

A36 Requirements

CHEMICAL REQUIREMENTS

Product	Shapes*	Plates					Bars			
		To 3/8 in. incl.	Over 3/8 to 1 1/2 in. incl.	Over 1 1/2 to 2 1/2 in. incl.	Over 2 1/2 to 4 in. incl.	Over 4 in.	To 3/8 in. incl.	Over 3/8 to 1 1/2 in. incl.	Over 1 1/2 to 4 in. incl.	Over 4 in.
Thickness	All									
Carbon, max. %	0.26	0.25	0.25	0.26	0.27	0.29	0.26	0.27	0.28	0.2
Manganese, %			0.80 to 1.20	0.80 to 1.20	0.85 to 1.20	0.85 to 1.20		0.60 to 0.90	0.60 to 0.90	0.60 to 0.90
Phosphorus, max. %	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
Sulfur, max. %	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Silicon, %				0.15 to 0.30	0.15 to 0.30	0.15 to 0.30				
Copper, min. %, (when copper steel is specified.)	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20

*Manganese content of 0.85 to 1.35 % and silicon content of 0.15 to 0.30 % is required for shapes over 426 lb./ft.

TENSILE REQUIREMENTS

Plates, Shapes^A, and Bars	
Tensile strength, psi	58,000-80,000
Yield point, min. psi	36,000 ^B
Plates and Bars	
Elongation in 8 in. min. %	20 ^C
Elongation in 2 in. min. %	23
Shapes	
Elongation in 8 in. min. %	20 ^C
Elongation in 2 in. min. %	21 ^A

^AFor wide flange shapes over 426 lb./ft. tensile strength minimum of 58,000 only and elongation in 2 in. of 19 % minimum applies.

^BYield point 32,000 psi for plates over 8 in. in thickness.

^CSee Section 7(c) ASTM manual.

PLATE WEIGHT FORMULA

Length(Ft.) x Width(Ft.) x Wt. Sq.

Ft. = Wt./Plate or .2836 x Length

(Inches) x Width(Inches) x Thickness

= Wt. of One Plate