

Methods of test for motor vehicle paints —

Part 15: Resistance to chipping

UDC 629.113:667.613.72:620.191.33

This British Standard, having been approved by the Automobile Industry Standards Committee, was published under the authority of the Executive Board of the Institution on 31 March 1969

© BSI 02-2000

The following BSI reference relates to the work on this standard:
Committee reference AUE/-

ISBN 0 580 05358 X

Amendments issued since publication

Amd. No.	Date	Comments

Contents

	Page
Foreword	ii
1 Scope	1
2 Preparation of tests panels	1
3 Equipment	1
4 Test method	1
5 Assessment	1
Figure 1 — Assessment of degree of chipping	2

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 3900¹⁾ 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-A3²⁾ (note particularly Clause 2.2) shall be treated, in accordance with the requirements of BS 3900-A4²⁾ 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 1768³⁾.

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.

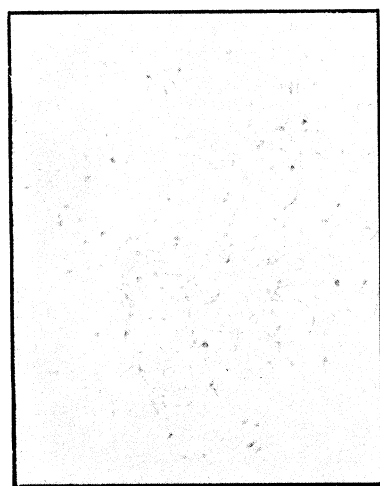
5.3 The method is essentially comparative and does not provide an absolute assessment. However, it gives results which are reproducible.

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".



1. Very Slight



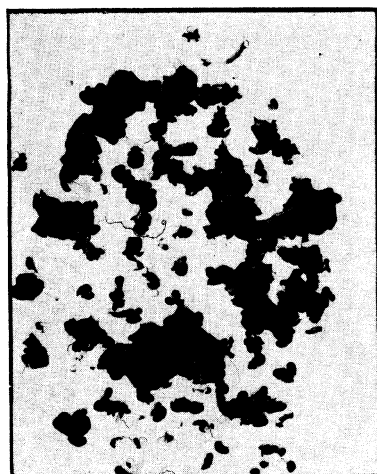
2. Slight



3. Moderate



4. Considerable



5. Severe



6. Very Severe

Figure 1 — Assessment of degree of chipping

BSI — British Standards Institution

BSI is the independent national body responsible for preparing British Standards. It presents the UK view on standards in Europe and at the international level. It is incorporated by Royal Charter.

Revisions

British Standards are updated by amendment or revision. Users of British Standards should make sure that they possess the latest amendments or editions.

It is the constant aim of BSI to improve the quality of our products and services. We would be grateful if anyone finding an inaccuracy or ambiguity while using this British Standard would inform the Secretary of the technical committee responsible, the identity of which can be found on the inside front cover. Tel: 020 8996 9000. Fax: 020 8996 7400.

BSI offers members an individual updating service called PLUS which ensures that subscribers automatically receive the latest editions of standards.

Buying standards

Orders for all BSI, international and foreign standards publications should be addressed to Customer Services. Tel: 020 8996 9001. Fax: 020 8996 7001.

In response to orders for international standards, it is BSI policy to supply the BSI implementation of those that have been published as British Standards, unless otherwise requested.

Information on standards

BSI provides a wide range of information on national, European and international standards through its Library and its Technical Help to Exporters Service. Various BSI electronic information services are also available which give details on all its products and services. Contact the Information Centre. Tel: 020 8996 7111. Fax: 020 8996 7048.

Subscribing members of BSI are kept up to date with standards developments and receive substantial discounts on the purchase price of standards. For details of these and other benefits contact Membership Administration. Tel: 020 8996 7002. Fax: 020 8996 7001.

Copyright

Copyright subsists in all BSI publications. BSI also holds the copyright, in the UK, of the publications of the international standardization bodies. Except as permitted under the Copyright, Designs and Patents Act 1988 no extract may be reproduced, stored in a retrieval system or transmitted in any form or by any means – electronic, photocopying, recording or otherwise – without prior written permission from BSI.

This does not preclude the free use, in the course of implementing the standard, of necessary details such as symbols, and size, type or grade designations. If these details are to be used for any other purpose than implementation then the prior written permission of BSI must be obtained.

If permission is granted, the terms may include royalty payments or a licensing agreement. Details and advice can be obtained from the Copyright Manager. Tel: 020 8996 7070.