

EDS

Engineering,
GM DAEWOO Auto & Technology
Standards

Cr⁺⁶ FREE - PHOSPHATING ON METALS

EDS-M-3204

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VERSION: 2

1. SCOPE

This standard specifies the phosphating for some corrosion resistance, wear resistance and lubrication on metals used by GM DAEWOO Auto & Technology Company (hereinafter referred to as the "GMDAT").

- ※ This coating system must be free of hexavalent chromium, with no hexavalent chromium in final product. ISO 3613 or GMW 3034 will be used as a reference test.

2. TYPE AND USE

Table 1. Type and Use

Type		Base metal	Use	Applications
Specification	Designation			
Phosphating	EPn	Ferrous material, Zinc, Aluminum	A little corrosion resistance	Bolts, screws, springs, washers
	EPnL	Ferrous material, Zinc, Aluminum	Lubrication and wear resistance	Shaft-gear

Remark) Organic coating and corrosion protection oil may be treated on the phosphating to secure the high corrosion resistance.

3. QUALITY

3.1. Base metal

The base metal to be coated shall be free from rust, grease, oil, handprint and other foreign materials on the surface, and the pre-treatment method that may cause rough coating shall be avoided.

3.2. Phosphating

3.2.1. Phosphating surfaces shall exhibit crystalline structure, which is uniform and dense, and be free from untreated portion, peeling-off, or uneven adhesive portion. Also, there shall be no adhesive defects after organic coating or residue of phosphating that may cause corrosion.

3.2.2. The coating film shall provide good adhesion to the base metal.

3.2.3. In case of EPn-XV for securing the high corrosion resistance, there shall be plated with organic coating using the barrel or rack after phosphating, and performed the curing under special conditions, and then finally treated with corrosion protection oil. The color unless otherwise specified shall be black, but the other color may be applied by agreement between purchaser and supplier.

3.3. Coating thickness and post-treatment

3.3.1. The coating thickness shall be as shown in Table 2. *In principle, the maximum coating thickness is not specified. However, in case that the maximum coating thickness shall be necessary to secure dimensional accuracy as in screw threads exceptionally, conform to the Table 2.*