

British Standard: Aerospace Series
 Specification for
**Sheet and strip of
 titanium-aluminium-vanadium alloy**
 (Tensile strength 960-1270 MPa)

NOTE. Other forms of material of similar composition are covered by British Standards as listed in Appendix A.

1. Inspection and testing procedure

1.1 This British Standard shall be used in conjunction with Sections 1 and 5 of British Standard TA 100.

1.2 The tolerances applicable to material finished by hot rolling shall apply.

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	%	
	min.	max.
Aluminium	5.5	6.75
Vanadium	3.5	4.5
Iron	—	0.30
Oxygen plus nitrogen	—	0.25
Hydrogen	—	0.0125
Titanium	—	Remainder

4. Condition

The material shall be supplied annealed and subsequently descaled.

5. Heat treatment

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

- (1) heat to a temperature between 700 °C and 900 °C;
- (2) hold, at the selected temperature ± 15 °C, for a time commensurate with the thickness and the heating equipment and procedure used;
- (3) cool in air or the furnace.

Gr 2

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2TA 10 : 1974

6. Mechanical properties

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

6.1 Tensile test at room temperature

0.2 % proof stress	Tensile strength		Elongation
	min.	max.	min.
MPa (= N/mm ²)	MPa (= N/mm ²)	MPa (= N/mm ²)	%
900	960	1270	8

NOTE. Information on SI units is given in BS 3763, 'The International System of units (SI)', and BS 350, 'Conversion factors and tables'.

6.2 Single bend test

Angle of bend: 180°
Radius of former: five times the nominal thickness

Appendix A

British Standards covering other forms of material of similar composition

Tensile strength (MPa = N/mm ²)	min.	895	900	1100
	max.	1150	1160	1300
Limiting ruling section (mm)			150	20
Maximum thickness (mm)		100		
Form		British Standard		
Bar and section for machining			TA 11	TA 28*
Forging stock			TA 12	
Forging stock and wire			TA 13	
Forgings				
Plate		TA 56		

*Primarily intended for the manufacture of fasteners complying with the requirements of the 'A' series of British Standards.

This British Standard, having been approved by the Aerospace Industry Standards Committee, was published under the authority of the Executive Board on 30 May, 1974.

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Contract requirements

Attention is drawn to the fact that this British Standard does not purport to include all the necessary provisions of a contract.

Revision of British Standards

British Standards are revised, when necessary, by the issue either of amendment slips or of revised editions. It is important that users of British Standards should ascertain that they are in possession of the latest amendments or editions.

The following BSI references relate to the work on this standard:
Committee reference ACE/49 Draft for comment 72/31805 DC

BSI

AMD 3771

Amendment No. 1
published and effective from 30 October 1981
to British Standard 2TA 10 : 1974
(Aerospace Series)

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620.1
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Sheet and strip of titanium-aluminium-vanadium alloy
(Tensile strength 960-1270 MPa)



Revised text

AMD 3771
October 1981

Title

In the title delete 'and strip'.

AMD 3771
October 1981

Appendix A. British Standards covering other forms of material of similar composition
In the left-hand column headed 'Form', below 'Plate' insert 'Sheet and strip'.

In a new final column insert:

in line 1, against 'Tensile strength min.' '920';
in line 2, against 'Tensile strength max.' '1180';
in the last line, against 'Sheet and strip' 'TA 59'.

8110-0-1.5k-B

ACE/49

BSI

AMD 5462

Amendment No. 2
published and effective from 30 April 1987
to British Standard 2TA 10 : 1974
(Aerospace series)

Specification for sheet of
titanium-aluminium-vanadium alloy
(Tensile strength 960-1270 MPa)



Revised text

AMD 5462
April 1987

Clause 6.1 Tensile test at room temperature

Delete the existing note under the table and substitute the following.

'NOTE. The specified properties may not be achieved if the material is tested in other than the transverse direction.'

8704-0-1.7k-B

ACE/49