

**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 AND FORGINGS
OF MAGNESIUM-THORIUM-ZINC-ZIRCONIUM ALLOY
(Th 0.8, Zn 0.6, Zr 0.7)

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 the relevant sections of British Standard L.500 as follows :

Cast billets and slabs for hot working	Sections 1 and 2
Bars and extruded sections for forging	Sections 1 and 3
Forgings	Sections 1 and 5

2. QUALITY OF MATERIAL

The material shall be made from magnesium and alloying constituents, with or without approved scrap, at the discretion of the manufacturer.

3. CHEMICAL COMPOSITION

The chemical composition of the cast billets and slabs used for making the material shall be :

Element	Per cent	
	min.	max.
Thorium	0.6	1.0
Zinc	0.4	0.8
Zirconium	0.5	1.0
*Manganese	—	0.15
*Copper	—	0.03
*Aluminium	—	0.02
*Silicon	—	0.01
*Iron	—	0.01
*Nickel	—	0.005
Magnesium	The remainder	

*Subject to the discretion of the Inspecting Authority, determination of these elements need be made on a small proportion only of the samples analysed.

4. CONDITION

4.1 Forging stock. Unless otherwise stated on the order, forging stock shall be supplied as extruded or as extruded and straightened.

4.2 Forgings. Unless a particular condition is required by the order, forgings shall be supplied in one of the following conditions, at the discretion of the manufacturer:

- (1) As forged,
- (2) Forged and stress relieved.

NOTE. Stress relieving is achieved by heating the forgings for not less than one hour at a temperature not exceeding 350°C.

5. HEAT TREATMENT

None.

6. MECHANICAL PROPERTIES

NOTE. The tensile values specified for separately forged test bars, representing forgings made from cast billets, bars or extruded sections, may not always be realized in certain portions of forgings.

Tensile test. Unless they are required by British Standard L.500 to be fixed by agreement between the manufacturer and the purchaser, the mechanical properties of test pieces selected and prepared in accordance with the relevant requirements of British Standard L.500 shall be not less than the following values:

Test piece from test samples representing	0.2% proof stress	Tensile strength	Elongation
	MPa	MPa	%
Bars and extruded sections for forging :			
Diameter or minor sectional dimension not greater than 25 mm	130	230	6
Diameter or minor sectional dimension greater than 25 mm but not greater than 50 mm	110	200	8
Diameter or minor sectional dimension greater than 50 mm	95	200	8
Forgings made from cast billets, bars or extruded sections and represented by separately forged test bars	130	230	6

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

Approved for issue,

E. W. RUSSELL,

Director of Research Materials 2.

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