BRITISH STANDARD AUTOMOBILE SERIES

BS AU 148-4:1969

Methods of test for motor vehicle paints —

Part 4: Resistance to abrasion

urrently in preview, click buy full versi

UDC 629.113:667.613:667.637.222:620.178.16

NO COPYING WITHOUT BSI PERMISSION EXCEPT AS PERMITTED BY COPYRIGHT LAW

urrently in preview, click buy full versi

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 July 1969

© BSI 01-2000

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

ISBN 0 580 05970 7

Amendments issued since publication

Amd. No.	Date	Comments

Contents

		Page
Foreword		ii
1	Scope	1
2	Test panels	1
3	Apparatus	1
4	Test procedure	2
5	Assessment of results	2

urrently in preview, click buy full versi

Foreword

This Part of this British Standard, which has been prepared under the authority of the Automobile Industry Standards Committee, is based on Information Sheet No. NM – 5W of the Society of Motor Manufacturers and Traders Ltd. (S.M.M.T.) and is for tests for resistance to abrasion for motor vehicle paints.

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

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.

urrently in preview, click buy full versi

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*".

© BSI 02-2000

1 Scope

This Part of this British Standard describes a method of test to be used for the evaluation of the resistance of a paint film to abrasion or wear which may occur in service, e.g. by handling of component parts such as levers and knobs.

2 Test panels

2.1 Panels of convenient size, specified and pretreated in accordance with the requirements of BS 3900-A3[2)] (note particularly Clause **2.2**) shall be coated in accordance with the requirements of BS 3900-A4[2)] with the paint system to be tested. Steel panels are often used but it may be appropriate to use other substrates, e.g. plastics.

2.2 In general it will be found most convenient to use panels 100 mm × 100 mm and not more than 3 mm thick, with a 6 mm diameter hole in the centre to allow fixing in the apparatus. Some available instruments have accessories which permit the use of panels up to 12 mm thick and these usually require a 9 mm diameter fixing hole. If desired panels may have the corners cut off or rounded.

2.3 Panels shall be aged, under normal laboratory conditions, for 7 days before testing, unless otherwise agreed.

3 Apparatus

3.1 The apparatus shall be a rotary platform double head abrasion tester with associated equipment.

NOTE The apparatus described below is similar to the unit described in ASTM Standard D1175 – 64T "*Abrasion resistance*".

3.2 The apparatus comprises:

1) A circular rotating platform on which shall be mounted the test panel.

2) A revolution counter for 1) above.

3) A pair of pivoted arms to which shall be attached abrasive wheels.

4) An electric motor and cooling fan.

5) Housing for the sub-assemblies referred to in 1), 2) and 4) and forming a base for mounting the pivoted arms with abrasive wheels as outlined in 3).

6) Controls.

3.3 *Rotating platform.* The rotating platform is approximately 100 mm (4 in) diameter mounted on a vertical spindle driven by an electric motor. The vertical spindle projects above the platform surface and is provided with a knurled clamping nut so that the test panel can be located and fixed in position resting on a rubber ring on the upper surface of the platform. The platform, together with its driving motor beneath, is located on the top of the equipment housing.

3.4 *Abrasive wheels*

3.4.1 The abrasive wheels are attached to the free ends of the pivot arms, themselves mounted on trunnions fixed to the rear of the housing. They are capable of rotation and have, when resting on the test panel beneath, a peripheral engagement with the painted surface of the test panel. The direction of travel of the periphery of the wheels and of the test panel at the position of contact form an acute angle. The motion of the abrasive wheels, in opposite directions, is provided by the rotation of the platform and the test panel.

3.4.2 The wheels are lead-bushed and approximately 50 mm (2 in) in diameter and 12 mm (0.5 in) thick. They can be either of the rubber-base or vitrified-base type. The former has abrasive grains encushioned in the rubber, the latter are of the hard abrasive type requiring a diamond point to alter the roughness of the wheel. It is essential that the separation between the inner flanges of the rubber-base type wheels should be 53.2 mm (2.09 in) so that the lateral distance from the left-hand wheel mounting flange to the centre of the test panel platform is 25.8 mm (1.02 in) to overcome distortion of this type of wheel in operation. With the vitrified-base wheels the offset is not critical, the separation between the inner flanges merely being the same as for the other type.

3.4.3 On older models the load of the abrasive wheels on the test panel may be adjusted by means of counter-weights on the pivot arms. The latest models do not have this facility as the arms themselves provide a load of 250 gf which has been found perfectly satisfactory.

3.4.4 The vertical distance from the centre of the pivot point of the pivot arms to the top of the test panel platform level should be approximately 25.4 mm (1 in). Steps shall be taken to ensure that the test panel platform rotates without wobble.

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

Currently in preview, click buy full version