

## Product and Application

TruWEAR AR550 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 and various other industries.

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

## Mechanical Properties

|                           |                             |
|---------------------------|-----------------------------|
| Surface Hardness          | 525 - 570 HBW (aim 550 HBW) |
| Yield Strength            | 220 ksi (1516 MPa)          |
| Tensile Strength          | 265 ksi (1827 MPa)          |
| Charpy Impacts (@ -40° F) | 18 ft-lbs (24.4 J)          |

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            | 0.35 | 1.20 | 0.020  | 0.015 | 0.45 | 0.25 | 0.80 | 0.75 | 0.55 |
| CE* (typical): | 0.70 |      | *Carbon Equivalency calculated using the following formula:<br>CEV = C + Mn/6 + (Cr+Mo+V)/5 + (Ni+Cu)/15 |       |      |      |      |      |      |

## Fabrication, Bending, Post-Delivery Heating and Welding

|                       |  |
|-----------------------|--|
| Bending               | Free bending should be performed utilizing maximum allowable bend radius to prevent cracking. TruWEAR AR550 plates 0.250" (6.35 mm) thick and less can be bent using a transverse radius of 4T. Larger transverse bend radius is recommended for thicker plates. |
| Post-Delivery Heating | TruWEAR AR550 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 AR550 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. |