PART 1 - GENERAL

1.1 SUMMARY

A. Includes But Not Limited To:
   1. Quality of factory or shop-applied priming applied to steel supplied to Project without finish coat.
   2. Quality of and procedures for field touch-up and repair of factory-applied priming and galvanizing.

B. Related Sections
   1. Sections under 09 9000 heading: Finish painting.

1.2 REFERENCES

A. American Society For Testing And Materials:
   1. ASTM A 780-01, ‘Practice for Repair of Damaged and Uncoated Areas of Hot-Dip Galvanized Coatings.’
   2. ASTM B 695-00, ‘Standard Specification for Coatings of Zinc Mechanically Deposited on Iron and Steel.’

1.3 SUBMITTALS

A. Product Data: Product data and samples, if requested by Architect.

1.4 QUALITY ASSURANCE

A. Pre-Installation Conference: Meet with Architect before commencing repair of galvanized surfaces to establish extent of repairs required and, if applicable, choice of methods to be used.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Factory And Shop-Applied Primer: Compatible with and of equal or better quality than finish paint system to be applied by Sections under 09 9000 heading. Primer on unexposed, unfinished surfaces may be fabricator's standard shop coat.

B. Repairs To Primed Surface: Unless otherwise specified, use primer which matches characteristics of original primer and is compatible with and of equal or better quality than finish paint system to be applied by Sections under 09 9000 heading.

C. Material For Repairs Of Galvanized Surfaces:
   1. Non-Structural, Non-Load-Bearing Items Not Exposed To Weather:
      a. Zinc-Rich Paints:
         1) Zinc-Dust Content: Dried film shall contain 94 percent of zinc-dust by weight.
         2) Type One Acceptable Manufacturers:
            b) ZRC Cold Galvanizing Compound by ZRC Chemical Products Co, Quincy, MA www.zincrich.com.
c) Equal as approved by Architect before bidding. See Section 01 6000.

2. Structural, Load-Bearing Items And Items Exposed To Weather:
   a. Zinc-Based Solders, Powder, Or Rod:
      1) Zinc-Cadmium solder with liquidus temperature range from 518 to 527 deg F 270 to 275 deg C, or
      2) Zinc-Tin-Lead alloy with liquidus temperature range from 446 to 500 deg F 30 to 260 deg C.
   b. Sprayed Zinc: Wire, ribbon, or powdered zinc suitable for process.

PART 3 - EXECUTION

3.1 PREPARATION

A. General:
   1. Clean, grind, or otherwise prepare welds in steel that is to be coated within limits acceptable to
      welder responsible for structural integrity.
   2. Surfaces to be coated shall be clean, dry and free of oil, grease, and corrosion products.

B. Preparation Of Primed, Ungalvanized Surfaces: Clean welds and grind serious abrasions.

C. Preparation Of Galvanized Surfaces:
   1. Follow requirements of ASTM A 780 and following:
   2. For Repair Using Zinc-Rich Paints:
      a. Blast clean surfaces to near-white metal, in accordance with SSPC-SP10 (1 to 2 mil anchor
         pattern), as minimum.
      b. Where circumstances do not allow blast cleaning, power disk sand to bright metal finish.
      c. Extend surface preparation into undamaged galvanized area.
      d. Remove flux residue and weld spatter from welded areas.
   
   3. For Repair Using Zinc-Based Alloys:
      a. Clean surface to be reconditioned using wire brush, light grinding action, or mild blasting.
      b. Extend surface preparation into surrounding, undamaged galvanized areas.
      c. Remove flux residue and weld spatter from welded areas.
      d. Preheat cleaned area to at least 600 deg F 316 deg C.
         1) Do not overheat surface beyond 750 deg F 400 deg C or allow surrounding galvanized
            coatings to be burned.
         2) Wire brush surface during preheating.
   4. For Repair Using Sprayed Zinc (Metallizing):
      a. Blast clean surfaces to near-white metal, in accordance with SSPC-SP5 as minimum.
      b. Extend surface preparation into undamaged galvanized area.
      c. Remove flux residue and weld spatter from welded areas.

3.2 REPAIR / RESTORATION

A. Repairs To Primed, Ungalvanized Surfaces:
   1. Thoroughly clean metal and give one prime coat of specified material, well-worked into metal
      joints and open spaces. Match existing primed finish as required.
      a. Do not apply primer at temperatures below 45 deg F 7 deg C.
      b. Protect un-primed machine-finished surfaces against corrosion by priming.

B. Repairs To Galvanized Surfaces:
   1. Non-Structural, Non-Load-Bearing Items Not Exposed To Weather:
         Apply paint in single application employing multiple spray passes to achieve dry film
         thickness of 2 mils.
   2. Structural, Load-Bearing Items And Items Exposed To Weather:
      a. Repair Using Zinc-Based Alloys:
1) Rub cleaned, pre-heated areas with repair stick to deposit evenly distributed layer of zinc alloy. If powdered zinc alloys are used, sprinkle powder on surface and spread out with spatula or similar tool.
2) Remove flux residue by rinsing with water or wiping with damp cloth.
   b. Repair Using Sprayed Zinc (Metallizing): Apply 2 mil minimum coating by means of metal-spraying pistols fed with either zinc wire or zinc powder in accordance with requirements of ASTM B 695, Type I.
3. All Items:
   a. Apply repair materials immediately after surface preparation is complete.
   b. Take thickness measurements, with either magnetic or electromagnetic gauge, to ensure applied coating is as specified or agreed to.

END OF SECTION