



AEROSPACE MATERIAL SPECIFICATION

AMS-A-22771™

REV. D

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Superseding AMS-A-22771C

Aluminum Alloy Forgings, Heat Treated

RATIONALE

AMS-A-22771D stabilizes this document because it is no longer state of the art and other documents contain similar but not necessarily equivalent requirements.

STABILIZED NOTICE

AMS-A-22771D has been declared "STABILIZED" by SAE AMS Committee D Nonferrous Alloys. This document was stabilized because this document contains mature technology that is not expected to change and thus no further revisions are anticipated. Previously this document was revised. The last technical update of this document occurred in September, 2012. Users of this document should refer to the cognizant engineering organization for disposition of any issues with reports/certifications to this specification; including exceptions listed on the certification.

NOTE: In many cases, the purchaser may represent a sub tier supplier and not the cognizant engineering organization.

AMS Committee D recommends that the following similar but not identical specifications be used for the "STABILIZED" specification.

AMS4107	Aluminum Alloy Die Forgings (7050-T74) Solution Heat Treated and Overaged
AMS4108	Aluminum Alloy, Hand Forgings, 6.2Zn - 2.3Cu - 2.2Mg - 0.12Zr (7050-T7452) Solution Heat Treated, Compression Stress-Relieved, and Overaged
AMS4111	Aluminum Alloy Forgings, 7.7Zn - 2.5Mg - 1.5Cu - 0.16Cr (7049-T73), Solution and Precipitation Heat Treated
AMS4126	Aluminum Alloy, Die and Hand Forgings and Rolled Rings, 5.6Zn - 2.5Mg - 1.6Cu - 0.23Cr (7075-T6) Solution and Precipitation Heat Treated
AMS4127	Aluminum Alloy, Forgings and Rolled Or Forged Rings, (6061-T6) Solution and Precipitation Heat Treated
AMS4131	Aluminum Alloy, Die and Hand Forgings, 5.6Zn - 2.5Mg - 1.6Cu - 0.23Cr (7075-T74), Solution Heat Treated and Aged
AMS4132	Aluminum Alloy, Die and Hand Forgings, Rolled Rings, and Forging Stock, 2.3Cu - 1.6Mg - 1.1Fe - 1.0Ni - 0.18Si - 0.07Ti (2618-T61), Solution and Precipitation Heat Treated

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AMS-A-22771™D

AMS4133	Aluminum Alloy Forgings and Rolled Rings, 4.4Cu - 0.85Si - 0.80Mn - 0.50Mg (2014-T6), Solution and Precipitation Heat Treated
AMS4141	Aluminum Alloy Die Forgings, 5.6Zn - 2.5Mg - 1.6Cu - 0.23Cr (7075-T73), Solution and Precipitation Heat Treated
AMS4143	Aluminum Alloy Forgings and Rolled or Forged Rings, 6.3Cu - 0.30Mn - 0.18Zr - 0.10V - 0.06Ti (2219-T6), Solution and Precipitation Heat Treated
AMS4144	Aluminum Alloy, Hand Forgings and Rolled Rings, 6.3Cu - 0.30Mn - 0.18Zr - 0.10V - 0.06Ti (2219-T852/T851), Solution Heat Treated, Mechanically Stress Relieved, and Precipitation Heat Treated
AMS4147	Aluminum Alloy Forgings, 5.6Zn - 2.5Mg - 1.6Cu - 0.23Cr (7075-T7352) Solution Heat Treated, Stress Relieved by Compression, and Overaged
AMS4149	Aluminum Alloy, Die and Hand Forgings 5.6Zn - 2.5Mg - 1.6Cu - 0.23Cr (7175-T74) Solution and Precipitation Heat Treated
AMS4179	Aluminum Alloy Forgings 5.6Zn - 2.5Mg - 1.6Cu - 0.23Cr (7175-T7452) Solution Heat Treated, Stress Relieved, and Precipitation Heat Treated
AMS4247	Aluminum Alloy, Hand Forgings, 7.7Zn - 2.4Mg - 1.6Cu - 0.16Cr (7049-T7352) Solution Heat Treated, Stress Relieved by Compression, and Precipitation Heat Treated
AMS4248	Aluminum Alloy Hand Forgings and Rolled Rings, 1.0Mg - 0.60Si - 0.28Cu - 0.20Cr (6061-T652), Solution Heat Treated, Stress Relief Compressed, and Precipitation Heat Treated
AMS4310	Aluminum Alloy, Rolled or Forged Rings 5.6Zn - 2.5Mg - 1.6Cu - 0.23Cr (7075-T651, 7075-T652) Solution Heat Treated, Mechanically Stress Relieved and Precipitation Heat Treated
AMS4311	Aluminum Alloy, Rolled or Forged Rings, 5.6Zn - 2.5Mg - 1.6Cu - 0.23Cr (7075-T7351, 7075-T7352), Solution Heat Treated, Mechanically Stress Relieved, and Precipitation Heat Treated
AMS4312	Aluminum Alloy, Rolled or Forged Rings 1.0Mg - 0.60Si - 0.28Cu - 0.20Cr (6061-T651, 6061-T652) Solution Heat Treated, Mechanically Stress Relieved and Precipitation Heat Treated
AMS4314	Aluminum Alloy, Rings, Rolled Or Forged 4.5Cu - 0.85Si - 0.80Mn - 0.50Mg (2014-T651, 2014-T652) Solution Heat Treated, Mechanically Stress Relieved and Precipitation Heat Treated
AMS4323	Aluminum Alloy, Hand Forgings 5.6Zn - 2.5Mg - 1.6Cu - 0.23Cr (7075-T7452) Solution Heat Treated, Stress Relieved, and Precipitation Heat Treated

NOTICE

The initial SAE publication of this document was taken directly from U.S. Military Standard MIL-A-22771D. This SAE Standard may retain the same part numbers established by the original military document. Any requirements associated with Qualified Products Lists (QPL) may continue to be mandatory for DoD contracts. Requirements relating to QPLs have not been adopted by the SAE for this standard and are not part of this SAE document.

1. SCOPE

This specification has previously been widely used and may be required for production or processing of existing designs in the future. The Aerospace Materials Division, however, does not recommend this specification for future use in new designs (See 6.7).

1.1 Scope

This specification covers the requirements for heat treated aluminum alloy die forgings, hand forgings, and ring forgings, produced under additional mechanical property control to ensure known mechanical properties for parts used in aerospace critical applications. This specification also covers the requirements for forgings furnished in the F or O1 conditions which will ultimately be used in the heat treated condition.

1.2 Classification

The aluminum alloy forgings shall be furnished in the following alloys, tempers, and forms, as specified (See 6.2.):

1.2.1 Alloys and Tempers

2014-F, O1, T6, T652	6061-F, O1, T6, T652	7049-F, O1, T73, T7352
2219-F, O1, T6, T852	6151-F, O1, T6, T652	7050-F, O1, T74, T7452
2618-F, O1, T61		7075-F, O1, T6, T652, T73, T7352, T74, T7452
		7175-F, O1, T74, T7452, T7454