UDC 629.13.01:669.721,5'5'296–42–126

L. 508 January 1967
(Superseding D.T.D.501A)

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

INCORPORATED BY ROYAL CHARTER
Telephone: MAYFAIR 9000
Telegrams: STANDARDS LONDON W1

BRITISH STANDARD SPECIFICATION
FOR AIRCRAFT MATERIAL

MAGNESIUM-1¼% ZINC-ZIRCONIUM ALLOY EXTRUDED BARS AND SECTIONS

(Suitable for welding by inert-gas shielded arc techniques)

(Not exceeding 2 inches diameter or minor sectional dimension)

(Zn 1·25, Zr 0·6)

NOTE 1. Only simple bending or shaping operations can be made on this material without heating. Most forming operations can be successfully carried out at a temperature of approximately 300°C (572°F), in heating to which temperature a loss in tensile properties of the material up to about 10 per cent must be expected. This material must not be heated above 400°C (752°F), since this would result in losses in tensile properties greater than 10 per cent.

NOTE 2. Other forms of material of this composition are covered by the following British Standards:
L.507 Sheets and strips.
L.509 Extruded tubes.

NOTE 3. Where metric equivalents are stated, the figures in British units are to be regarded as the standard. The metric conversions are approximate. More accurate conversions should be based on the tables in B.S. 350, 'Conversion factors and tables'.

1. Inspection and testing procedure.

1.1 This British Standard shall be used in conjunction with Sections 1 and 4 of British Standard L.500.

2. Quality of material.

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

3. Chemical composition.

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

Element	Per cent	
	min.	max.
Zinc	**0·75**	**1·5**
Zirconium	**0·4**	**0·8**
*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.

Price 3/- net

4. Condition.

4.1 The material shall be supplied in the extruded and straightened condition.

NOTE. The material may be heated by the manufacturer for stress relieving and/or straightening.

5. Heat treatment.

None.

6. Mechanical properties.

6.1 *Tensile test.* The mechanical properties obtained from test pieces selected and prepared in accordance with the relevant requirements of British Standard L.500 shall not be less than the following values:

Nominal diameter or minor sectional dimension of the material	0·2 per cent * proof stress		Tensile strength		Elongation
	tonf/in²	kgf/mm²	tonf/in²	kgf/mm²	per cent
Up to and including ⅜ in (9·5 mm)	11·0	17·3	16·0	25·2	8
Over ⅜ in up to and including 2 in (51 mm)	12·0	18·9	17·0	26·8	8

*The values for 0·1 per cent proof stress are not expected to be lower than those for 0·2 per cent proof stress by more than 1·0 tonf/in² (1·6 kgf/mm²).

7. Protection against corrosion.

7.1 The material shall be protected before despatch by one of the methods given in Ministry of Aviation aircraft process specification D.T.D. 911.

The method to be used shall be selected by the purchaser in accordance with the recommendations of AID/EID Technical Memorandum M.6 and shall be stated on the order.

This British Standard, having been approved by the Aerospace Industry Standards Committee and endorsed by the Chairman of the Engineering Divisional Council, was published under the authority of the General Council of the Institution on 31st January, 1967.

The Institution desires to call attention to the fact that this British Standard does not purport to include all the necessary provisions of a contract.

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 B.S.I. references relate to the work on this standard:
Committee reference ACE/24. Draft for comment 66/3812