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Methods of test for motor vehicle paints —

Part 9: Resistance to dry heat

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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 – 5T 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.

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Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, page 1 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 two methods of test to assess the resistance of a paint film to dry heat, such as is encountered in the engine compartment of a motor vehicle.
The moderate temperature test is suitable for parts used in rocker covers, crankcases, etc, whilst the high temperature test covers paints for exhaust manifolds, hot spot plates etc.

2 Preparation of test panels

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

2.2 Panels shall be aged, under normal laboratory conditions, for 24 h before testing, unless otherwise agreed.

3 Test methods

3.1 Moderate temperature test. The test panel shall be placed in an air-circulating oven and maintained at 100 ± 2 °C for 72 h. At the end of this period and after cooling, the panel shall be examined for change in colour, adhesion and flexibility by the methods described in Parts 1 and 3[3] of this standard.

3.2 High temperature test

3.2.1 The panel shall be weighed before painting and again after painting and ageing. The weight of the film shall then be calculated by the methods described in Parts 1[4] and 3[3] of this standard.

3.2.2 It shall be subjected to 3 cycles of test, each consisting of:

1) 8 h at 260 ± 5 °C in an air circulating oven. Temperatures other than 260 °C may be used by arrangement between the purchaser and the supplier.

2) 16 h at room temperature.

3.2.3 On completion of the 3 cycles, the test panel shall be reweighed and the loss in weight of the paint film calculated. The panel shall be examined for loss of adhesion and deterioration in appearance.

[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 AU 148, Part 3, "*Flexibility and adhesion*"
[4] BS AU 148, Part 1, "*Visual colour matching*".