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INTERNATIONAL ORGANIZATION FOR STANDARDIZATION

ISO RECOMMENDATION

R 1462

A METHOD FOR THE EVALUATION OF THE RESULTS OF ACCELERATED CORROSION TESTS ON COATINGS OTHER THAN THOSE ANODIC TO THE BASIS METAL

1st EDITION

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BRIEF HISTORY

The ISO Recommendation R 1462, *A method for the evaluation of the results of accelerated corrosion tests on coatings other than those anodic to the basis metal,* 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. 1462 which was circulated to all the ISO Member Bodies for enquiry in May 1968. It was approved, subject to a few modifications of an editorial nature, by the following Member Bodies :

Australia	Israel	Spain
Czechoslovakia	Italy	Sweden
Finland	Netherlands	Switzerland
France	New Zealand	Thailand
Germany	Norway	Turkey
Hungary	Poland	U.A.R.
India	Portugal	United Kingdom
Iran	South Africa, Rep. of	U.S.A.

No Member Body opposed the approval of the Draft.

This Draft ISO Recommendation was then submitted by correspondence to the ISO Council, which decided, in April 1970, to accept it as an ISO RECOMMENDATION.

ISO Recommendation | R 1462 | April 1970

A METHOD FOR THE EVALUATION OF THE RESULTS OF ACCELERATED CORROSION TESTS ON COATINGS OTHER THAN THOSE ANODIC TO THE BASIS METAL

1. SCOPE

This ISO Recommendation gives a rating system that provides a means of defining levels of performance of coatings, other than those anodic to the basis metal, that have been subjected to accelerated corrosion tests. This method takes into account only corrosion of the basis metal.

This method is employed only on articles which have not already been rejected on simple inspection on the grounds of the size or grouping of individual corrosion defects as required by the ISO Recommendation for the particular coating.

Individual articles having a significant surface less than about 25 mm^2 in area are unsuitable for assessment by this method.

2. DEFINITIONS

For the purposes of this ISO Recommendation, 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.

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.

2.2 *Corrosion spot.* A surface corrosion defect at which the coating is penetrated, as indicated by the appearance of basis metal corrosion products or lifting of the coating.

Discoloration or other surface defects which do not penetrate the coating do not count as corrosion spots.

The size of a corrosion spot is the area of the penetration through the coating and not that of associated staining.

3. SAMPLING

The batch should be sampled in the manner required by the relevant specification. The total significant surface area of the sample should be in excess of 5000 mm^2.

If the individual articles forming the sample have a significant surface area smaller than 5000 mm^2, the sample for assessment should comprise a sufficient number of individual articles to obtain a total significant surface area equal to or greater than this area.

If the rating number required is greater than or equal to 8, the total significant surface area of the sample should exceed 10 000 mm^2.

4. EXAMINATION OF SAMPLE AFTER TEST

The sample should be examined in its condition at the end of the test or after rinsing in running water, if this is necessary to remove the residue of the test medium.

Corrosion products may be removed subsequently, to enable the size of individual corrosion spots to be assessed.

For the purpose of evaluation, divide the area of the significant surface of the sample hypothetically into squares of 5 mm side. This is easily done by placing a graticule, made of fully flexible transparent plastics material, on the sample so as to give the most favourable result, i.e. the highest rating.

Count the number N of 5 mm squares in the significant area of the sample and the number n of such squares containing one or more corrosion spots.

When evaluating the total area of the sample, squares more than half-occupied by the sample should be counted as full squares; those less than half-occupied should be ignored.

If a spot appears to lie in more than one square, it should be counted only once in the evaluation, but cracks traversing more than one square should be counted for each square entered.

5. RATING NUMBER

Determine the frequency of the spots, as a percentage, from the expression

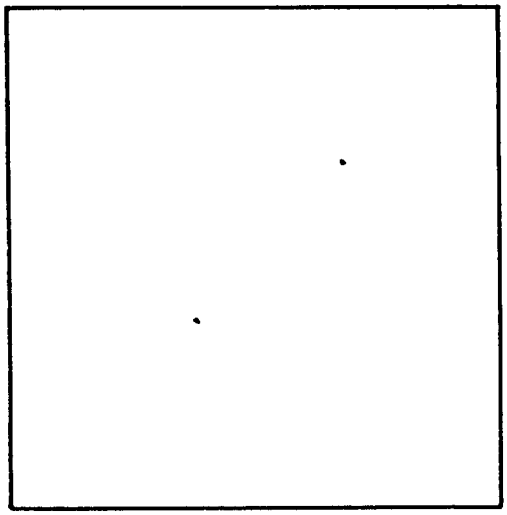
$$\text{Frequency} = 100\frac{n}{N}$$

Allocate a rating number to the sample according to the following table:

Frequency, per cent	Rating number
0 (no corrosion spots)	10 *
over 0 up to 0.25	9 *
over 0.25 up to 0.5	8 *
over 0.5 up to 1	7
over 1 up to 2	6
over 2 up to 4	5
over 4 up to 8	4
over 8 up to 16	3
over 16 up to 32	2
over 32 up to 64	1
over 64	0

* See section 3.

DRAWINGS CORRESPONDING TO RATING NUMBERS 7 to 0



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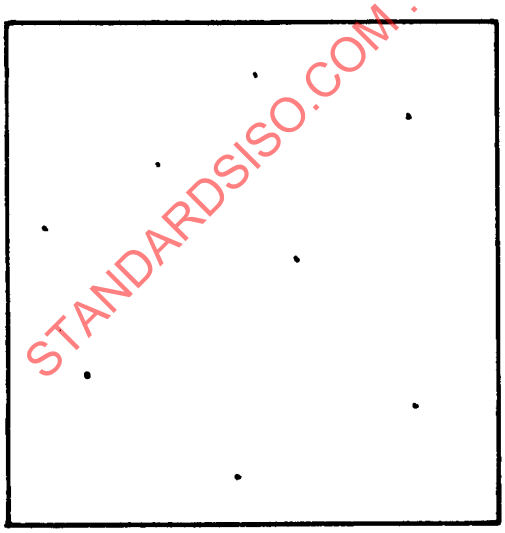

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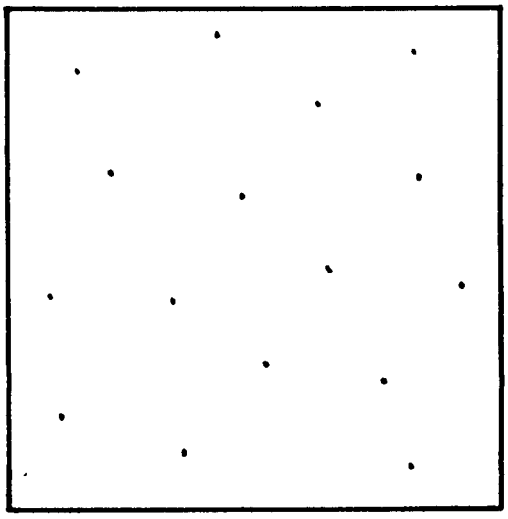

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