

**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.

Aircraft Material Specification

ADHESIVE FOR METAL (LOW PRESSURE TYPE)

NOTE 1.— This specification is one of a series issued by the Ministry of Aviation either to meet a limited requirement not covered by any existing British Standard to serve as a basis for inspection of materials the properties and uses of which are not sufficiently developed to warrant submission to the British Standards Institution for Standardisation.

NOTE 2.— Points of difference from D.T.D. 861 are indicated by marginal lines.

1. Description

The material shall consist of a thermosetting synthetic resin which shall be supplied in one or other of the following forms :—

- (a) a powder of natural colour :
- (b) a powder containing approximately 2 per cent of aluminium powder :
- (c) a stick of natural colour :
- (d) a stick containing approximately 2 per cent of aluminium powder :
- (e) a solution to which a liquid hardener shall be added before use :
- (f) a paste.

The form in which the material is required shall be stated in the contract.

2. Solution and hardener

(a) *Mixing Proportions.*—The mixing proportions of the solution and hardener shall be specified by the manufacturer.

(b) *“Pot” Life.*—When mixed in accordance with (a) above, the “pot” life of the mixture at 20°C ± 2°C. shall be not less than the following :

- Short life..... 8 hours
- long life..... 1 month

The life required shall be stated on the contract.

3. Joint strength

(a) The minimum failing load of any test piece shall be not less than 1,500 lbs. when tested by the method described in Appendix A.

(b) Before any particular manufacturer’s material is approved for use in aircraft structures, the manufacturer must demonstrate the suitability for such use to the satisfaction of the Director of Materials Research and Development (Air).

4. Inspection

(a) *Selection of Test Samples* :— At least one test sample shall be selected by the Inspector from each batch of material.

(b) The manufacturer must state on each release note that the material being released is identical in all respects with the material which has been tested previously and approved as in Clause 3 (b) above.

5. Keeping qualities

When stored in its original sealed containers, under normal temperature conditions, the material shall satisfactorily retain the properties specified in Clauses 1 to 6 above, for the following periods of time after the date of delivery :—

- powder and stick5 years
- solution 1 year
- paste 3 months

APPENDIX A

Method for the Determination of Joint Strength

(a) *Test Pieces.*— Each test piece shall be made of two component pieces of aluminium coated aluminium alloy to Specification D.T.D. 610B. The dimensions of each component piece shall be 4½ inches by 1 inch (± 1/32 inch) by 20 S.W.G. The edges must be free from burrs and the surfaces shall not be scratched or roughened. Twelve such component pieces shall be prepared for each batch of the material to be tested.

(b) *Degreasing and Pickling.*—All the metal component pieces shall be degreased by washing in clean, hot trichlorethylene (or carbon tetrachloride) followed by degreasing in the vapour of this solvent. They shall then immediately be pickled by complete immersion in sulphuric acid/chromic acid as specified in Process Specification D.T.D. 915A, followed by thorough washing in distilled water and drying.

- (c) Application.— The material shall be applied immediately to the ends of the component pieces to be joined, to give an even continuous layer. Before the application of the powder (by sprinkling) or the stick (by rubbing), the metal shall be heated to approximately 120°C. in order to liquefy the resin and cause it to flow. The solution and hardener shall be mixed together and used in accordance with the manufacturers instructions. The paste shall be brushed on to the cold metal. The solution and paste shall be allowed to dry for not less than 30 minutes at 20°C. \pm 5°C.
- (d) Preparation of Test Pieces.— The component pieces shall be assembled into joints having an overlap of not less than ½ inch nor more than $\frac{9}{16}$ inch. The joints shall be cured with the glue line at a temperature of 160°C. for 3 hours, under a pressure of approximately 6 lbs. per square inch. Suitable means shall be adopted to ensure even distribution of the pressure on the joints. At the end of the curing period, the pressure shall be released and the joints allowed to cool to room temperature.
- (e) Testing.— After cooling to room temperature, each test piece shall be pulled on an approved type of testing machine at a temperature of 20°C. \pm 5°C. The rate of loading shall be between 300 and 600 lbs. per minute.

Approved for issue

N. J. L. MEGSON,

Director of Materials Research and Development (Air).

© Crown copyright 1960

Printed in England by M. Harland & Son, Ltd.

and published by

HER MAJESTY'S STATIONERY OFFICE

Price 6d. net