D.T.D. 644

Ministry of Defence
Defence Procurement Agency, ADRP2
Abbey Wood
Bristol
BS34 8JH

OBSOLESCENCE NOTICE

All DTD specifications were declared obsolescent from 1st April 1999. All DTD 900 series approvals also lapsed at that time. The standards will no longer be updated but will be retained as obsolescent documents to provide for the servicing of existing equipment.

Further Guidance

The aim in declaring the specifications obsolescent is to recognise that the documents are not being updated and thus should be used with care by both purchaser and supplier. For example, a specification could contain valid technical information but may also contain type approval clauses that contradict procurement policy and/or use materials that do not comply with environmental legislation. The obsolescent specification can still be used as a basis for a purchase provided that the supplier and purchaser agree suitable changes to the specification within the purchase order/contract.
For the DTD 900 system, each specification has provided an MoD approved material and process. For these items, the declaration of obsolescence will constitute the termination of both the extant MoD approval and the continuing MoD assessment that had underpinned those approvals. Again, the technical content of the document remains valid and can be used by both purchaser and supplier as a basis for a contract but an acceptable (to the parties) approval/assessment procedure would be required.

MINISTRY OF SUPPLY

D.T.D. 644

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Aircraft Material Specification

ANTI-SPREADING COMPOSITION

NOTE.— This specification is one of a series issued by the Ministry of Supply either to meet a limited requirement not covered by any existing British Standard Specification or to serve as a basis for inspection of material, the properties and uses of which are not sufficiently developed to warrant submission to the British Standards Institution for standardisation.

1. Description.—The material shall consist of a solution of an approved compound* in a suitable solvent. Evaporation of the solvent shall leave a thin uniform film of the material on the metal surface to which it is applied.

2. Freedom from Impurities. — *(a)* The material shall be a clear solution free from water, sediment, and other visible impurities.

(b) The sulphate content of the material shall be not greater than 0.05 per cent. calculated as sulphate ion (SO_4).

(c) The chloride content of the material shall be not greater than 0.05 per cent. calculated as chlorine ion (Cl).

3. Stability.—The material shall show no signs of sedimentation on storage in a glass vessel in the dark at 20°C. ± 5°C. for two weeks.

4. Freedom from Corrosive Properties.— The freedom of the material from corrosive properties shall be such that when determined by the method described in Appendix I, no signs of pitting or corrosion shall be visible on the copper panel.

5. Anti-Spreading Properties. —The anti-spreading properties of the material shall be such that when determined by the method described in Appendix II, the average increase in diameter of the oil drops shall not exceed the following limits :—

At 20°C	15 per cent.
At 40°C	200 per cent.

APPENDIX I

Method for the Determination of Freedom from Corrosive Properties

A clean bright panel of copper foil approximately 1 inch wide, 3 inches long, with a $\frac{1}{8}$ inch hole drilled at one end with its centre within $\frac{3}{4}$ inch from that edge, shall be cleaned by the method described in I.P.64/42 (Institute of Petroleum "Standard Methods for Testing Petroleum and its Products"). The panel shall then be dipped in the material, and then allowed to dry for 30 minutes. at room temperature.

The panel shall then be suspended by a glass hook in a closed vessel of about 5 litre capacity, over saturated zinc sulphate solution, so that the lower edge is one inch above the surface of the liquid. After a period of 48 hours at a temperature of 20°C. ± 2°C. the panel shall be removed and inspected for visible signs of corrosion.

APPENDIX II

Method for the Determination of Anti-Spreading Properties

A freshly shotblasted panel of mild steel shall be thoroughly degreased by immersion in successive baths of a suitable degreasant (e.g. trichlorethylene), and dried in an oven at a temperature of 110°C. ± 2°C. for 15 minutes. After cooling to room temperature, the panel shall be dipped in the material, dried in an oven at 60°C. ± 2°C. for 15 minutes and cooled in a desiccator to a temperature of 20°C. ± 2°C. The panel shall then be placed in a horizontal position, and 4 drops each approximately 2mm. in diameter of anti-freezing oil to Specification D.T.D. 44D shall be placed on the surface so that the distance between each drop is at least one inch.

The size of the drops shall be accurately measured by means of a microscope with a calibrated eye-piece. The panel shall be protected from dust, and stored at 20°C. ± 2°C. for 48 hours. The size of the drops shall then be redetermined.

Procedure at 40°C. — As above, except that the storage temperature shall be 40°C. ± 1°C.

* Application for approval of a production formula must be made to the Director of Materials Research & Development (Air), Mat. R.D.5. St. Giles Court, London, W.C.2.

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