



STANDARD SPECIFICATIONS
 FOR
 YELLOW BRASS SAND CASTINGS
 FOR GENERAL PURPOSES¹

A.S.T.M. Designation: B 65 - 28

These specifications are issued under the fixed designation B 65; the final number indicates the year of original adoption as standard or, in the case of revision, the year of last revision.

ISSUED AS TENTATIVE, 1927; ADOPTED, 1928.

Scope. 1. These specifications cover castings made from one of the many yellow brasses commonly used for a wide variety of castings.

MANUFACTURE

Process. 2. (a) The alloy may be made by any approved method.
 (b) The castings shall be of uniform quality.

CHEMICAL PROPERTIES AND TESTS

Chemical Composition. 3. (a) The alloy shall conform to the following requirements as to chemical composition:

	DESIRED	MINIMUM	MAXIMUM
Copper, per cent.	63.5	62.0	67.0
Tin, per cent.	none	none	1.0
Lead, per cent.	2.5	1.5	3.5
Zinc, per cent.	34.0	remainder	remainder
Iron, per cent.	none	....	0.75
Nickel, per cent.	none	....	0.25
Phosphorus, per cent.	none	....	0.03
Aluminum, per cent.	none	....	0.3
Sulfur, per cent.	none	....	0.05
Antimony, per cent.	none	....	0.15
Total other impurities, per cent.	none	....	0.15

(b) Where "none" is specified it shall be construed to refer to none as determined on a 10-g. sample.

Chemical Analysis. 4. (a) An analysis of each melt may be made at the option of the purchaser and at his own expense.

¹ Under the standardization procedure of the Society, these specifications are under the jurisdiction of the A.S.T.M. Committee B-5 on Copper and Copper Alloys, Cast and Wrought.

(b) The sample for chemical analysis shall be taken from cuttings from the test bars.

PHYSICAL PROPERTIES AND TESTS

5. (a) Where desired by the purchaser and so specified in the contract or purchase order, the alloy shall conform to the following minimum requirements as to tensile properties: Physical Requirements.

Tensile strength, lb. per sq. in.	20 000
Elongation in 2 in., per cent.	15

(b) Where physical requirements are not specified in the contract or purchase order, a fracture of the test specimens shall be made and the fractured surface shall indicate the soundness and uniformity of the metal upon examination with the naked eye. If the test bars

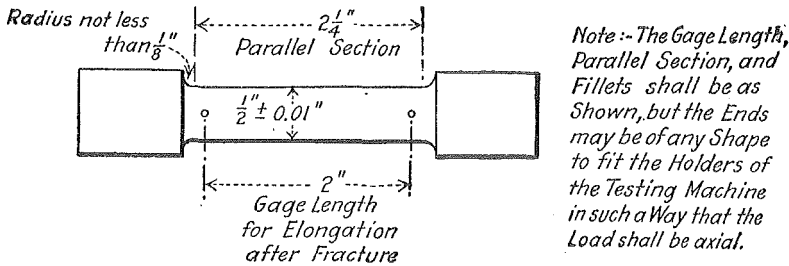


FIG. 1.—Tension Test Specimen.

do not indicate a uniform soundness and quality of metal, the castings may be rejected.

6. (a) The tension test specimen shall be machined from coupons to the dimensions shown in Fig. 1. The ends shall be of a form to fit the holders of the testing machine in such a way that the load shall be axial. Tension Test Specimens.

(b) The coupon attached to the casting shall be in accordance with the dimensions shown in Fig. 2. The fin gate along the side shall be not less than $\frac{5}{16}$ in. in thickness at any point along its length.

7. (a) Each casting weighing 250 lb. or more shall have, if practicable, at least one test coupon attached. The responsibility of furnishing sufficient test specimens shall rest with the manufacturer. Number of Tests.

(b) In the case of castings weighing less than 250 lb. each, at least one test coupon shall, if practicable, be attached to one or more castings from each melt or heat or from such groups of melts or heats as the purchaser may specify, but in no case shall a lot consist of more than 1000 lb of castings.