material used to do the repair.

ASTM A780 contains three acceptable methods of touch-up and repair of hot-dip galvanized steel: **zinc-based solders, zinc-rich paints, and zinc spray (metallizing)**. Detailed information and videos about each of these methods are available on the **American Galvanizers Association web site**.

Touch-up and repair of galvanized steel is simple whether newly galvanized or in service for years. The main restriction in the specification for repairing newly galvanized material is the size of the area which is outlined in the product galvanizing specifications.

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For example, ASTM A123 Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products allows repairs on newly galvanized materials with the following restrictions:

- One inch or less in narrowest dimension
- Total Area can be no more than 1/2 of 1% of the accessible area to be coated or 36 sq. in. per short ton per piece, whichever is less

When it comes to repairing galvanized steel in the field, there is no limitation to the size that can be repaired. The zinc coating is difficult to damage, but field fabrication that requires removal of the coating should be minimized as much as possible. The cathodic protection of the coating will provide some protection to uncoated areas, but the best practice for longevity is to touch-up any bare areas per ASTM 780 specifications.

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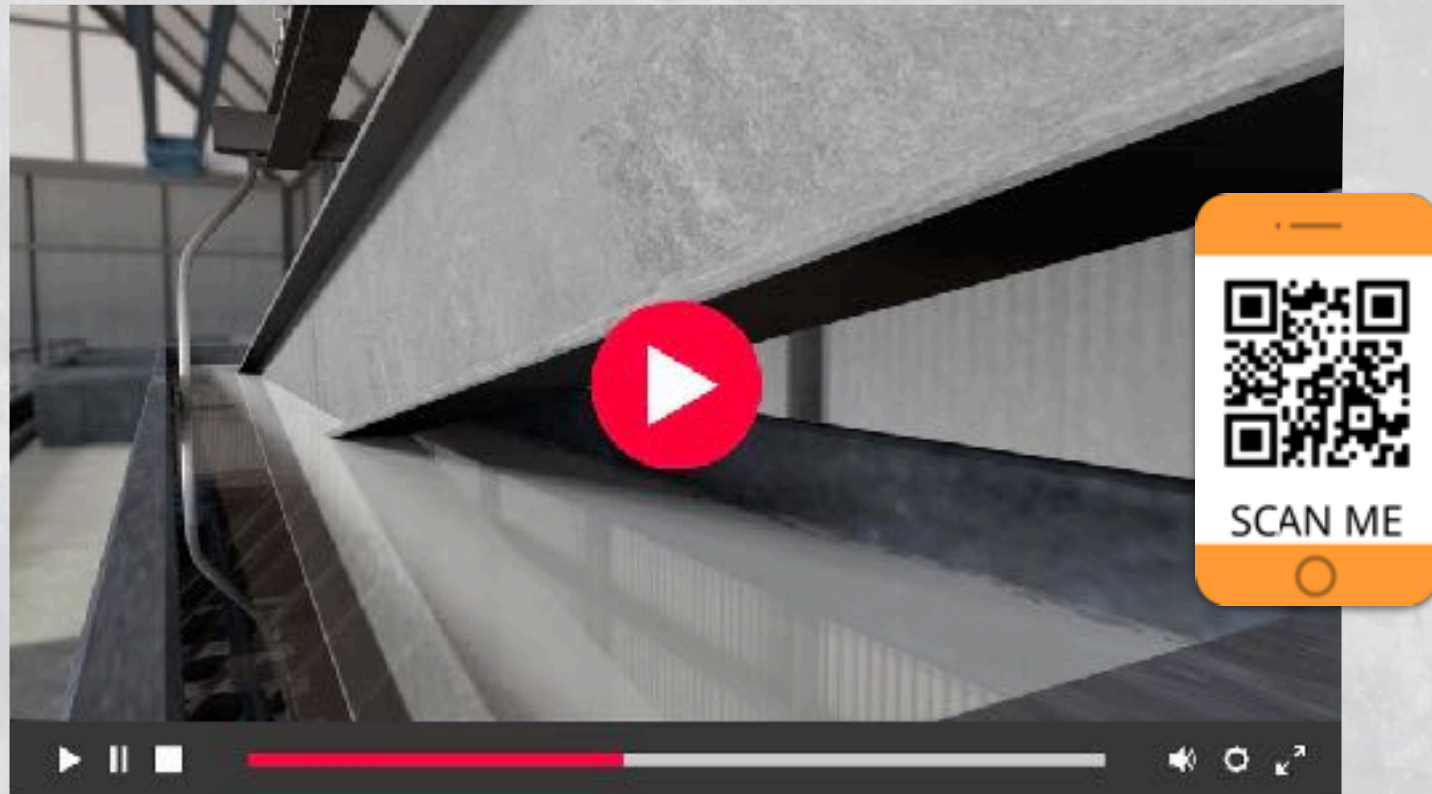
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When a fabrication is too large for single immersion we can usually galvanize it by progressive dipping, immersing each end of the article sequentially to coat the entire piece.



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