



Standard Specification for Annealed Aluminum and Aluminum-Alloy Foil for Flexible Barrier, Food Contact, and Other Applications¹

This standard is issued under the fixed designation B 479; 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.

1. Scope*

1.1 This specification covers annealed aluminum and aluminum-alloy foil containing 98.00 % minimum aluminum and in thicknesses 0.00025 in. (0.0064 mm) to, but not including, 0.006 in. (0.15 mm). Alloys (see [Note 1](#)) covered by this specification include, but are not limited to 1100, 1145, 1235, 8011, 8079, and 8111, which conform to the requirements of [6.1](#) and [Table 1](#). Unless otherwise specified by the purchaser, the alloy to be supplied shall be left to the discretion of the producer.

1.2 The foil is for use in packaging, which includes food handling and processing applications, requiring flexible barrier materials, and other general applications. The foil may be used as supplied or laminated to other materials, such as paper or plastic films.

1.3 For acceptance criteria for inclusion of new aluminum and aluminum alloys in this specification, see [Annex A1](#).

1.4 The values stated in inch-pound units are to be regarded as the standard. The SI values in parentheses are for information only.

1.5 The following precautionary caveat pertains only to the test method portion of this specification: *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.*

NOTE 1—Throughout this specification, use of the term *alloy* in the general sense includes aluminum as well as aluminum alloy.

NOTE 2—If the alloy is specified by the purchaser, its designation shall be in accordance with ANSI [H35.1](#). The equivalent Unified Numbering System alloy designations are those shown in [1.1](#) preceded by A9, for example, A91100 for aluminum 1100 in accordance with Practice E 527.

2. Referenced Documents

2.1 The following documents of the date of issue in effect on date of material procurement form a part of this specification to the extent referenced herein.

¹ This specification 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.

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TABLE 1 Chemical Composition Limits^{A,B,C}

Si + Fe	1.8	Ti	0.08
Cu	0.20	Others—each ^D	0.05 ^{E,F}
Mn	0.10	Others—total ^D	0.15
Mg	0.05	Al, min.	98.00 ^G
Zn	0.10		

^A Limits are in percent maximum unless otherwise noted.

^B Analysis shall be made for the elements for which limits are shown in this table.

^C For purposes of determining conformance to these limits, an observed value or a calculated value obtained from analysis shall be rounded to the nearest unit in the last right-hand place or figures used in expressing the specified limit, in accordance with the rounding method of Practice E 29.

^D Others includes all unlisted metallic elements. The producer may analyze samples for trace elements not specified in the specification. However, such analysis is not required and may not cover all metallic Others elements. Should any analysis by the producer or the purchaser establish that an Others element exceeds the limit of Each or that the aggregate of several Others elements exceeds the limit of Total, the material shall be considered non-conforming.

^E For food applications, lead, arsenic, and cadmium shall be less than 0.01 % each. For purposes of determining conformance to the limits of these three elements, an observed value or a calculated value obtained from analysis shall be considered significant, in accordance with the absolute method of Practice E 29.

^F Food packaging, in accordance with CONEG Model Legislation, shall have a maximum total of less than 100 ppm for the combined total of lead, mercury, cadmium, and hexavalent-chrome (Pb, Hg, Cd, and Cr⁶⁺).

^G The aluminum content shall be calculated by subtracting from 100.00 % the sum of all metallic elements present in amounts of 0.010 % or more each, rounded to the nearest 0.01 % prior to determining the sum.

2.2 ASTM Standards:²

[B 926](#) Method for Pinhole Determination in Aluminum and Aluminum Alloy Plain Foil by Means of a Light Table

[E 29](#) Practice for Using Significant Digits in Test Data to Determine Conformance with Specifications

[E 34](#) Test Methods for Chemical Analysis of Aluminum and Aluminum-Base Alloys

[E 55](#) Practice for Sampling Wrought Nonferrous Metals and Alloys for Determination of Chemical Composition

[E 96/E 96M](#) Test Methods for Water Vapor Transmission of Materials

[E 252](#) Test Method for Thickness of Thin Foil, Sheet, and Film by Mass Measurement

[E 345](#) Test Methods of Tension Testing of Metallic Foil

² For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

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