TruWEAR AR400F Plate

Product and Application

TruWEAR AR400F plate provides excellent properties in abrasion resistance, hardness and toughness. This quenched and tempered product excels in downstream fabrication processes like bending, laser cutting and plasma cutting. This product is used widely in mining, asphalt, concrete, aggregate, dump bodies, truck trailer and various other industries.

Available in thicknesses up to 0.500”, widths up to 60” and lengths up to 288”.

Mechanical Properties

Surface Hardness	370 - 430 HBW (aim 400 HBW)
Yield Strength	175 ksi (1206 MPa)
Tensile Strength	190 ksi (1310 MPa)
Charpy Impacts (@ -40° F)	37 ft-lbs (50.2 J) longitudinal, 25 ft-lbs (34.0 J) transverse
Bend Radius	0.315” (8 mm) or less use 3T (transverse), 2.5T (longitudinal). Thicker than 0.315” (8 mm) use 3.5T (transverse), 3T (longitudinal). Larger bend radius recommended for thicker plates.

Typical mechanical testing values other than Brinell hardness listed for information only and are not performed unless specified at time of order. Charpy Impact specimens, when performed, are subsize on thicknesses < 0.375”. Charpy Impact values listed are adjusted to full size equivalent. Hardness tested on each plate, but not reported. 90% through hardness.

Dimensional Tolerances

Flatness	Flatness tolerances meet 1/2 of ASTM A6, Table 14, latest revision. TruFLAT tolerance of 1/4 ASTM A6 for 0.300” and thinner.
Thickness	+/- 0.012” to nominal thickness
Length and Width	Length and width tolerances meet ASTM A6, latest revision

TRUFLAT™

Chemical Composition

	C	Mn	P	S	Si	Cu	Ni	Cr	Mo
Max	0.24	1.60	0.020	0.015	0.34	0.25	0.45	0.65	0.30

CEV (typical):	0.58	CEV = C + Mn/6 + (Cr+Mo+V)/5 + (Ni+Cu)/15
CET (typical):	0.40	CET = C + (Mn+Mo)/10 + (Cr+Cu)/20 + Ni/40
CEq (typical):	0.39	CEq = C + Si/25 + (Mn+Cu)/16 + Ni/40 + Cr/10 + Mo/15 + V/10

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AR400F Plate

Fabrication, Bending, Post-Delivery Heating and Welding

Bending	Free bending should be performed utilizing maximum allowable bend radius to prevent cracking. TruWEAR AR400F plates 0.315” (8 mm) thick and less can be bent using a transverse radius of 3T and a longitudinal radius of 2.5T. TruWEAR AR400F plates thicker than 0.315” (8 mm) can be bent using a transverse radius of 3.5T and a longitudinal radius of 3T. Larger bend radius is recommended for thicker plates. Transverse radius is the bend line parallel to rolling direction.
Post-Delivery Heating	TruWEAR AR400F plate achieves its properties through quenching and tempering processes. Heating in fabrication (such as post-weld stress relieving) or in service must not exceed 400° F without risk of lowering the strength and hardness of the material.
Welding	TruWEAR AR400F plate can be welded by conventional processes such as SMAW, SAW and GMAW, provided that the weld procedures used are suitable for this grade and design of the welded structure, using low hydrogen conditions.

*These statements are general guidelines. CMC Impact Metals is not responsible for the results of any welding work performed. Contact your CMC Impact Metals representative to receive more detailed technical information about any fabrication or machining processes.

Standard Delivery Conditions

Surface Finish	Shot blasting and rust preventative applications are available. Please inquire.
Test Reports	Supplied with shipment for each production lot in the shipment. Reports include product description, heat number, chemical analysis and Brinell hardness value.

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