

**SPECIFICATION FOR
WROUGHT ALUMINIUM
AND ALUMINIUM ALLOYS
For General Engineering Purposes
WIRE**

THIS BRITISH STANDARD, having been approved by the Non-ferrous Metals Industry Standards Committee, was published under the authority of the Executive Board on 7 April, 1972.

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First published 1949 as BS 1474 and BS 1475.

First revision as BS 1475, December, 1955.

Second revision, September, 1963.

Third revision, August, 1969.

Fourth revision, April 1972.

SBN: 580 07430 7

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.

A complete list of British Standards, numbering over 5000, fully indexed and with a note of the contents of each, will be found in the British Standards Yearbook, which may be purchased from BSI Sales Department. It may also be consulted in many public libraries and similar institutions.

This standard makes reference to the following British Standards:

- BS 18. Methods for tensile testing of metals. Part 1. Non-ferrous metals.
- BS 1499. Sampling non-ferrous metals.
- BS 1728. Methods for the analysis of aluminium and aluminium alloys.
- BS 1957. Presentation of numerical values (finesness of expression; rounding of numbers).
- BS 3660. Glossary of terms used in the wrought aluminium industry.

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 NFE/19 Draft for approval 70/30839

Amendment Slip No. 1
published and effective from 30 June 1980
to BS 1475 : 1972

Wrought aluminium and aluminium alloys
for general engineering purposes
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Revised text

List of reference standards (page 2). Delete entirely the reference to BS 1957.

Contents. Add the following to the list of appendices :

- ‘C. Details of the international alloy designations and chemical composition limits for wrought aluminium alloys system
- D. Designation cross-references’.

In the list of tables, delete the title of table 1 and substitute ‘(Table deleted)’.

Foreword. Delete the text of the last paragraph and substitute the following :

‘As a major step towards alignment of aluminium and aluminium alloy compositions on an international basis, a substantial number of countries have agreed to adopt a 4-digit classification for alloy composition designation. This system is administered by the Aluminum Association Inc., who issue the ‘Registration Record of International Alloy Designations and Chemical Composition Limits for Wrought Aluminum Alloys’.

By amendment, it has been decided to introduce this system into the British Standards concerned with these types of material in place of the material designations formerly used. In some cases, minor compositional changes are also involved. The details of the system are given in appendix C and a cross-reference table between the new, the old and the nearest equivalent ISO designations is included as appendix D.

The temper designations and associated mechanical property requirements remain unaltered for the present and therefore may not necessarily align precisely with those in the standards of other countries.’

Gr 2

15. The rounding of numbers rule. Delete the existing text and substitute the following :

‘For purposes of determining conformance to compositional limits and mechanical properties (*not* dimensional tolerances), an observed value or a calculated value obtained from analysis is rounded off to the nearest unit in the last right-hand place of figures used in expressing the specified limit, in accordance with the following.

When the figure next beyond the last figure or place to be retained is less than 5, the figure in the last place retained should be kept unchanged.

When the figure next beyond the last figure or place to be retained is greater than 5, the figure in the last place retained should be increased by 1.

When the figure next beyond the last figure or place to be retained is 5 and

(a) there are no figures, or only zeros, beyond this 5, if the figure in the last place to be retained is odd, it should be increased by 1 ; if even, it should be kept unchanged ;

(b) if the 5 next beyond the figure in the last place to be retained is followed by any figures other than zero, the figure in the last place retained should be increased by 1, whether odd or even.’

Table 1. Rounding of numbers. Delete this table and substitute ‘Table 1. Deleted by Amendment Slip No. 1’.

Table 2. Chemical composition and mechanical properties of aluminium and aluminium alloy wire. Delete the existing table, text and NOTE and substitute the attached new table.

Appendix A. Forms of material available. Delete the existing table and substitute the following :

Material	BS general engineering specification							
	1470 Plate sheet and strip	1471 Drawn tube	1472 Forging stock	1472 Forgings	1473 Rivet stock for forging	1473 Bolt and screw stock for forging	1474 Bars, extruded tube and sections	1475 Wire
1080A	*							*
1050A	*	*	*	*	*		*	*
1200	*	*					*	
4047A								*
4043A								*
3103	*							*
5251	*	*	*	*			*	*
5154A	*	*	*	*	*		*	*
5056A					*	*		*
5556A								*
5083	*	*	*	*			*	
6063		*	*	*			*	*
2031			*	*				
2014A	*	*	*	*	*	*	*	*
CLAD 2014A	*							
2618A			*	*				
6061		*				*	*	*
6082	*	*	*	*	*	*	*	

* Material covered by the specification concerned.

Appendix B. The annealing and heat treatment of wrought aluminium and its alloys. In the second paragraph delete 'designated H,' and ', designated N'.

New appendix C. Insert the following new appendix C :

‘APPENDIX C

DETAILS OF THE INTERNATIONAL ALLOY DESIGNATIONS AND CHEMICAL COMPOSITION LIMITS FOR WROUGHT ALUMINIUM ALLOYS SYSTEM

C.1 Alloys groups : general. The first of the four digits in the designation indicates the alloy group as follows :

Aluminium, 99.00 % minimum and greater	1 xxx
Aluminium alloys groups by major alloying elements	
Copper	2 xxx
Manganese	3 xxx
Silicon	4 xxx
Magnesium	5 xxx
Magnesium and silicon	6 xxx
Zinc	7 xxx
Other element	8 xxx
Unused series	9 xxx

C.2 1 xxx group. In the 1 xxx group for minimum purities of 99.00 % and greater, the last two of the four digits in the designation indicate the minimum aluminium percentage. These digits are the same as the two digits to the right of the decimal point in the minimum aluminium percentage when it is expressed to the nearest 0.01 %.

The second digit in the designation indicates modifications in impurity limits or alloying elements. If the second digit in the designation is zero, it indicates unalloyed aluminium having natural impurity limits : integers 1 to 9, which are assigned consecutively as needed, indicate special control of one or more individual impurities or alloying elements.

C.3 2 xxx to 8 xxx groups. In the 2 xxx to 8 xxx groups the last two of the four digits in the designation have no special significance but serve only to identify the different aluminium alloys in the group. The second digit in the alloy designation indicates alloy modifications. If the second digit in the designation is zero, it indicates the original alloy ; integers 1 to 9, which are assigned consecutively, indicate alloy modifications.

C.4 National variations. National variations of wrought aluminium and wrought aluminium alloys registered by another country are identified by a serial letter after the numerical designation. The serial letters are assigned in alphabetical sequence starting with A for the first national variation registered, but omitting I, O and Q.’