STANDARDS ASSOCIATION OF AUSTRALIA

Australian Standard

METHODS FOR TESTING ANODIC OXIDATION COATINGS ON ALUMINIUM AND ALUMINIUM ALLOYS

PART 4—REFLECTIVITY TESTS

AS 2039.4.3

IMAGE CLARITY TEST OF ANODIC OXIDATION COATINGS WITH THE GARDAM GRID

1 SCOPE. This standard describes the procedure for assessing the image clarity of anodic oxidation coatings on aluminium and aluminium alloys by means of a Gardam grid.

2 PRINCIPLE. The image of grid pattern is reflected from the surface of a flat anodic oxidation coating. The clarity of the resultant image is then used as a means of assessment.

3 APPARATUS. The testing apparatus may be any instrument that is capable of satisfying the principle outlined in Clause 2.

A typical arrangement of a Gardam grid is shown in Fig. 1 and is described as follows:

The Gardam grid consists essentially of an oblong box which is open on one side. This side is fitted with a glazed screen suitably marked out with black stripes (see Fig. 1). A light strip, covered by frosted or pearl glass, is used to illuminate the grid.

NOTE: Two grids are available, a coarse grid to BS 1669*, round aperture 100 mm wide pitch, and a fine grid to RS 1669, 6.3 mm round aperture close pitch. The latter is preferable for test pieces of good image clarity, the former for those having bad image clarity.

4 PREPARATION OF TEST PIECES. Test pieces shall be free of dust, dirt and organic matter and if necessary shall be degreased in an organic solvent that does not attack the coating.

5 PROCEDURE. The assessment shall be carried out as follows:

(a) Move the test piece in a line normal to the grid in a direction away from the grid until a point is reached whereby the reflected grid pattern can no longer be resolved by the test operator using normal vision.

(b) Measure and record the distance of the test surface from the grid at which the image is just no longer resolvable.

* BS 1669, Industrial Perforated Plates.

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