



SURFACE VEHICLE STANDARD

J462™

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Cast Copper Alloys

RATIONALE

The technical report covers technology, products, or processes which are mature and not likely to change in the foreseeable future.

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Foreword—This Document has also changed to with the new SAE Technical Standards Board Format. References have been added as Section 2.

1. Scope—This standard prescribes the chemical and mechanical requirements for a wide range of copper base casting alloys used in the automotive industry. It is not intended to cover ingot. (ASTM B30 is suggested for this purpose.)

2. References

2.1 Applicable Publications—The following publications form a part of the specification to the extent specified herein. Unless otherwise indicated the latest revision of SAE publications shall apply.

2.1.1 SAE PUBLICATION—Available from SAE, 400 Commonwealth Drive, Warrendale, PA 15096-0001.

SAE J461—Wrought and Cast Copper Alloys

2.1.2 ASTM PUBLICATIONS—Available from ASTM, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959.

ASTM B30—Specification for Copper-Base Alloys in Ingot Form

ASTM B148—Specification for Aluminum-Bronze Castings

ASTM B176—Specification for Copper Alloy Die Castings

ASTM B208—Practice for Preparing Tension Test Specimens for Copper-Base Alloys for Sand, Permanent Mold, Centrifugal, and Continuous Castings

ASTM B271—Specification for Copper-Base Alloy Centrifugal Castings

ASTM B369—Specification for Copper-Nickel Alloy Castings

ASTM B427—Specification for Gear Bronze Alloy Castings

ASTM B505—Specification for Copper-Base Alloy Continuous Castings

ASTM B584—Specification for Copper Alloy Sand Castings for General Applications

3. **Chemical and Mechanical Properties**—The chemical composition and mechanical properties of products identified by UNS designations shall conform to the limits shown in Tables 1 and 2. Chemical analyses obtained by use of instruments, such as spectrograph, x-ray, and atomic absorption, the copper (%) may be reported as “calculated by difference.” Mechanical property values are applicable to standard specimens (Sand Cast ASTM B208, Centrifugal Cast ASTM B271, Continuous Cast ASTM B505) cast under production conditions used for casting the part(s) identified by the UNS designation. Samples for chemical analysis should be taken from test bars where practical to do so.
4. **Workmanship**—Castings shall be of uniform quality, free from blowholes, porosity, hard spots, shrinkage defects or cracks, or other injurious defects.