

Product and Application

TruSHIELD 700 armor plate provides excellent ballistic performance and has an outstanding weight-to-ballistic-protection ratio. This quenched and tempered product excels in downstream fabrication processes like laser cutting and plasma cutting. This product is used widely in the commercial vehicle armoring and commercial body armor applications.

Please inquire for dimensions

Mechanical Properties

Surface Hardness	650 - 750 HBW (aim 700 HBW)
Yield Strength	240 ksi (1655 MPa)
Tensile Strength	330 ksi (2275 MPa)
Charpy Impacts (typical @ -40° F)	10 ft-lbs (13.5 J) transverse
Bend Radius	Material is formable based on application and conditions. Please inquire.

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.

Dimensional Tolerances

Flatness	Flatness tolerances meet A6, Table 14, latest revision.
Thickness	+/- 0.016" to nominal thickness
Length and Width	Length and width tolerances meet ASTM A6, latest revision.

Chemical Composition

	C	Mn	P	S	Si	Cu	Ni	Cr	Mo
Max	0.51	1.00	0.020	0.015	0.50	0.25	2.50	0.70	0.87
CE* (typical):	1.00			*Carbon Equivalency calculated using the following formula: CEV = C + Mn/6 + (Cr+Mo+V)/5 + (Ni+Cu)/15					

Ballistic Performance

In appropriate thickness, TruSHIELD 700 meets various protection levels for NIJ, EN1063, EN1522, UL752, STANAG and VPAM commercial armor specifications upon request. May also be dual certified.

Fabrication, Bending, Post-Delivery Heating and Welding

Bending	Material is formable based on application and conditions. Please inquire.
Post-Delivery Heating	TruSHIELD 700 armor plate achieves its properties through quenching and tempering processes. Heating in fabrication (such as post-weld stress relieving) or in service must not exceed 300° F without risk of lowering the strength and hardness of the material.
Welding	TruSHIELD 700 armor plates 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, chemical analysis and Brinell hardness value.