



## Designation: **A597 – 87 (Reapproved 2010) A597/A597M – 14**

# Standard Specification for Cast Tool Steel<sup>1</sup>

This standard is issued under the fixed designation ~~A597~~; **A597/A597M**; 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 ( $\epsilon$ ) indicates an editorial change since the last revision or reapproval.

*This standard has been approved for use by agencies of the U.S. Department of Defense.*

### 1. Scope-~~Scope~~\*

1.1 ~~This specification covers tool steel compositions for usable shapes cast by pouring directly into suitable molds and for master heats for remelting and casting. Castings having chemical compositions similar to those of the standard wrought grades.~~

~~NOTE 1—A master heat is defined as any single heat of steel of certified analysis which has been processed into suitable form (shot, ingot, etc.) for remelting. A uniform blend of master heats is also acceptable for remelting. This blend is defined as a master heat lot and its average chemical composition shall be certified.~~

1.2 ~~Several grades are covered and are designated by chemical composition shown in Table 1.~~

1.3 ~~Nine grades, CA-2, CD-2, CD-5, CM-2, CS-5, CS-7, CH-12, CH-13, and CO-1, are covered in this specification. The values stated in either SI units or inch-pound units are to be regarded separately as standard. Within the text, the SI units are shown in brackets. The~~

~~NOTE 2—The committee formulating this specification has included air- and oil-hardening grades of tool steel that have been extensively used. Other compositions will be considered for inclusion as the need arises. values stated in each system may not be exact equivalents; therefore, each system shall be used independently of the other. Combining values from the two systems may result in nonconformance with the standard. Inch-pound units are applicable to material ordered to Specification A597 and SI units for material ordered to A597M.~~

### 2. Referenced Documents

2.1 *ASTM Standards:*<sup>2</sup>

~~A751/A781/A781M Test Methods, Practices, and Terminology for Chemical Analysis of Steel Products~~[Specification for Castings, Steel and Alloy, Common Requirements, for General Industrial Use](#)

~~A59A957/A957M Practice~~[Specification for Sampling Investment Castings, Steel and Iron for Determination of Chemical Composition Alloy, Common Requirements, for General Industrial Use](#) (Withdrawn 1996)

### 3. General Conditions for Delivery

3.1 ~~Except for investment castings, material furnished to this specification shall conform to the requirements of Specification A781/A781M, including any supplementary requirements that are indicated in the purchase order. Failure to comply with the general requirements of Specification A781/A781M constitutes nonconformance with this specification. In case of conflict between the requirements of this specification and Specification A781/A781M, this specification shall prevail.~~

3.2 ~~Investment castings furnished to this specification shall conform to the requirements of Specification A957/A957M, including any supplementary requirements that are indicated in the purchase order. Failure to comply with the general requirements of Specification A957/A957M constitutes nonconformance with this specification. In the case of conflict between the requirements of this specification and Specification A957/A957M, Specification A957/A957M shall prevail.~~

### 4. Ordering Information

4.1 ~~Purchase orders shall~~ Orders for material under this specification should include the following ~~information to describe the desired material:~~ information:

4.1.1 ~~ASTM specification number and date of issue,~~ Quantity,

<sup>1</sup> This specification is under the jurisdiction of ASTM Committee A01 on Steel, Stainless Steel and Related Alloys and is the direct responsibility of Subcommittee A01.29 on Tool Steels.

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<sup>2</sup> 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