ASTM A242

General Product Description

The ASTM A242 specification is the Standard Specification for High-Strength Low- Alloy Structural Steel for structural members where weight savings and atmospheric corrosion resistance are important. Mechanical property requirements are specified by product type (Plates and Bars, and Structural Shapes) and by thickness. The required ASTM G101 Corrosion Resistance Index must be ≥ 6.0.

Dimensions

Grade	Product Type	Thickness (Inches)	Width (Inches)	Length (Inches)
A242	Mill Plate	0.250 - 0.750	72 - 120[1)]	120 - 1020[1)]
A242	Temper Leveled Plate [2)]	0.100 - 0.625	48 - 96	72 - 1020
	Coil for Conversion To[3)]	0.188 - 0.500[4)]	60 - 96[4)]	

[1)] Please inquire for plate thicknesses less than 0.250 inches, plate widths less than 72 inches and for widths greater than 120 inches, and for plate lengths less than 240 inches and greater than 1020 inches.

[2)] SSAB's Cut-To-Length facilities use the temper leveled coil (TLC) process to produce temper leveled plate products. For additional information concerning our temper leveling process, please refer to our SSAB Americas: North American Cut-to-Length Operations brochure located under the Downloads section of our Commercial Steels Overview page.

[3)] Coils are excluded from qualification to this specification until they are processed into a finished plate product and all required processing, inspections, and testing are performed. Coils For Conversion To product will be certified to chemistry only. Coils will be subject to availability, so please inquire.

[4)] Please inquire for coil thicknesses greater than 0.500 inches and for coil widths less than 72 inches and greater than 96 inches. Slitting capabilities are determined by strength levels and thicknesses, so please inquire all slit coil opportunities.

Mechanical Properties

Tensile testing is performed in the tranverse direction. The required tensile properties are tabulated below:

Grade	Thickness (Inches)	Yield Strength (ksi)	Tensile Strength (ksi)	Elongation in 2" [1)] (min %)	Elongation in 8" [1)] (min %)
A242	0.100 - 0.750	50	70	21	18

[1)] For plates wider than 24 in., the elongation requirement is reduced two percentage points. Additional elongation requirement adjustments are allowed per the Tension Tests section of Specification ASTM A6.

Tolerances

Tolerances for Mill Plate:

Thickness, width and length tolerances for A242 plates are in accordance with ASTM A6. ASTM A6 Half-Standard Flatness tolerances are available for plate thicknesses of 3/8 inches to 3/4 inches. Inquire for specific mill flatness capabilities.

Tolerances for Temper Leveled Plate:

Thickness, width and length tolerances for A242 plates are in accordance with ASTM A6. ASTM A6 Half-Standard Flatness tolerances or better are available for temper leveled plates. Flatness capabilities are determined by the processing line and the minimum yield strength of the material.

Tolerances for Coils for Conversion To:

For minimum gauge orders, thickness and width tolerances are in accordance with the respective ASTM specifications of A568 for thicknesses of less than 0.230 inches(exclusive), and A635 for thicknesses of 0.230 inches to 1.00 inch, inclusive. Thickness tolerances are in accordance with Table S1.1 found in each of the ASTM specifications of A635 and A568, respective of thickness. Width tolerances are in accordance with Table 6 of ASTM A568 and Table 3 of ASTM A635. Thickness tolerances for nominal gauge orders must be inquired.

All tolerances will be confirmed to the customer via SSAB's Order Acknowledgement document.

Contact Information

www.ssab.com/contact