Material Standards & Specifications

MSS	2.003	E-Coating
Approved by:	JRF	
Revision:	B	Re-ordered and changed to numbered list for general spes and added note 5. Combined preparation and corrosion notes; Revised note 3 and removed sub-types.
Date:	5/31/12	

Scope: This specification is intended to electro coating of individual parts and assemblies.

Background:
Electrocoating is a painting process that uses an electrical current to deposit paint on parts. It is a cathodic process that uses DC current to "pull" the particles of paint to the surface of the charged part. The resulting coating is true to the original surface and uniform in application. A poor surface finish will be reflected after painting. There is no filling of surface discontinuities as in sprayed paint. Paint will be applied everywhere the ionized tank solution touches the part.

General Specifications:

1. Purpose: E-coating is primarily added to the parts to prevent corrosion but also has appearance functionality important to the marketability of the parts.
2. Preparation: pre-coating surface preparation must be performed to ensure adhesion; parts must be corrosion free before coating.
3. Color: Black - coating must be consistent with no obvious variation or gaps in coverage.
4. Thickness: 0.4-1.0 Mil (0.00004-0.0001") unless otherwise specified.
5. Gloss level: 75%+/-10% as measured by a 60 degree gloss meter per ASTM D523 (reworked parts – which tend to become duller from re-baking – must still meet this requirement!)
6. Adhesion: test to verify meets ASTM D3359, Class 3B.
7. Inclusions: There are to be no inclusions or debris of any kind in the finish.
8. Dimensionality: key dimensions and thread forms must be within tolerance *after* coating.