METRIC UNITS

TA. 20, December 1968

UDC 629.7:669.295.5'6'296'71'28'782-4-134

BRITISH STANDARDS INSTITUTION

BRITISH STANDARDS HOUSE, 2 PARK STREET, LONDON, W.1

INCORPORATED BY ROYAL CHARTEI
Telephone: 01-629 9000
Telegrams: STANDARDS LONDON W1

BRITISH STANDARD : AEROSPACE SERIES

SPECIFICATION FOR

TITANIUM-TIN-ZIRCONIUM-ALUMINIUM-MOLYBDENUM-SILICON ALLOY FORGINGS

(Tensile strength 111-134 hbar)

(Limiting ruling section 50 mm (2 in))

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NOTE 1. Other forms of material of this composition and strength are covered by the following British Standard:
TA.18. Bars for machining.
TA.19. Forging stock.

NOTE 2. Where imperial equivalents are stated, the figures in SI units are to be regarded as the standard. The conversions are approximate. More accurate conversions should be based on the tables in BS 350, 'Conversion factors and tables'. Information concerning SI units is given in BS 350 and PD 5686, 'The use of SI units'.

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.19.

3. CHEMICAL COMPOSITION

The chemical composition of the forgings shall be:

Element	Per cent	
	min.	max.
Tin	**10·5**	**11·5**
Zirconium	**4·0**	**6·0**
Aluminium	**2·0**	**2·5**
Molybdenum	**0·8**	**1·2**
Silicon	**0·10**	**0·50**
Iron	-	0·20
Hydrogen	-	0·015
Titanium	-	**The remainder**

Price 3/- net

4. CONDITION

Unless otherwise stated on the order or drawing, the forgings shall be supplied heat treated and subsequently descaled and pickled.

5. HEAT TREATMENT

The forgings and test samples shall be heat treated as follows:

(1) Heat at a temperature of 900 ± 10°C and hold for one hour per inch of section, with a minimum of 30 minutes.

(2) Quench in oil.

(3) Heat at a temperature of 500 ± 5°C and hold for 24 hours.

(4) Cool in air.

6. MECHANICAL PROPERTIES

6.1 Tensile test. Unless they are required by British Standard TA.100 to be fixed by agreement between the manufacturer and the purchaser, the mechanical properties obtained from test pieces selected and prepared in accordance with the relevant requirements of British Standard TA.100 shall be:

0·2% proof stress		Tensile strength				Elongation	Reduction of area
min.		min.		max.		min.	min.
hbar	tonf/in²	hbar	tonf/in²	hbar	tonf/in²	%	%
97	62·8	111	71·9	134	86·8	8	25

NOTE. 1 hbar = 10^7 N/m².

This British Standard, having been approved by the Aerospace Industry Standards Committee, was published under the authority of the Executive Board of the Institution on 31 December, 1968.

The following BSI references relate to the work on this standard:
Committee reference ACE/49 Draft for comment 67/14017

SBN: 580 00288 8

(Printed in England)

Amendment Slip No.1, published 18 December, 1972

to British Standard TA.20:1968

(Aerospace Series)

Titanium-tin-zirconium-aluminium-molybdenum-silicon alloy forgings

(Tensile strength 111-134 hbar)

(Limiting ruling section 50 mm (2 in))

Obsolescence

The need for the material covered by this British Standard has been reviewed and it has been decided that, in the interests of rationalization and conformity with the practices in other European countries, it should be regarded as obsolescent and not therefore used for new designs. The standard will be withdrawn in due course. In the meantime, copies of the standard should be endorsed:

'OBSOLESCENT (see Amendment Slip No.1)'.

ON INCORPORATED BY ROYAL CHARTI
Telephone: 01-629 9000
W.1 *Telegrams:* STANDARDS LONDON W1

OSPACE SERIES

FOR

JM-ALUMINIUM-

LLOY FORGINGS

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