Revision of H35.4-2006 (R2013)

American National Standard

designation system for unalloyed aluminum

Approved May 12, 2017 Secretariat: The Aluminum Association, Inc.

1. Scope

1.1 This standard provides a system for designating unalloyed aluminum not made by a refining process and used primarily for remelting.

1.2 Unalloyed wrought aluminum designations (10xx series with specified minimum aluminum and limits for natural impurities), are assigned and registered in accordance with ANSI H35.1.

2. Unalloyed Aluminum Designation System ①

2.1 This system consists of four digit numerical designations prefixed by the letter P (Purity) and suffixed by a serial letter. The first two numerical digits, XX, indicate the two digits to the right of the decimal place in the limit for maximum silicon, 0.XX. The last two numerical digits, YY, indicate the two digits to the right of the decimal place in the limit for maximum iron, 0.YY.

2.1.1 Each basic unalloyed aluminum designation is identified by the letter A following the numerical designation, i.e., PXXYYA.

2.1.2 Variations of a basic unalloyed aluminum, i.e., having the same individual silicon and iron limits but having different individual limits for elements other than silicon and iron are identified by substituting a serial letter in place of the letter A. The serial letters are assigned in alphabetical sequence starting with B but omitting I, O, and Q.

2.2 Maximum limits for the following, expressed as a mulitple of 0.01 percent are registered for each designation: Silicon; Iron; Other; Elements, Each; Other Elements, Total. Aluminum is specified as a remainder for unalloyed aluminum②. Maximum limits for individual elements other than silicon and iron may be registered③.

① Chemical composition limits and designations conforming to this standard may be registered with the Aluminum Association provided (a) the unalloyed aluminum is offered for sale currently and shall have been sold within the 12 months immediately preceding the date of registration request, in both cases in commercial quantities, (b) the complete chemical composition limits are registered, (c) the composition is different from that of any other unalloyed aluminum for which a designation already has been assigned.

② The aluminum content for unalloyed aluminum not made by a refining process is the difference between 100.00 percent and the sum of all the other analyzed metallic elements together with silicon present in the amounts of 0.010 percent or more each, expressed to the second decimal before determining the sum. For unalloyed aluminum not made by a refining process, when the specified maximum limit is 0.XX, an observed value or a calculated value greater than 0.005 but less than 0.010% is rounded off and shown as "less than 0.01."

③ Standard limits for impurities are expressed in the following sequence: Silicon; Iron; Zinc; Gallium; Vanadium (See Note 1); Other (See Note 2) Elements, Each; Other Elements, Total; Aluminum (See Note 3).

Note 1 - Additional specified elements having limits are inserted in alphabetical order by their chemical symbols between Vanadium and Other Elements, Each or are specified in footnotes.

Note 2 - "Others" includes listed elements for which no specific limit is shown as well as unlisted metallic elements. "Total" is the sum of those "Others" metallic elements 0.010 or more each, expressed to the second decimal before determining the sum. The producer may analyze samples for trace elements not specified in the registration or 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.

Note 3 - Aluminum is specified as "Remainder" for unalloyed aluminum.