BRITISH STANDARD

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Methods of test for motor vehicle paints —

Part 15: Resistance to chipping

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Contents

Foreword

This Part of this British Standard has been prepared under the authority of the Automobile Industry Standards Committee and is based on Information Sheet No. NM — 5V of the Society of Motor Manufacturers and Traders Ltd. (SMMT).

Tests for paints for general purposes are given in BS 3900[1)] and, wherever possible, reference has been made to that standard.

A British Standard does not purport to include all the necessary provisions of a contract. Users of British Standards are responsible for their correct application.

Compliance with a British Standard does not of itself confer immunity from legal obligations.

Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, pages 1 and 2 and a back cover.

This standard has been updated (see copyright date) and may have had amendments incorporated. This will be indicated in the amendment table on the inside front cover.

[1)] BS 3900, "*Methods of test for paints*",
Part A3, "*Preparation of panels prior to painting*",
Part A4, "*Notes for guidance on paint application*".

1 Scope

This Part of this British Standard describes a method to provide information regarding the resistance of a paint system to chipping by the impact of gravel and grit thrown up from road surfaces.

2 Preparation of tests panels

2.1 Panels, 150 mm × 100 mm or other convenient size, specified and pretreated in accordance with the requirements of BS 3900-A3[2)] (note particularly Clause **2.2**) shall be treated, in accordance with the requirements of BS 3900-A4[2)] with the paint system to be tested. Normally steel panels are used, but it may be appropriate to use other substrates.

2.2 Panels shall be aged, under normal laboratory conditions, for 7 days.

3 Equipment

3.1 The equipment required is as follows:

1) A straight pipe 4.5 m long and 50 mm internal diameter, supported vertically and fitted with a slide across the pipe 50 mm from the top.

2) A panel support to hold the test panel at an angle of 45° immediately below the lower end of the pipe. The distance from the centre of the lower end of the pipe to the centre of the panel is 100 mm. Provision is made for the longer sides of the test panel to be firmly attached to the support rails of 25 mm wide angle iron.

3) A suitable shield, around the panel support, to prevent scattering of the nuts used in the test and to facilitate their subsequent collection in a container.

4) 100 ¼ in hexagon nuts, grade 3, to BS 1768[3)].

NOTE Experience has shown that the use of nuts does simulate the results obtained in service and, at the same time, provides a more readily defined missile than gravel.

4 Test method

4.1 The panel shall be secured to the support with the painted surface uppermost. The nuts shall be tipped into the tube above the slide, which is then withdrawn sharply. The panel shall then be examined for damage.

4.2 Unless otherwise agreed the test shall be carried out at room temperature.

NOTE After each 100 tests, the nuts shall be replaced by a new set.

5 Assessment

5.1 The degree of chipping shall be assessed visually by comparison with Figure 1. The result shall then be recorded as a number in accordance with the following:

1) Very slight
2) Slight
3) Moderate
4) Considerable
5) Severe
6) Very severe

5.2 A note shall be made of whether the chipping is down to undercoat or to the substrate. Further information as to the effects of the chipping can be gained by submitting the test panels to a salt spray corrosion test.

5.3 The method is essentially comparative and does not provide an absolute assessment. However, it gives results which are reproducible.

[2)] BS 3900, "*Methods of test for paints*",
Part A3, "*Preparation of panels prior to painting*",
Part A4, "*Notes for guidance on paint application*".

[3)] BS 1768, "*Unified precision hexagon bolts, screws and nuts (UNC and UNF threads). Normal series*".