

Product and Application

TruWEAR AR235F plate provides excellent properties in mild abrasion resistance, hardness and toughness. This 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. TruWEAR AR235F is a lower carbon alternative (mild steel) to similar grade higher carbon (medium carbon) plate products. Through microalloying, TruWEAR AR235F possesses equivalent tensile strength, hardness, and abrasion resistance while promoting enhanced ductility, toughness, weldability, and machineability.

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

Mechanical Properties

Surface Hardness (nominal)	235 HBW
Yield Strength	70 ksi (483 MPa)
Tensile Strength	100 ksi (689 MPa)
Bend Radius	2T (transverse). Larger bend radius recommended for thicker plates.

Typical mechanical testing values listed. Mechanical testing is not performed unless specified at time of order. 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				

Fabrication, Bending, Post-Delivery Heating and Welding

- Bending** Free bending should be performed utilizing maximum allowable bend radius to prevent cracking. TruWEAR AR235F plates can be bent using a transverse radius of 2T. Larger bend radius is recommended for thicker plates. Transverse radius is the bend line parallel to rolling direction.
- Welding** TruWEAR AR235F 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.

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 and chemical analysis.