

Specification for

Doping and finishing schemes for fabric covered aircraft

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Foreword

This British Standard, one of a series for painting and doping schemes suitable for aeronautical purposes, supersedes Ministry of Aviation Specifications D.T.D. 751, D.T.D. 752 and D.T.D. 753 and part of Specification D.T.D. 754A. During the transfer minor changes only have been made to the technical requirements. The serial numbers of the former D.T.D. specifications for doping schemes have been retained in the designation numbers of the complete schemes and provision has been made for them to be identified by a code reference.

The values of metric equivalents for the dry weights given in Table 1 are of the same order of accuracy as the values in British units to which they correspond. Elsewhere in this standard, the metric equivalents that have been given are approximate only and the values in British units, or only in metric units, are to be regarded as the standard; more accurate conversions should be based on the data in BS 350, "Conversion factors and tables".

This standard makes reference to the following specifications:

British Standards:

BS F 1, *Linen fabric and tape for aeronautical purposes.*

BS L 17, *99 per cent aluminium sheets (soft).*

BS X 27, *Cellulose finishing scheme for aeronautical purposes*¹⁾.

BS 381C, *Colours for specific purposes.*

BS 1428, *Microchemical apparatus — Part A1: Carbon and hydrogen combustion train (Pregl type).*

BS 1470, *Wrought aluminium and aluminium alloys for general engineering purposes. Sheet and strip.*

BS 3900, *Methods of test for paints — Part B2: Determination of volatile matter and non-volatile matter — Part D1: Colour comparison.*

Defence Specifications:

DEF-1216, *Thinners for cellulose nitrate paints and dopes.*

DEF-1432, *Cellulose nitrate for lacquers.*

NOTE The latest editions of these specifications should be used.

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 to 8 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⁾ To be published.

1 Scope

This British Standard specifies the requirements for doping schemes of low, medium and high tautness, together with matt and glossy finishes, for use on fabric covered aircraft and components.

These schemes provide methods of producing and maintaining on aircraft fabrics taut, water-proof and air-proof surfaces and of protecting the fabrics from the deteriorative effects of light, weather and normal service conditions.

The general requirements for all the dopes and finishes included in the schemes are given in Section 1 and the particular requirements for tautening dopes and for non-tautening finishes are given in Sections 2 and 3 respectively.

Section 1. General requirements

2 Description

The complete scheme shall be of low, medium or high tautness with a matt or glossy finish, as specified in the contract or order. It shall consist of the dopes and finishes given in Table 1, applied in the order stated and to the weight additions indicated, and shall be of such a nature that, when applied correctly to linen fabric to BS F 1, a smooth, continuous surface is produced.

3 Ingredients

a) The materials shall be formulated on cellulose nitrate to Defence Specification DEF-1432, and the remaining ingredients shall comply with the requirements of relevant British Standards or Ministry of Aviation D.T.D. specifications where available.

In the U.K., the non-tautening finishes supplied to this specification shall be of the same formulation as those of the same colour supplied by the same manufacture to BS X 27.

b) Solvents such as chlorinated compounds, or other substances which may cause injury or discomfort to operators, during or after application, shall not be used.

4 Colour and finish

a) The colour and gloss required shall be stipulated in the contract or order.

b) The dry film resulting from the application of the complete scheme to linen fabric to BS F 1 shall match the appropriate standard colour in BS 381C, using the method described in BS 3900-D1.

5 Resistance to high temperatures

The resistance to high temperatures of the various tautening dopes and of the complete doping schemes shall be such that, when they are tested as described in Appendix B, no sign of cracking shall occur.

6 Resistance to natural weathering (type test)

The resistance to natural weathering of a film of the materials shall be such that, when it is tested as described in Appendix C, there shall be no cracking, chipping, flaking or blistering of the film, nor shall there be more than a slight change in colour and, in the case of a glossy finish, slight loss of gloss. Slight chalking shall be disregarded. The underlying coats shall not be visible through the final finishing colour and the tautness of the system shall not be materially impaired. The tensile strength of the doped fabric after exposure shall be not less than the tensile strength of the undoped fabric.

7 Keeping qualities

The keeping qualities shall be such that the materials, when stored in their original sealed containers, shall retain the properties detailed in this specification for not less than 12 months in temperate climates, or 6 months in tropical climates, after the date of despatch.