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Metallic and other non-organic coatings — Definitions and conventions concerning the measurement of the thickness

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FOREWORD

ISO (the International Organization for Standardization) is a worldwide federation of national standards institutes (ISO Member Bodies). The work of developing International Standards is carried out through ISO Technical Committees. Every Member Body interested in a subject for which a Technical Committee has been set up has the right to be represented on that Committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work.

Draft International Standards adopted by the Technical Committees are circulated to the Member Bodies for approval before their acceptance as International Standards by the ISO Council.

Prior to 1972, the results of the work of the Technical Committees were published as ISO Recommendations; these documents are now in the process of being transformed into International Standards. As part of this process, International Standard ISO 2064 replaces ISO Recommendation R 2064-1971 drawn up by Technical Committee ISO/TC 107, *Metallic and other non-organic coatings*.

The Member Bodies of the following countries approved the Recommendation :

Chile	Israel	Sweden
Czechoslovakia	Italy	Switzerland
Egypt, Arab Rep. of	Netherlands	Thailand
France	New Zealand	United Kingdom
Germany	Portugal	U.S.S.R.
Hungary	Romania	
India	South Africa, Rep. of	

No Member Body expressed disapproval of the Recommendation.

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0 INTRODUCTION

An important requirement of most coatings specifications is that the coating shall have a thickness not less than a given value (and in a few cases not greater than a certain value). The method to be used for measuring the thickness of a particular coating is laid down in the coating specification. Because the area of coating over which measurements are made differs from one method to another, the number and distribution of measurements need to be defined in relation to these areas. This International Standard gives the definitions that apply to coated surfaces falling within different ranges of size.

1 SCOPE AND FIELD OF APPLICATION

This International Standard defines terms concerning the determination of the thickness of metallic or other non-organic coatings on any substrate, except for

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

In addition, it lays down some general rules to be followed in the measurement of minimum thickness of coatings.

2 DEFINITIONS

In this International Standard the following definitions apply :

2.1 significant surface : The part of the surface which is essential to the appearance or serviceability of the article and which is to be covered by the coating.

2.2 measuring area : The area of the significant surface over which a single measurement is made.

Examples :

2.2.1 For mass loss methods : the area over which the coating is removed.

2.2.2 For the anodic dissolution method : the area enclosed by the sealing ring of the cell.

2.2.3 For the microscopical method : the point at which a single measurement is made.

2.2.4 For non-destructive methods : the probe area (the area influencing the reading obtained is usually larger than the contact area but it cannot be precisely determined).

2.3 reference area : The area within which a specified number of single measurements are required to be made.

2.4 local thickness : The mean of the thickness measurements of which a specified number shall be made within a reference area.

2.5 minimum thickness : The lowest value of the local thickness found on the significant surface of a single article.

2.6 maximum thickness : The highest value of the local thickness found on the significant surface of a single article.