

ISO

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION

ISO RECOMMENDATION R 2082

ELECTROPLATED COATINGS OF CADMIUM ON IRON AND STEEL

1st EDITION

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BRIEF HISTORY

The ISO Recommendation R 2082, *Electroplated coatings of cadmium on iron and steel*, was drawn up by Technical Committee ISO/TC 107, *Metallic and other non-organic coatings*, the Secretariat of which is held by the Ente Nazionale Italiano di Unificazione (UNI).

Work on this question led to the adoption of Draft ISO Recommendation No. 2082, which was circulated to all the ISO Member Bodies for enquiry in September 1970.

The Draft has been approved, subject to a few modifications of an editorial nature, by the following Member Bodies :

Australia	Israel	South Africa, Rep. of
Chile	Italy	Sweden
Czechoslovakia	Netherlands	Switzerland
France	New Zealand	Thailand
Greece	Norway	U.A.R.
Hungary	Portugal	United Kingdom
India	Romania	U.S.S.R.

The following Member Body opposed the approval of the Draft :

Germany

This Draft ISO Recommendation was then submitted by correspondence to the ISO Council, which decided to accept it as an ISO RECOMMENDATION.

FOREWORD

This ISO Recommendation covers a range of coatings of cadmium for the protection of iron and steel against corrosion under various service conditions.

The minimum thickness requirements apply only to those portions of the significant surface that can be touched by a ball 20 mm in diameter.

Passivation by chromate conversion coatings gives additional protection against corrosion and should be applied unless there is reason to the contrary.

Articles to be painted may require alternative treatment such as phosphating to provide good adhesion.

IT IS ESSENTIAL THAT THE PURCHASER STATE THE SERVICE CONDITION NUMBER OR THE CLASSIFICATION NUMBER.

MERELY TO ASK FOR PLATING TO BE CARRIED OUT IN ACCORDANCE WITH ISO RECOMMENDATION R 2082 WITHOUT THIS NUMBER IS INSUFFICIENT.

ELECTROPLATED COATINGS OF CADMIUM ON IRON AND STEEL

1. SCOPE AND FIELD OF APPLICATION

This ISO Recommendation applies to electroplated coatings of cadmium on iron and steel for protection against corrosion, except for the following :

- coatings applied to machine screw threads (with tolerance);
- coatings applied to sheet, strip, or wire in the unfabricated form, or to coil springs.

This ISO Recommendation does not specify the surface condition of the basis metal prior to plating; agreement on the degree of roughness which is acceptable should be reached between the purchaser and the supplier.

Because of its toxicity, cadmium should not be employed as a coating for any object intended for use as a food container or cooking utensil or for any object likely to come into contact with food or beverages. Attention is drawn to the danger arising from the welding or heating of cadmium because cadmium vapour is toxic.

2. DEFINITION

For the purposes of this ISO Recommendation the following definition applies :

Significant surface. The part of the surface which is essential to the appearance or service ability of the article and which is to be covered, or is covered, by the coating.

When necessary the significant surface should be the subject of agreement, and should be indicated on drawings or by the provision of suitably marked samples.

3. CLASSIFICATION

3.1 Grading of service conditions

The service condition number indicates the severity of the service conditions in accordance with the following scale :

- 3 – severe
- 2 – moderate
- 1 – mild

These designations are conventional and it is recommended that the choice of the service condition number corresponding to the use of the part to be plated should be the subject of agreement between the purchaser and the supplier.

3.2 Classification of coatings

The classification number comprises :

- the chemical symbol, Fe, for the basis metal (iron or steel);
- the chemical symbol for cadmium, Cd;
- a number indicating the minimum thickness (in micrometres) of the cadmium coating;
- the letter “c” indicating that passivation has been applied (to be omitted if agreed to the contrary – see section 5).