



Standard Specification for Steel Sheet and Strip, High-Strength, Low-Alloy, Hot-Rolled, and Steel Sheet, Cold-Rolled, High-Strength, Low-Alloy, with Improved Formability¹

This standard is issued under the fixed designation A 715; 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 (ε) indicates an editorial change since the last revision or reapproval.

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

1. Scope

1.1 This specification covers high-strength, low-alloy, hot-rolled steel sheet and strip and cold-rolled sheet having improved formability when compared with steels covered by Specifications A 606 and A 607. The product is furnished as either cut lengths or coils and is available in four-strength levels, Grades 50, 60, 70, and 80 (corresponding to minimum yield strength (see Table 1)). The steel is killed, made to a fine grain practice, and includes microalloying elements such as columbium, titanium, vanadium, zirconium, etc. The steel may be treated to achieve inclusion control. The product is intended for structural and miscellaneous applications where higher strength, savings in weight, improved formability, and weldability are important.

1.2 The values stated in inch-pound units are to be regarded as the standard.

2. Referenced Documents

2.1 ASTM Standards:

- A 568/A568M Specification for Steel, Sheet, Carbon, and High-Strength, Low-Alloy, Hot-Rolled and Cold-Rolled, General Requirements for²
- A 606 Specification for Steel, Sheet and Strip, High-Strength, Low-Alloy, Hot-Rolled and Cold-Rolled, with Improved Atmospheric Corrosion Resistance²
- A 607 Specification for Steel, Sheet and Strip, High-Strength, Low-Alloy, Columbium or Vanadium, or Both, Hot-Rolled and Cold-Rolled²
- A 749/A749M Specification for Steel, Strip, Carbon and High-Strength, Low-Alloy, Hot-Rolled, General Requirements for²

3. Ordering Information

3.1 Orders for material under this specification shall include

¹ This specification is under the jurisdiction of ASTM Committee A-1 on Steel, Stainless Steel and Related Alloys, and is the direct responsibility of Subcommittee A01.19 on Steel Sheet and Strip.

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² Annual Book of ASTM Standards, Vol 01.03.

TABLE 1 Tensile Requirements^A

	Grade 50	Grade 60	Grade 70	Grade 80
Yield strength, min, ksi (MPa)	50 (345)	60 (415)	70 (485)	80 (550)
Tensile strength, min, ksi (MPa)	60 (415)	70 (485)	80 (550)	90 (620)
Elongation in 2 in. or 50 mm, min, % for thickness:				
Hot Rolled				
Over 0.097 in. (2.46 mm)	24.0	22.0	20.0	18.0
Up to 0.097 in. (2.46 mm), incl	22.0	20.0	18.0	16.0
Cold Rolled	22.0	18.0	16.0	14.0

^A For coil products, testing by the producer is limited to the end of the coil. Results of such tests must comply with the specified values. Tensile properties throughout the balance of the coil must not be less than 90 % of the minimum values specified.

the following information, as required, to describe adequately the desired material:

- 3.1.1 ASTM designation number and year of issue,
- 3.1.2 Grade (see Table 2),
- 3.1.3 Name of material (hot-rolled high-strength low-alloy steel sheet or strip, or cold-rolled sheet),
- 3.1.4 Condition (material to this specification is furnished in the hot-rolled condition. Pickled, or blast cleaned, must be specified if required. Material so ordered will be oiled unless ordered “not oiled” (see 8.1 and 8.2)). For cold-rolled, indicate exposed (*E*) or unexposed (*U*). Matte dull finish will be supplied unless otherwise specified,
- 3.1.5 Edges (see 8.3), and
- 3.1.6 Dimensions (thickness, width, and length for cut lengths, or thickness and width for coils).
 - 3.1.6.1 As agreed upon between the purchaser and the producer, material ordered to this specification will be supplied to meet the appropriate standard or restricted thickness tolerance table shown in Specification A 568/A 568M.

NOTE 1—Not all producers are capable of meeting all of the limitations of the thickness tolerance tables in Specification A 568/A 568M. The purchaser should contact the producer regarding possible limitations prior to placing an order.

- 3.1.7 Coil size and weight requirements (must include inside diameter, outside diameter, and maximum weight),
- 3.1.8 Application (part identification and description), and
- 3.1.9 Special requirements (if required).