

**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
CASTINGS OF TITANIUM-ALUMINIUM-VANADIUM ALLOY
(Annealed)

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

- 1.1 This specification shall be used in conjunction with Specification D.T.D.5373, as follows:
 Remelting stock, Section 1 & 2
 Casting Section 1 & 2

2. Chemical Composition

| Element | Per cent | |
|-------------------|----------------------|-------------|
| | min. | max. |
| Aluminium | 5.5 | 6.75 |
| Vanadium | 3.5 | 4.5 |
| Carbon | — | 0.10 |
| Oxygen | — | 0.25 |
| Nitrogen | — | 0.05 |
| Oxygen + Nitrogen | — | 0.27 |
| Hydrogen | — | 0.015 |
| Iron | — | 0.30 |
| Yttrium | — | 0.005 |
| Others (each) | — | 0.10 |
| Others (others) | — | 0.40 |
| Titanium | The remainder | |

3. Condition

- 3.1 The castings shall be supplied in the fully annealed and descaled condition.

4. Heat treatment

- 4.1 The castings together with all test samples for each batch shall be heat treated as detailed in 4.2.
 4.2 Anneal at a temperature between 700°C and 850°C in a protective (argon or vacuum) atmosphere for not less than 2 hours and furnace cool in a protective atmosphere to a temperature below 500°C, followed by air cooling to room temperature.

5. Mechanical Properties

- 5.1 The mechanical properties obtained from separately cast and integrally cast test samples, selected and prepared in accordance with Sections 1.6 and 3.4.1(2) or 3.4.1(3) of D.T.D.5373, shall not be less than the following values:

| 0.2% Proof Stress MPa | Tensile Strength MPa | Elongation % | Reduction of Area % |
|-----------------------|----------------------|--------------|---------------------|
| 815 | 900 | 5 | 10 |

- 5.2 The mechanical properties obtained from cut-up samples taken from undesignated area in the casting(s), selected and prepared in accordance with sections 1.6, 3.4.1(1) and 3.4.2 of D.T.D.5343, shall not be less than the following values:

| 0.2% Proof Stress MPa | Tensile Strength MPa | Elongation % | Reduction of Area % |
|-----------------------|----------------------|--------------|---------------------|
| 785 | 880 | 5 | 10 |

NOTE: - MPa = N/mm² 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

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