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JIS

JAPANESE INDUSTRIAL STANDARD

Chromate conversion coatings on electroplated zinc and cadmium coatings

JIS H 8625—1993

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by

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In the event of any doubt arising,
the original Standard in Japanese is to be final authority.

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Chromate conversion coatings on electroplated zinc and cadmium coatings

H 8625-1993

1. Scope This Japanese Industrial Standard specifies chromate conversion coatings on the significant surfaces (1) of electroplated zinc coatings (JIS H 8610) and electroplated cadmium coatings (JIS H 8611) conducted for the purposes of corrosion prevention.

Notes (1) The significant surface herein means a surface essential for serviceability and/or appearance.

Remarks 1. The following standards are cited in this Standard:

JIS H 0400	Glossary of terms used in electroplating
JIS H 0404	Graphical symbol for electroplated coating
JIS H 8502	Methods of corrosion resistance test for metallic coatings
JIS H 8610	Electroplated coatings of zinc on iron and steel
JIS H 8611	Electroplated coatings of cadmium on steel
JIS K 1404	Potassium dichromate
JIS K 1432	Silver nitrate
JIS K 1449	Phosphoric acid
JIS K 8034	Acetone
JIS K 8101	Ethanol (99.5) [ethyl alcohol (99.5)]
JIS K 8252	Ammonium peroxodisulfate
JIS K 8355	Acetic acid
JIS K 8374	Lead (II) acetate trihydrate
JIS K 8447	Sodium cyanide
JIS K 8488	1,5-diphenylcarbonohydrazide
JIS K 8576	Sodium hydroxide
JIS K 8951	Sulfuric acid
JIS Z 9031	Random sampling methods

2. The corresponding International Standards to this Standard are shown as follows:

ISO 3613: 1980	Chromate conversion coatings on zinc and cadmium – Test methods
ISO 3768: 1976	Metallic coatings – Neutral salt spray test (NSS test)
ISO 3892: 1980	Conversion coatings on metallic materials– Determination of coating mass per unit area – Gravimetric methods
ISO 4520: 1981	Chromate conversion-coatings on electroplated zinc and cadmium coatings

2. Definitions For the main terms used in this Standard the definitions in JIS H 0400 apply and the rest of the terms shall be as follows:

(1) chromate conversion coatings Chromate conversion coatings are corrosion protective coatings provided onto electroplated zinc and cadmium coatings by chromating, which give gloss, light yellow, yellow, green, etc.

Informative reference

1. The tone varies according to the proportion of the composition and thickness of chromium chromate ($xCr_2O_3 \cdot yCrO_3 \cdot zH_2O$) being the principal component of the coating.
2. In the case of comparatively thin chromate conversion coatings, when light strikes on the surface of the thin transparent coating remaining on the electroplated coatings, reflected beams on the surface of the coating and the surface of the electroplated coatings interfere with each other to bring iridescent patterns.
3. The chromate conversion coatings bring a difference in tone even for a lot of the same parts and for individual parts and further, uniform tone is difficult to be obtained even on the same surface to bring irregular color.

(2) white corrosion product White corrosion products are white compounds of basic zinc carbonate, basic cadmium carbonate, etc. to be generated when chromate conversion coatings are broken and electroplated zinc and cadmium coatings are exposed to a corrosive environment.

3. Grade, class and symbol The grade, class and symbol of chromate conversion coatings shall be as given in Table 1.

Further, the symbol shall be fixed in accordance with JIS H 0404.

Table 1. Grade, class and symbol of chromate conversion coatings

Grade	Class	Symbol of grade and class	Coating mass per unit area g/m²	Typical appearance (informative reference)
Grade 1	Gloss	CM1 A	0.5 or under	Transparency, sometimes with a bluish tinge
	Light yellow	CM1 B	1.0 or under	A slight iridescence
Grade 2	Yellow	CM2 C	Over 0.5 up to and incl. 1.5	A yellow iridescence
	Green	CM2 D	Over 1.5	Olive, green, bronze, brown

Remarks: Black chromate conversion coatings can be obtained by varying a treating liquid. The coating mass per unit area of the coating shall be as agreed upon between the purchaser and supplier.