



Standard Practice for Codification of Certain Nonferrous Metals and Alloys, Cast and Wrought¹

This standard is issued under the fixed designation B 275; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ε) indicates an editorial change since the last revision or reapproval.

This standard has been approved for use by agencies of the Department of Defense.

1. Scope *

1.1 This practice covers a system originally adopted for designating light metals and alloys, cast and wrought, and later extended to certain heavier, base-metal die-casting alloys. Those designations which are currently being used in specifications under the jurisdiction of ASTM Committees B-2 on Nonferrous Metals and Alloys and B-7 on Light Metals and Alloys are listed in Table X2.1.

1.1.1 The alloy designations now being used in ASTM Committee B-7 specifications for aluminum and aluminum-alloy wrought and cast products conform to ANSI H35.1. Alloys formerly codified by this practice and the corresponding ANSI designations are shown in Tables X3.1 and X3.2.

1.2 This practice also provides a system for designating magnesium alloys that has been used commercially since 1952, and thus is intended to be the registration source for new magnesium alloys. A record of designations along with the established compositions is given in Table X4.1.

1.3 The equivalent Unified Numbering System alloy designations shown in the appendixes are in accordance with Practice E 527.

2. Referenced Documents

2.1 The following documents of the issue in effect on date of material purchase form a part of this practice to the extent referenced herein:

2.2 ASTM Standards:

- B 37 Specification for Aluminum for Use in Iron and Steel Manufacture²
- B 86 Specification for Zinc-Alloy Die Castings³
- B 93/B93M Specification for Magnesium Alloys in Ingot Form for Sand Castings, Permanent Mold Castings, and Die Castings²
- B 94 Specification for Magnesium-Alloy Die Castings²
- B 102 Specification for Lead and Tin Alloy Die Castings³

B 240 Specification for Zinc Alloys in Ingot Form for Die Castings³

B 327 Specification for Aluminum-Alloy Hardeners Used in Making Zinc Die-Casting Alloys³

E 527 Practice for Numbering Metals and Alloys (UNS)⁴

2.3 ANSI Standard:

H35.1 Alloy and Temper Designation Systems for Aluminum

3. Basis of Codification

3.1 The designations for alloys and unalloyed metals are based on their chemical composition limits.

NOTE 1—For aluminum and magnesium alloys, cast and wrought, standard limits for alloying elements and impurities are expressed to the following places:

Less than 0.0001 % (used only for magnesium alloys)	0.0000X
0.0001 to 0.001 %	0.000X
0.001 to 0.01 %	0.00X
0.01 to 0.10 %	
Unalloyed aluminum made by a refining process	0.0XX
Alloys and unalloyed aluminum or magnesium not made by a refining process	0.0X
0.10 through 0.55 %	0.XX
Over 0.55 %	0.X,X.X,XX.X

3.2 Designations shall be assigned, revised, and cancelled by Subcommittee B07.07 of ASTM Committee B-7 on Light Metals and Alloys on written requests to its chairman. Complete chemical composition limits shall be submitted with request for assignment or revision of designations. Arbitrary assignments by other subcommittees or committees will not be recognized.

3.3 The temper designation, which is used for all metal forms except ingot, follows the alloy designation and is separated therefrom by a dash.

4. Alloys

4.1 Designation for alloys shall consist of not more than two letters representing the alloying elements (Note 2) specified in the greatest amount, arranged in order of decreasing percentages, or in alphabetical order if of equal percentages, followed by the respective percentages rounded off to whole numbers and a serial letter (Notes 3 and 4). The full name of the base

¹ This practice is under the jurisdiction of ASTM Committee B07 on Light Metals and Alloys and is the direct responsibility of Subcommittee B07.03 on Aluminum Alloy Wrought Products.

Current edition approved Aug. 10, 1996. Published September 1996. Originally published as B 275 – 62 T. Last previous edition B 275 – 95a.

² Annual Book of ASTM Standards, Vol 02.02.

³ Annual Book of ASTM Standards, Vol 02.04.

⁴ Annual Book of ASTM Standards, Vol 01.01.

***A Summary of Changes section appears at the end of this standard.**