

## ASTM A283/A283M Standard Specification for Low and Intermediate Tensile Strength Carbon Steel Plates



ASTM A283/A283M standard specification covers four grades of carbon steel plates of structural quality for general application. Steel samples shall be melt processed by either open-hearth, basic-oxygen, or electric furnace. ASTM A283/A283M Standard main steel grade: ASTM A283 Grade A,B,C,D(A283GRA,A283GRB,A283GRC,A283GRD)

Standard: ASTM A283  
Grade : ASTM A283 Gr A, B, C, D

Thickness : 8mm-500mm  
Width : 1000mm-4000mm  
Length : 1000mm-20000mm

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MOQ: 1 PC  
 Product type : Steel plate  
 Delivery time : Promptly ( Stock) or 10-40 days (Production)  
 Stock : Available  
 MTC: Available

Delivery condition: AR

TABLE 1  
CHEMICAL REQUIREMENTS

Elements	Heat Analysis, %			
	Grade A	Grade B	Grade C	Grade D
Carbon, max	0.14	0.17	0.24	0.27
Manganese, max	0.90	0.90	0.90	0.90
Phosphorus, max	0.035	0.035	0.035	0.035
Sulfur, max	0.04	0.04	0.04	0.04
Silicon				
Plates 1½ in. [40 mm] and under, max	0.40	0.40	0.40	0.40
Plates over 1½ in. [40 mm]	0.15-0.40	0.15-0.40	0.15-0.40	0.15-0.40
Copper, min % when copper is specified	0.20	0.20	0.20	0.20

TABLE 2  
TENSILE REQUIREMENTS<sup>A</sup>

	Grade A	Grade B	Grade C	Grade D
Tensile strength, ksi [MPa]	45-60 [310-415]	50-65 [345-450]	55-75 [380-515]	60-80 [415-550]
Yield point, min, ksi [MPa]	24 [165]	27 [185]	30 [205]	33 [230]
Elongation in 8 in. [200 mm], min, % <sup>B</sup>	27	25	22	20
Elongation in 2 in. [50 mm], min, % <sup>B</sup>	30	28	25	23

<sup>A</sup> See Specimen Orientation under the Tension Tests section of Specification A6/A 6M.

<sup>B</sup> For plates wider than 24 in. [600 mm], the elongation requirement is reduced two percentage points. See elongation requirement adjustments in the Tension Tests section of Specification A 6/A 6M.

**A283GRB carbon steel** is often rolled into **steel bars** or **round steel**, square steel, [flat steel](#), angle steel, I-beam, channel steel, window frame steel and other steel, medium thick steel plate. A large number of use of construction and engineering structures. It is used to make steel bars or to build factory house frames, high-voltage transmission towers, bridges, vehicles, boilers, containers, ships, etc., and is also used as a mechanical part that does not require high performance. C, D grade steel can also be used for some professional steel.

Low strength, high plasticity, good weldability, used to make rivets, anchor bolts, furnace supports, plow boards, and welds and stampings with little force.

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