

**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
FILM JOINING TAPE

Clause 9. Inspection

(a) Samples for testing

Delete existing paragraph

Insert *(a) Samples for testing* - A batch of tape shall consist of a number of rolls designated as a batch by the manufacturer and substantially uniform in quality. From each batch at least one roll shall be taken and tested for compliance with the requirements of Clauses 1-4. In addition tests to Clause 5 shall be made with such frequency as required by the Inspection Authority.

Appendix III

Method for the Determination of Resistance to Moisture and Heat

Final sentence

Delete 8 pound weight

Insert 2 pound weight.

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HER MAJESTY'S STATIONERY OFFICE
THREEPENCE NET

Aircraft Material Specification**FILM JOINING TAPE**

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, or 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. - This specification sets out the properties of a pressure sensitive adhesive plastic-base tape intended for use in splicing photographic film and paper in continuous processing machines.

1. Description

(a) *Construction:* The material shall consist of a base film of polyester 0.001 ± 0.0003 in. thick, evenly coated on one side with a smooth, uniform layer of water-insoluble pressure sensitive thermosetting adhesive. The material shall be supplied in roll form, with the adhesive side innermost on a suitable core of the same width as the tape.

(b) *Dimensions:* Unless otherwise specified, the material shall be supplied in lengths of 72 yards. The width shall be 1 in. $\pm \frac{1}{16}$ in. or $1\frac{1}{4}$ in. $\pm \frac{1}{16}$ in. The required width shall be stated on the contract. The core shall be 3 in. internal diameter and not more than $3\frac{3}{8}$ in. external diameter. It shall be of sufficient rigidity to withstand distortion under normal conditions of use, transport and storage.

(c) *Colour:* The material shall be coloured bright yellow, approximating to No. 355 in B.S. 381c, or light orange, approximating to No. 557 in B.S. 381c. The contract shall state which colour is required.

(d) *Adhesive:* The material shall adhere immediately and firmly to the clean, dry surface of photographic film, film base and photographic paper by the simple application of pressure for not more than 5 seconds. No moisture, heat or other treatment shall be required for application of the tape. On heating, the adhesive layer shall not unduly soften.

(e) *Freedom from Defects:* Each roll shall be reasonably free from over-lapping, distortion or telescoping and shall unroll without offsetting of the adhesive mass or tearing of the base. There shall be no splices in the roll.

2. Tensile Strength

The tensile strength of the material in the direction of the length shall be not less than 20 lbs. per inch when tested by the method described in Appendix II.

3. Resistance to Moisture and Heat

The material shall resist the effects of moisture and heat when tested by the method described in Appendix III and the joint shall not separate or pull apart; no tearing of the material shall occur.

4. Resistance to Shock Loading

The material shall resist the effects of shock loading when tested by the method described in Appendix IV and the joint shall not separate or pull apart; no tearing of the material shall occur.

5. Resistance to Photographic Processing Solutions

(Type Test). The material shall resist the effects of photographic processing solutions when tested by the method described in Appendix V and the joints shall not separate or pull apart; no tearing of the material shall occur.

6. Keeping Qualities

The keeping qualities of the material shall be such that rolls of the material, stored flat on their cut edges, in their original sealed containers shall retain the properties detailed above for not less than the following periods after the date of delivery:-

(a) Nine months in temperate climates.

(b) Three months in tropical climates.

7. Marking

Each roll shall be neatly and indelibly marked with the date of manufacture.

Each package shall be similarly marked with the specification number, the date of dispatch and " This Side Up " (to ensure that the packages are properly stacked in store).

8. Packaging

The rolls of tape shall be packed in such a manner that :-

- (a) they are protected from moisture, dust and sunlight.
- (b) they can easily be separated.
- (c) they are reasonably protected from damage in normal transit conditions.
- (d) they are all packed flat on their cut edges.

When supplied for use by the services the packaging shall comply with the relevant parts of Specification D.E.F. 1234 as demanded by the contract.

9. Inspection

(a) *Samples for testing*-A batch of tape shall consist of a number of rolls designated as a batch by the manufacturer and substantially uniform in quality. From each batch at least one roll shall be taken and tested for compliance with the requirements of Clauses 1-5. The Director of Chemical Inspection may require the material from any batch to be tested to Clause 6.

(b) *Rejection and retest*-Failure of any sample of the material to comply with the requirements of this specification shall be cause for rejection of the batch. Tape which has been rejected may be reworked or replaced to correct the defect and resubmitted for acceptance. Before resubmitting, full particulars concerning previous rejection and the action taken to correct the defects found in the original shall be furnished to the inspector.

(c) Information on suitable photographic materials to use in the tests described in Appendices III, IV and V may be obtained from the Director of Chemical Inspection (DCI), War Office, C.36, Royal Arsenal, Woolwich, London, S.E.18.

Appendix I**The Pre-Test Conditioning of Sample Rolls**

Each sample shall be conditioned for at least 24 hours at $20 \pm 2^\circ\text{C}$, and 65 ± 2 per cent relative humidity, and the three outer layers removed and discarded, immediately prior to taking pieces for test.

Appendix II**Method for the Determination of Tensile Strength**

Take a suitable length of the material from a sample roll (see Appendix I) and condition it at $20 \pm 2^\circ\text{C}$, and 65 ± 2 per cent relative humidity for a further two hours prior to testing.

Determine the longitudinal tensile strength on a suitable testing machine, with a rate of traverse of the loading jaw of 12 inches per minute. There shall be an initial free length of 7 inches between the jaws.

Appendix III**Method for the Determination of Resistance to Moisture and Heat**

Splice a strip of $9\frac{1}{2}$ inch wide photographic film with the material as shown in Fig. 1 under light pressure for approximately 5 seconds and fix a clamp on each end of the specimen as shown in Fig. 2. Fix the clamps parallel to the splice and so that they exert an even pressure across the entire width of the material. Immerse the strip in water at $32 \pm 1^\circ\text{C}$ for 6 minutes, wipe surplus water off both surfaces and within 10 seconds hang the strip in a drying cabinet maintained at $100 \pm 3^\circ\text{C}$. Place an 8 pound weight centrally on the lower end of the strip and observe after 10 minutes.

Appendix IV**Method for the Determination of Resistance to Shock Loads**

In an apparatus similar to that shown in Fig. 3, test three strips of unprocessed photographic paper $9\frac{1}{2}$ inches wide and 30 inches long, each strip containing two splices prepared as described in Appendix III. One splice shall be between the roller and the upper (fixed) clamp. Fix a 5 pound weight centrally to the lower clamp, raise it for a distance of 1 foot up the sliding rod letting the material hang in a loop between the upper clamp and the roller. Allow the weight to drop. Repeat this three times for each of the three test specimens. Examine all splices for separation or tearing. The test shall be made at $20 \pm 2^\circ\text{C}$.

Repeat the test using photographic film in place of paper.

Appendix V**Method for the Determination of Resistance to Photographic Processing Solutions**

Form a loop with a perimeter of not less than 10 feet by splicing together lengths of dry processed film, paper and leader each of 9½ inch nominal width. The loop shall contain not less than one of each of the following splices made as shown in Fig. 1.

Leader to leader
Leader to film
Film to film
Film to paper
Paper to leader
Paper to paper.

Soak the loop in a 5 % solution of sodium carbonate for 5 minutes and allow excess to drain off. Set it up on a testing unit similar to that shown in Fig. 4 . Pour a 2 % solution of acetic acid in the bath of the machine so as just to cover the bottom portion of the loop. Drive the strip through the solution at a speed of 10 feet per minute for 10 minutes. Change the contents of the bath to water and run the loop through the water at 20 feet per minute for 10 minutes. Change the contents of the bath to Industrial methylated spirit 74 O.P. to specification D.E.F.-57.

The liquids shall be kept at $40 \pm 2^{\circ}\text{C}$.
Examine the joints.

Approved for issue,

N. J. L. MEGSON,

Director of Materials Research and Development, (Air).

FIG. No.1.

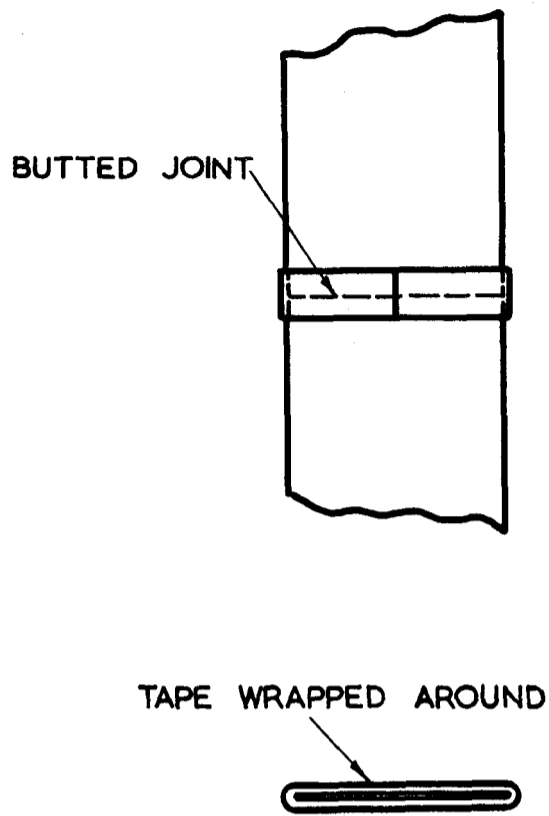


FIG. No. 2.

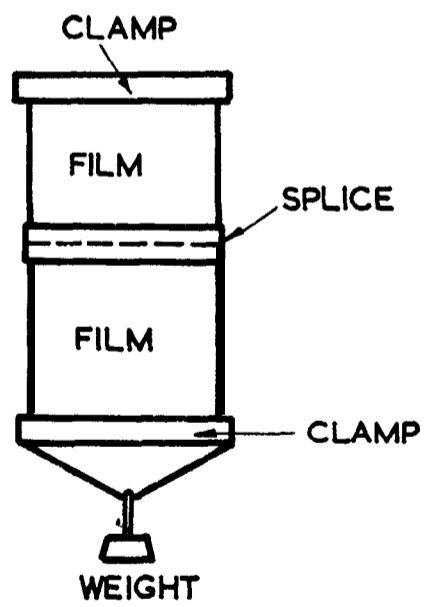
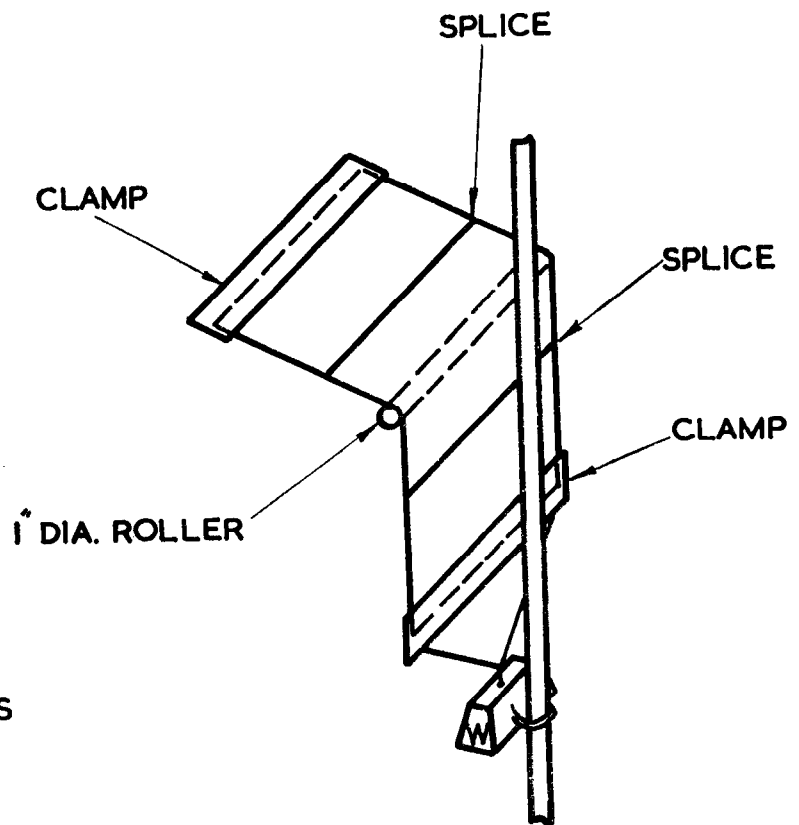


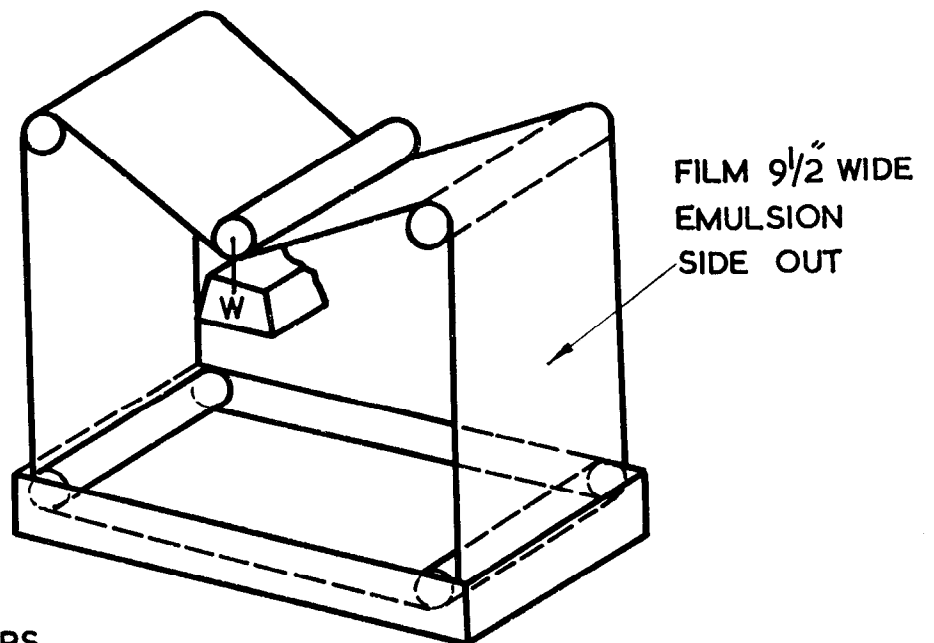
FIG. No.3.



NOTE :-

WEIGHT 'W' = 5 LBS
 DROP = 1 FT.

FIG. No.4.



FIVE 1" DIA. ROLLERS
 X 10 1/2" LONG.
 WEIGHT 'W' = 5 LBS

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