

**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**  
**FORGINGS OF TITANIUM-ALUMINIUM-VANADIUM ALLOY**  
**(Tensile strength 930-1160 MPa)**  
**(Limiting ruling section 150mm)**

*NOTE. This specification is one of a series issued by the Procurement Executive, Ministry of Defence to meet a requirement not covered by an existing British Standard for aerospace material.*

**1. INSPECTION AND TESTING PROCEDURE**

This specification shall be used in conjunction with Sections 1 and 4 of British Standard TA.100.

**2. MANUFACTURE**

The forgings shall be made from forging stock complying with the requirements of D.T.D.5313.

**3. CHEMICAL COMPOSITION**

The chemical composition of the forgings shall be:

Element	Per cent	
	min.	max.
<b>Aluminium</b> . . . . .	5.5	6.75
<b>Vanadium</b> . . . . .	3.5	4.5
Iron . . . . .	-	0.30
Oxygen . . . . .	-	0.20
Nitrogen . . . . .	-	0.05
Hydrogen . . . . .	-	0.015
<b>Titanium</b> . . . . .	The remainder	

**4. CONDITION**

Unless otherwise stated on the drawing, order or Inspection Schedule, the forgings shall be supplied annealed and subsequently descaled and pickled.

**5. HEAT TREATMENT**

Unless otherwise agreed between the manufacturer and the purchaser and stated on the drawing, order or Inspection Schedule, the forgings and test samples shall be annealed as follows:

- (1) Heat to a temperature between 700°C and 800°C;
- (2) Hold at the selected temperature  $\pm 10^\circ\text{C}$  for a time dependent on the cross section, with a minimum of 1 hour;
- (3) Cool in air or the furnace.

## 6. MECHANICAL PROPERTIES

**Tensile test at room temperature.** Unless they are required by British Standard TA.100 to be agreed between the manufacturer and the purchaser, the mechanical properties obtained from test pieces selected, prepared and tested in accordance with the relevant requirements of British Standard TA.100 shall be:

0.2% proof stress	Tensile strength		Elongation	Reduction of area
	min.	max.		
MPa	MPa	MPa	%	%
830	930	1160	8	25

*NOTE.* 1 MPa = 1 N/mm<sup>2</sup> = 0.102 kgf/mm<sup>2</sup> = 0.065 tonf/in<sup>2</sup>. Information on SI units is given in BS 3763, 'The International System of units (SI)', and BS 350, 'Conversion factors and tables'.

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Approved for issue,

N. J. WADSWORTH.

Director of Research Materials 2.

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