

**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.

Aerospace Material Specification
FORGING STOCK OF TITANIUM-ALUMINIUM-
MOLYBDENUM-TIN-SILICON ALLOY
(Tensile strength 1080-1260 MPa)
(Limiting ruling section 100mm)

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 3 of British Standard TA.100.

2. MANUFACTURE

The material shall be made from ingots produced, by consumable electrode melting, from materials having a total carbon content of not more than 0.08%.

3. CHEMICAL COMPOSITION

The chemical composition of the material shall be:

Element	Per cent	
	min.	max.
Aluminium	3.0	5.0
Molybdenum	3.0	5.0
Tin	1.5	2.5
Silicon	0.3	0.7
Iron	—	0.20
Hydrogen	—	0.010
Oxygen	—	0.25
Nitrogen	—	0.05
Titanium	The remainder	

4. CONDITION

4.1 The material shall be supplied as forged, hot rolled or extruded and may be stress relieved at the discretion of the manufacturer.

NOTE. Stress relieving is achieved by heating the material uniformly for not more than 3 h at a temperature between 600°C and 700°C.

4.2 Unless otherwise stated on the drawing, order or Inspection Schedule, the material shall be supplied either centreless ground or machined.

5. HEAT TREATMENT

Test samples taken from the material shall be heat treated as follows:

- (1) heat at a temperature of $900 \pm 10^{\circ}\text{C}$ and hold for 1 h per 25 mm of section, with a minimum of 20 min;
- (2) cool in air;
- (3) heat at a temperature of $500 \pm 5^{\circ}\text{C}$ and hold for 24 h;
- (4) cool in air.

6. MECHANICAL PROPERTIES

6.1 The mechanical properties obtained from test pieces selected, prepared and tested in accordance with the relevant requirements of British Standard TA.100 shall be:

6.1.1 Tensile test at room temperature

0.2% proof stress	Tensile strength		Elongation	Reduction of area
min.	min.	max.	min.	min.
MPa	MPa	MPa	%	%
940	1080	1260	9	20

6.1.2 Creep test. When required and stated on the drawing, order or Inspection Schedule:

Maximum total plastic strain in 100 h under a load of 465 MPa at 400°C : 0.10%

NOTE. 1 MPa = $1 \text{ N/mm}^2 = 0.102 \text{ kgf/mm}^2 = 0.065 \text{ tonf/in}^2$. Information on SI units is given in BS 3763, 'The International System of units (SI)' and BS 350, 'Conversion factors and tables'.

Approved for issue,

N. J. WADSWORTH,

Director of Research Materials 2.

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