7.2 Samples cut from bars for forging stock shall conform to the mechanical properties of Table 2 and Table 4 when heat treated as specified in Table 2 and Table 4.

7.3 The yield strength shall be determined by the offset method as described in the current edition of Test Methods and Definitions A370. The limiting permanent offset shall be 0.2 % of the gauge length of the specimen.

7.4 The impact requirement shall apply only when specified in the purchase order. When specified, the material, as represented by impact test specimens, shall be capable of developing the impact property requirements specified in Table 4 when heat treated in accordance with 5.1.

7.5 Longitudinal impact requirements are not applicable to bars less than ⅝ in. (16.9 mm) diameter or size or flats less than ⅝ in. (16.9 mm) thick.

7.6 Tensile and impact requirements in the transverse (through thickness) direction are not applicable to bars less than 3 in. [75 mm] diameter in size or flats less than 3 in. [75 mm] thick.

7.7 Material tensile tested and, when specified, impact tested in the transverse (through thickness) direction and meeting the requirements shown in Table 4 need not be tested in the longitudinal direction.

8. Number of Tests

8.1 At least one room temperature tension test and one or more hardness tests shall be made on each lot.

8.2 One or more hardness tests and at least one tension test shall be made from each lot on test samples heat treated as required in . Unless otherwise specified in the purchase order, the condition of hardening heat treatment shall be at the option of the producer. The tests shall meet the requirements of Table 4.

8.3 When specified in the purchase order, the impact test shall consist of testing three Charpy V-notch Type A specimens in accordance with Methods and Definitions A370. The specimens shall be heat treated in accordance with 5.1. Unless otherwise specified in the purchase order, the condition of hardening heat treatment shall be at the option of the producer and testing shall be done at 70 to 80 °F [20 to 25 °C]. The tests shall meet the requirements of Table 4. When tested at temperatures other than 70 to 80 °F, [20 to 25 °C] the impact test requirements will be as agreed upon by purchaser and producer.

9. Keywords

9.1 age-hardening stainless steel; precipitation hardening stainless steel; stainless steel bars; stainless steel shapes

SUMMARY OF CHANGES

Committee A01 has identified the location of selected changes to this standard since the last issue (A564/A564M – 19) that may impact the use of this standard. (Approved Sept. 1, 2019.)

(1) Revised Tables 2-4 and subsection 5.1.2.

Committee A01 has identified the location of selected changes to this standard since the last issue (A564/A564M – 13$^{\varepsilon 1}$) that may impact the use of this standard. (Approved May 1, 2019.)

(1) Changed "Columbium plus tantalum" to "Niobium" in Table 1.

(2) Added footnote to Table 1 stating that Niobium and Columbium are the same element.