

TECHNICAL BULLETIN

TRAILER SUSPENSION SYSTEMS

SUBJECT: Welding to Galvanized Steel

LIT NO: T19003

DATE: February 2013

Some or all steel components on a suspension may be galvanized. Occasionally **authorized** additions or repairs may require welding to galvanized coated steel. When this occurs, additional cautions and considerations are applicable, different from welding to plain steel.

⚠WARNING: According to OSHA - "Zinc is used in large quantities in the manufacture of brass, galvanized metals, and various other alloys. Inhalation of zinc oxide fumes can occur when welding or cutting on zinc-coated metals. Exposure to these fumes is known to cause metal fume fever. Symptoms of metal fume fever are very similar to those of common influenza. They include fever (rarely exceeding 102° F), chills, nausea, dryness of the throat, cough, fatigue, and general weakness and aching of the head and body. The victim may sweat profusely for a few hours, after which the body temperature begins to return to normal. The symptoms of metal fume fever have rarely, if ever, lasted beyond 24 hours."

⚠CAUTION: Appropriate PPE (Personal Protective Equipment) should be used while working with galvanize coatings, e.g. eye, face, hand, foot and respirator protection. Repairs on galvanized coatings should be conducted in accordance with **ASTM A780M Standard Practice for Repair of Damaged and Uncoated Areas of Hot-Dip Galvanized Coatings.**

⚠CAUTION: All safety precautions should be taken during all cleaning and repair stages.

1. **Remove** all galvanized coating in touch-up/repair location.
2. Thoroughly **clean** the area:
 - A. Using a clean cloth, hand-wipe surface to remove any residue from previous step.
 - B. The repair surface area shall be clean, dry and free of all contamination, e.g. oil, grease, pre-existing coating.
3. **Weld** required components according to ASTM A780M.
4. **Paint** cleaned and/or repaired areas using zinc rich primer that meets the requirements of ASTM A780 (97% zinc in dry film).
 - A. Before brushing or spray application, make sure paint is thoroughly stirred or shaken.
 - B. Allow paint to cure as per paint supplier's recommended practice.
5. **Measure** dry film thickness.

NOTE: The thickness of coating should be at least equal to the galvanized layer. Zinc rich primer will give a dull, flat appearance, different than a bright shiny galvanized layer. the performance of the paint is comparable to galvanized steel.
6. The primer needs to be top coated with a galvanizing **paint** meeting ASTM A780 specifications. This will provide protection and give similar appearance to galvanized steel.

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