

British Standard : Aerospace Series Specification for

Forgings of titanium-copper alloy

(Tensile strength 540—770 N/mm²)

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

1. Inspection and testing procedure

This British Standard 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 British Standard TA 23.

3. Chemical composition

The chemical composition of the forgings shall be:

Element	%	
	min.	max.
Copper	2.0	3.0
Iron	—	0.20
Hydrogen	—	0.015
Titanium	—	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

The forgings and test samples shall be annealed as follows:

- (1) heat at a temperature of 790 ± 10 °C for a time dependent on the cross section, with a minimum of 30 minutes;
- (2) cool in air.

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6. Mechanical properties

6.1 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.		
N/mm ²	N/mm ²	N/mm ²	%	%
400	540	770	16	35

NOTE. 1 N/mm² = 1 MN/m² = 1 MPa = 0.1 hbar = 0.065 tonf/in². Information on SI units is given in BS 3763 'The International System of units (SI)' and BS 350 'Conversion factors and tables'.

Appendix A

British Standards covering other forms of material of similar composition

Form	Tensile strength (N/mm ²)		
	540-770	650-880	690-920
Sheet and strip	TA 21	—	TA 52
Bar and section for machining	TA 22	TA 53*	—
Forging stock	TA 23	TA 54*	—
Forgings	—	TA 55*	—

*Limiting ruling section 75 mm.

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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 72/30563DC