

ASTM - A213/A213M
Standard Specification for
Seamless Ferritic and Austenitic Alloy-Steel Boiler, Superheater, and
Heat-Exchanger Tubes

This specification covers seamless ferritic and austenitic steel boiler, superheater, and heat-exchanger tubes.

The tubing sizes and thicknesses usually furnished to this specification are 1/8 in. [3.2 mm] in inside diameter to 5 in. [127 mm] in outside diameter and 0.015 to 0.500 in. [0.4 to 12.7 mm], inclusive, in minimum wall thickness or, if specified in the order, average wall thickness.

Tubing having other diameters may be furnished, provided such tubes comply with all other requirements of this specification.

A. Manufacture :-

1. Tubes shall be made by the seamless process and shall be either hot finished or cold finished, as specified.

B. Heat Treatment :-

1. Ferritic Alloy and Ferritic Stainless Steels :-
 - i. The ferritic alloy and ferritic stainless steels shall be reheated for heat treatment in accordance with the requirements of Table 1.
2. Austenitic Stainless Steels :-
 - i. All austenitic tubes shall be furnished in the heat-treated condition, and shall be heat treated in accordance with the requirements of Table 3.
 - ii. Other than for Grades S30815, S30942, S31272, S33228, and H Grades, seamless tubing immediately following hot forming may be individually quenched in the water or rapidly cooled by other means, provided that the temperature of the tubes after hot forming is not less than the minimum specified solution temperature.
 - iii. For H grades, as well as Grades S30815, S30942, S31272, S33228, and S30432, the tubes shall be reheated to the specified solution treatment temperature for the required time before quenching.