

4.3 Heat Treatment: All castings and tensile test specimens representing them shall be heat treated as follows:

4.3.1 Tensile test specimens from each lot, together with production castings, shall be heated to the proper temperature and for the proper time for solution treatment and quenched at a rate not faster than that produced by immersion in water which is boiling at the time of immersion. At least one set of tensile test specimens shall be put into a batch-type furnace with each load of castings or into a continuous furnace at intervals of not longer than 3 hours.

4.4 Tensile Properties:

4.4.1 Tensile Test Specimens:

Tensile Strength, psi	33,000 min
Elongation, % in 2 in.	4.5 min

4.4.2 Tensile Properties of Castings: When tensile properties of actual castings are determined for acceptance, not less than 4, and preferably 10, tensile test specimens shall be cut from thick and thin sections. The average value of all specimens selected shall conform to the following:

Tensile Strength, psi	24,750 min
Elongation (Round Specimens), % in 4D	1.2 min

4.4.2.1 Conformance to these requirements may be used as basis for acceptance of castings.

4.5 Hardness of Castings: Except at sprues and risers, the castings shall have hardness of Brinell 65-90 using 500 kg load and 10 mm ball or 1000 kg load and 9/16 in. ball, or Brinell 70-95 using 1000 kg load and 10 mm ball.

4.6 Castings shall not be rejected for high hardness or low elongation if tests are conducted more than 96 hr after solution heat treatment.

5. QUALITY:

5.1 Castings shall be uniform in quality and condition, sound, and free from foreign materials and from internal and external defects detrimental to fabrication or to performance of parts. Castings shall have smooth surfaces and shall be well cleaned.

5.2 Radiographic and other quality standards shall be as agreed upon by purchaser and vendor.

5.3 Unless otherwise specified, castings shall be produced under radiographic control. This shall consist of radiographic examination of castings until proper foundry technique, which will produce castings free from harmful internal defects, is established for each mold, and of production castings as necessary to ensure maintenance of satisfactory quality.

5.4 Castings shall not be repaired by plugging, welding, or other methods, without written permission from purchaser.