

1626 - ALUMINUM ALLOYS

SECTION 1626

ALUMINUM ALLOYS

1626.1 DESCRIPTION

This specification governs wrought and cast aluminum alloys with associated welding practices and standards for products intended for applications other than sign fabrication.

1626.2 REQUIREMENTS

a. General. The products are to comply to the design, dimensions, requirement for supplemental corrosion protection, alloy and temper designation, and specific fabrication requirements as specified in the Contract Documents. Tolerances are designated in the Contract Documents or as specified by the applicable ASTM or other referenced standard. The alloys and tempering treatments are to be selected from **subsection 1626.2b** as a recommendation guideline. A selected alloy and treatment may be utilized as the final product listed in the guideline or as the base metal for the fabrication of other products. Other alloys and temper designations may be specified providing that the KDOT grants prior approval.

b. Material Specifications.

(1) Fasteners.

The threaded and non-threaded fastener components governed through **subsection 1627.2b(1)** are applicable for and subject to this subsection.

(2) General product classification.

Recommended aluminum alloys and tempering treatments according to general product classification. The specific alloy and temper designation selected is to be in accordance with the governing ASTM standard and contingent upon the intended application of the final product.

TABLE 1626-1: ALUMINUM ALLOYS	
Product Classification	Standard
Cast products	ASTM B 26
	ASTM B 108
	ASTM B 618
Alloys (cast): 356.0, A356.0, B443.0, A444.	
Temper designations: F, T4*, T51, T6, T61, T7, T71	
Sheet and plate products.	ASTM B 209
Alloys (wrought): 1100, 3003, 5083, 5456, 6061.	
Temper designations: H12, H14, H16, H116, H321, O, T6.	
Pipe and tubular products.	ASTM B 210
	ASTM B 241
Alloys (wrought): 6061, 6063.	
Temper designations: T6, T832.	
Bar, rod, wire, profiled (shaped), and tubular products.	ASTM B 211
	ASTM B 221
	ASTM B 316
Alloys (wrought): 1100, 5083, 5456, 6005, 6053, 6061, 6063, 6351.	
Temper designations: H111, O, T5, T6, T61.	
Structural profile, and structural pipe and tubular products.	ASTM B 308
	ASTM B 429
Alloys (wrought): 6061, 6063.	
Temper designations: T6.	

*Radiograph all products cast from alloy A444, temper designation T4, through ASTM B 108 to an acceptance level Grade C as a minimum and have a matte non-reflective surface finish texture

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(3) Welding of aluminum alloy products.

Welding is to be conducted according to the recommendations of the ASTM standard that governs the product or basis metal and in accordance with the specifications and recommended procedures and practices of ANSI/AWS A5.10 and D1.2.

1626.3 TEST METHODS

Conduct all tests required by the applicable ASTM or ANSI/AWS specification of **subsection 1626.2b**.

1626.4 PREQUALIFICATION

Not applicable.

1626.5 BASIS OF ACCEPTANCE

Receipt and approval of a Type B certification as specified in **DIVISION 2600**.

Inspection by field personnel of all products and components for compliance with dimensional and supplemental corrosion protection coating requirements when corrosion protection is specified, quality of workmanship and delivery condition.