

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

## **OBSOLESCENCE NOTICE**

All DTD specifications were declared obsolescent from 1<sup>st</sup> 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.

**Aerospace Material Specification**

**“15” CARBON STEEL**  
**(Suitable for blind rivets)**

**(Limiting ruling section 20mm)**

*NOTE 1. This specification is one of a series issued by the Ministry of Technology to meet a limited requirement not covered by any existing British Standard for aerospace material.*

*NOTE 2. Where metric units are stated these are to be regarded as the standard. The conversions of metric units to British units are approximate and more accurate conversions should be based on B.S. 350: “Conversion factors and tables”.*

*NOTE 3. The margin lines indicate alterations from the previous issue of this specification.*

**1. Inspection and testing procedure**

1.1 This specification shall be used in conjunction with the relevant sections of British Standard 3S.100 as follows :

- Bright bars for machining ... Sections One and Four.
- Wire for cold forging ... Sections One and Nine.

1.2 *Sulphur printing or deep etching tests.* Samples shall be selected in accordance with British Standard 3S.100, Section One, Clause 7.2.2.

**2. Process of manufacture**

2.1 The steel shall be manufactured by an open hearth, oxygen or electric process, unless otherwise agreed between the manufacturer and purchaser in accordance with British Standard 3S.100, Section One, Clause 3.1.

**3. Chemical composition**

3.1 The steel shall contain :

Element	Per cent	
	min.	max.
Carbon ... ..	0.10	0.20
Silicon ... ..	0.05	0.35
Manganese ... ..	0.40	0.90
Phosphorus ... ..	—	0.040
Sulphur ... ..	—	0.040
Lead (see Clause 3.2)	0.15	0.35

3.2 Lead shall be added to bright bars for machining, only if the purchaser\* so requires in the order. Lead shall not be added to wire for cold forging.

**4. Surface dressing**

4.1 The steel shall be overall dressed in accordance with the requirements of British Standard 3S.100, Section One, Clause 5.1.

\*The purchaser is responsible for securing the concurrence of the parent design firm.

## 5. Condition

5.1 The steel shall be supplied in the appropriate condition stated below unless otherwise agreed between the manufacturer and the purchaser in which case the condition in which the steel is to be supplied shall be stated on the order.

Form	Condition of supply
Bright bars for machining	Softened; or softened and subsequently cold drawn
Wire for cold forging	Softened; or softened and subsequently cold drawn

## 6. Mechanical properties

6.1 *Bright bars for machining.*

6.1.1 The tensile properties obtained from test pieces selected and prepared in accordance with the relevant requirements of British Standard 3S.100 shall be :

Tensile strength				Elongation on $5.65\sqrt{S_0}$
hbar		tonf/in <sup>2</sup>		per cent
min.	max.	min.	max.	min.
50	60	31	38	21

6.1.2 *Upsetting test.*

6.1.2.1 Except as provided for in Clause 6.1.2.2 a test piece of full section and of length equal to the diameter of the bar shall be prepared from each bar selected for the tensile test. The test piece shall withstand being flattened, either by steadily applied pressure, or by hammer blows until the length is reduced to one half its original length, without revealing the presence of any defect.

6.1.2.2 Alternatively to Clause 6.1.2.1, if agreed between the manufacturer and the purchaser, the test piece may be machined to a diameter of not less than 75 per cent of the original bar diameter prior to being flattened.

6.2 *Wire for cold forging.*

The mechanical properties of wire for cold forging shall be agreed between the manufacturer and the purchaser\* and stated on the order.

## 7. Re-tests

7.1 *Upsetting test.* If any test piece fails to comply with requirements of Clause 6.1.2, a test piece shall be prepared from each bar in the batch not previously tested. Bars related to test pieces that fail to comply with the requirements of Clause 6.1.2 shall be rejected.

Approved for issue,

E. W. RUSSELL,

Director of Materials Research and Development/Aviation.

\*The purchaser is responsible for securing the concurrence of the parent design firm.