

**Ministry of Defence
Defence Procurement Agency, ADRP2
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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
CONTOUR WOVEN GLASS FIBRE FABRIC

NOTE 1.-This specification is one of a series issued by the Ministry of Aviation either to meet a limited requirement not covered by an existing British Standard 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 standardization.

NOTE 2.-Differences from specification D.T.D. 5559 are indicated by marginal lines.

NOTE 3.-This specification stipulates the requirements for contour woven glass fibre fabric for use as reinforcement of plastic mouldings.

1. Related Documents

Reference is made in this specification to:

- British Standard 3396: Part 1: 1961
- British Standard 3396: Part 2: 1961
- British Standard 3396: Part 3: 1961
- British Standard 2782: Part 3: 1957

2. Yarn

Continuous filament Type E glass fibre yarn containing not more than one per cent of alkali metal oxides expressed as Na_2O , shall be used in the manufacture of the fabric.

3. Dimensions

- (a) The dimensions and detail of the individual contour woven shapes, when cut from the fabric and when finished in accordance with Clause 7, shall be as agreed between purchaser and supplier.
- (b) If a three-dimensional former is supplied by the purchaser, the woven shape shall be capable of being fitted to the former by light hand manipulation and shall snugly fit the former without folds or looseness.
- (c) When excess length at either or both ends of the shape is called for, the former shall normally be designed to accommodate this, and shall be marked with cut-off lines to indicate the effective shape required.
- (d) When a multiplicity of sizes of woven shape is required, and a former has been supplied by the purchaser, the former containing the requisite number of layers of the least size of shape shall constitute the former for the next size of shape, and so on.
- (e) When a multiplicity of sizes of woven shape is required there shall be means for ready identification of the woven shapes of each size, and this shall be agreed between purchaser and supplier.

4. Trimming of Loose Ends

The threads where they emerge from the structure of the contour woven parts shall be trimmed to a length of approximately one-eighth inch, unless otherwise agreed between purchaser and supplier.

5. Fabric Structural Particulars

- (a) When the fabric structure is one of those listed in Table 1 of British Standard 3396: Part 1: 1961, it shall be identified in the contract or order by reference to Table 1 of that Standard and to the designation in the first column of that Table. The fabric shall comply with the requirements given in the Table in respect of average weight per square yard, average warp ends, average weft picks, yarn structure and average breaking strength.
- (b) Fabric of constructions other than those listed in Table 1 of British Standard 3396: Part 1: 1961 may be supplied by agreement between purchaser and supplier. For such fabric the constructional details shall be set out in the same manner as in Table 1 of the Standard. The tolerances shall be those given in the Table and the values for weight per square yard and breaking strength shall be calculated in accordance with Appendix D of British Standard 3396: Part 1: 1961.

6. Provision of Test Samples

A sample length or sample lengths of flat fabric of the same structural particulars and using the same batches of yarn as the contour woven parts shall be provided for destructive tests from within each batch of the material. A batch of the material for this purpose shall consist of not more than 2,000 yards as woven in continuous length at the loom.

7. Finish

- (a) (i) When the fabric is required for use as reinforcement with polyester resin, it shall be desized in accordance with British Standard 3396: Part 2: 1961, and finished in accordance with British Standard 3396: Part 3: 1961, except that the breaking strength tests of the fabric in desized and finished condition are not required. The purchaser shall state the grade of finish to be used by reference to Clause 1 of British Standard 3396: Part 3: 1961.
- (ii) A test laminate for laminate tensile strength test* shall be made with the finished fabric, by the method described in Appendix B of British Standard 3396: Part 3: 1961, except that the dimensions of the laminate shall be sufficient to provide the requisite number of specimens for the tensile strength test.
- The tensile strength shall be determined, in the warp and in the weft directions, by method 301C of British Standard 2782: Part 3: 1957. The sum of the warp and weft tensile strengths shall be not less than 68000 p.s.i.
- (b) When the fabric is required for use as reinforcement with resin other than polyester, it shall be treated by an approved finishing process.†

8. Freedom from Defects and Impurities

The fabric shall conform to the requirements of Clause 3 of British Standard 3396: Part 3: 1961.

**This test is in addition to the laminate flexural strength requirements of British Standard 3396: Part 3: 1961.*

†Applications for approval should be addressed to the Director of Materials and Structures Research and Development, (Mat.10), St. Giles Court, St. Giles High Street, London, W.C.2.

Approved for issue,

E. W. RUSSELL,

Director of Materials and Structures Research and Development.

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