



Impact 100-160K Plate

Product and Application

Steel plate heat treated to various strength levels while retaining good toughness. Product is intended for use in applications requiring a combination of high strength, weldability, and toughness.

Mechanical Properties

Minimum Yield Strength @ .2%	Minimum Tensile Strength	Elongation (typical)	Reduction of Area (typical)	Charpy Impacts @ -40F (-40C) (typical)
100 ksi (689 MPa)		18.5%	58%	20 ft-lbs (27.1 J)
110 ksi (758MPa)		17%	56%	19 ft-lbs (25.8 J)
120 ksi (827 MPa)	Yield	16%	54%	18 ft-lbs (24.4 J)
130 ksi (896 MPa)	Minimum +	15%	52%	17 ft-lbs (23.0 J)
140 ksi (965MPa)	10 KSI (69	13.5%	50%	16 ft-lbs (21.7 J)
150 ksi (1034 MPa)	MPa)	12%	47%	15 ft-lbs (20.3 J)
160 ksi (1103 MPa)		11%	44%	14 ft-lbs (19.0 J)

- Different Charpy Impact test temperatures may be specified, with minimum values subject to negotiation
- Mechanical tests in accordance with ASTM A370, latest revision
- Tensile and Charpy Impact tests per heat/heat treat lot, hardness taken on each plate

Chemical Composition

	C	Mn	P	S	Si	Cu	Ni	Cr	Mo	Cb+V	CE,* Max	CE, typical
Max	0.23	1.60	0.020	0.020	0.40	0.50	0.50	0.70	0.50	0.100	0.63	.52-.59

*Carbon Equivalency using the following formula: C.E. = C + Mn/6 + (Cr+Mo+V)/5 + (Ni+Cu)/15

Tolerances

This steel can be welded by conventional processes such as SMAW, SAW and GMAW provided that the weld procedures used are suitable for this grade and the intended service of the steel. Proper weld procedures should include the following:

Recommended Welding Practices*

1. Low Hydrogen conditions must be used.
2. Preheating to 200-500° F (93 – 260° C) is required for heavy sections, (>0.750"), and recommended for thinner sections to eliminate moisture.
3. Slow cooling rates should be avoided to prevent low toughness in the HAZ.

* These statements are general guidelines. CMC Impact Metals is not responsible for the results of any welding work performed.

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