



Subject. ZINC PHOSPHATE CONVERSION COATING - Ferrous Metals

MS 91

1. SCOPE

- 1 1 This specification describes the physical and chemical requirements for zinc phosphate conversion coatings on ferrous metal parts

2 APPLICATION

- 2 1 The coatings produced by employing this process are primarily intended to reduce friction on wearing or break-in surfaces during initial operating periods. The coating described in this specification is intended for light duty applications on small parts. The zinc phosphate coating produced shall provide short duration lubrication and a degree of corrosion resistance when applied according to directions

3 PROCESS

- 3 1 The part shall be immersed in an approved cleaning solution to remove all machining lubricants and other surface soils
- 3 2 The parts shall be thoroughly rinsed to remove all traces of cleaning solution. Rinse temperatures shall be elevated so that part temperature is approximately the same as the proprietary zinc phosphate bath
- 3 3 The coating shall be produced by immersing prepared parts in the regulated proprietary zinc phosphate chemicals
- 3 4 The coated part shall be treated by immersion in a proprietary oil to seal the minute porous surfaces

NOTE Process Engineering will determine immersion time intervals in the various treatments necessary to produce the desired conversion coating

4 CLASSIFICATION

- 4 1 MS 91-1 Zinc phosphate conversion coating - ferrous metals, high temperature

5 REQUIREMENTS

- 5 1 The finished part shall have a uniform, continuous coating of fine, crystalline zinc phosphate
- 5 2 The coating weight shall average 12.9 g/m^2 (1200 mg/ft^2) on metal surfaces subjected to this chemical processing. Test panels (1010 steel one side ground) shall be cycled through the system for determining the coating weight obtainable
- 5 3 Dimensions on finished parts shall average as follows
- O D Maximum 0.020 mm (0.0008 inch)
- 5 4 The processor will assume all responsibility for producing the print specified coating
- 5 5 Product Engineering will be responsible for specifying on drawings, the desired coating.



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6 DRAWING REQUIREMENTS

6 1 This coating shall be designated on the drawing as follows

Surface Treatment MS 91-1