



ALGOMA
— STEEL INC. —

HIGH-QUALITY STEEL PLATE PRODUCTS

Algoma offers a full range of high-quality steel plate products that meet or exceed most international performance standards for various industry applications.

Heat-Treated Plate

Algoma 100 / ASTM A514 - S

Superior surface quality and notch toughness. High strength, structural quality heat-treated steel plate.

APPLICATIONS:

Typical applications include highway trailers, forestry and mining equipment and other uses where weight is a critical factor. Algoma's improved surface capabilities make this product particularly suited for exposed, off-highway applications.

DIMENSIONS:

THICKNESS RANGE:

0.25" (6.35mm) - 2.75" (70mm)

Maximum width:

154" (3,912mm)

Maximum length:

960" (24,400mm)

The stock plate size most commonly available through Algoma's distributor network is 96" x 288" (2,440mm x 7,315mm).

NOTCH TOUGHNESS:

Algoma 100 is produced to a minimum CVNL average value of 20 ft-lbs at -50°F (27 Joules at -45°C). Other testing temperatures and Charpy V-Notch values may be available on request. Notch toughness (impact) testing may be conducted and reported if requested at the time the order is placed.

HARDNESS:

Algoma 100 is heat-treated to develop yield strength. This results in a through-thickness hard product with a hardness range of 240-300 HBW, although there is no minimum hardness specified for this grade. Hardness values will be reported if requested at the time the order is placed.

CHEMICAL COMPOSITION - HEAT ANALYSIS (% MAXIMUM)

THICKNESS	C	Mn	P	S	Si	Cr	Mo	B
0.25" (6.35mm) to 1.00" (25.4mm)	0.21*	1.50	0.030	0.015	0.45	0.20	0.20	0.003
Over 1.00" (25.4mm) to 2.75" (70mm)	0.21*	1.50	0.030	0.015	0.45	0.65	0.40	0.003

Notes:

1. The molybdenum content will vary according to thickness.
2. To meet the required mechanical properties, Algoma may use additional alloy elements, which it will report to purchasers.
3. *0.20% max C when CSA G40.21 is specified.

Heat-Treated Plate

Algoma 130

Superior surface quality and greater strength. Extra high strength, structural quality heat-treated steel plate.

APPLICATIONS:

Typical applications of Algoma 130 include highway trailers, crane booms, forestry and mining equipment, and any other uses where weight savings and high strength are critical factors.

DIMENSIONS:

Thickness range:

0.25" (6.35mm) - 2.5" (65mm)

Maximum width:

154" (3,912mm)

Maximum length:

960" (24,400mm)

NOTCH TOUGHNESS:

Algoma 130 is produced to a minimum CVNT average value of 20 ft-lbs at -40°F (27 Joules at -40°C). Other testing temperatures and Charpy V-Notch values may be available on request.

Notch toughness (impact) testing is conducted and reported on a per-thickness per-heat basis

HARDNESS:

Algoma 130 is heat-treated to develop yield strength. This results in a through-thickness hard product with a hardness range of 280-340 HBW, although there is no minimum hardness specified for this grade. Hardness values will be reported if requested at the time the order is placed.

CHEMICAL COMPOSITION - HEAT ANALYSIS (% MAXIMUM)

THICKNESS	C	Mn	P	S	Si	Cr	Mo	B
0.25" (6.35mm) to 1.375" (35mm)	0.21	1.50	0.025	0.015	0.45	0.65	0.40	0.003
Over 1.375" (35mm) to 2.5" (65mm)	0.26	1.50	0.025	0.015	0.45	0.60	0.45	0.003

Notes:

1. The molybdenum content will vary according to thickness.
2. To meet the required mechanical properties, Algoma may use additional alloy elements, which it will report to purchasers.

Heat-Treated Plate

AlgoTuf 400F

More formable, with less preheat. Abrasion-resistant heat-treated steel plate.

APPLICATIONS:

AlgoTuf 400F is the cost-effective abrasion resistant material for mining, forestry and construction applications.

DIMENSIONS:

Thickness range:

0.25" (6.35mm) - 2.75" (70mm)

Maximum width:

154" (3,912mm)

Maximum length:

960" (24,400mm)

The stock plate size most commonly available through Algoma's distributor network is 96" x 288" (2,440mm x 7,315mm).

NOTCH TOUGHNESS:

AlgoTuf 400F will typically have CVNL average values of 35 ft-lbs at -40°F (47 Joules at -40°C) for thicknesses up to 1.0" (25.4mm), and 15 ft-lbs at -40°F (20 Joules at -40°C) for thicknesses greater than 1.0" (25.4mm).

AlgoTuf 400F is not normally produced with certified notch toughness values. However, impact values may be reported, for information only, if requested at the time the order is placed.

HARDNESS:

AlgoTuf 400F is heat-treated to produce a through-thickness hard product with a range of 360-440 HBW for thicknesses less than 2.25" (57mm). For thicknesses equal to or greater than 2.25" (57mm) there may be some softening in the core, below the 360 HBW minimum value. Hardness testing is conducted and reported on a basis of per-heat, per 40 tons, per ± 0.591 " (15mm) thickness deviation from the nominal thickness supplied.

CHEMICAL COMPOSITION - HEAT ANALYSIS (% MAXIMUM)

THICKNESS	C	Mn	P	S	Si	Cr	Mo	B
0.25" (6.35mm) to 0.787" (20mm)	0.17	1.50	0.025	0.015	0.45	0.25	0.20	0.003
Over 0.787" (20mm) to 1.00" (25.4mm)	0.20	1.50	0.025	0.015	0.45	0.60	0.35	0.003
Over 1.00" (25.4mm) to 2.75" (70mm)	0.26	1.50	0.025	0.015	0.45	0.60	0.45	0.003

Notes:

1. The molybdenum content will vary according to thickness.
2. To meet the required mechanical properties, Algoma may use additional alloy elements, which it will report to purchasers.

Heat-Treated Plate

AlgoWear 400

Tougher, more formable, and less preheat abrasion-resistant heat-treated steel plate.

APPLICATIONS:

Applications includes tipper bodies, buckets, truck bodies, bulldozers, dump trucks, railroad cars, containers, conveyors, loaders, and many others.

DIMENSIONS:

Thickness range:

0.25" (6.35mm) - 0.787" (20mm)

Maximum width:

154" (3,912mm)

Maximum length:

960" (24,400mm)

The stock plate size most commonly available through Algoma's distributor network is 96" x 288" (2,440mm x 7,315mm).

NOTCH TOUGHNESS:

AlgoWear 400 will typically have CVNL average values of 45 ft-lbs at -40°F (61 Joules at -40°C) for thicknesses from 0.25" (6.35mm) up to 0.787" (20mm), and CVNT average values of 20ft-lbs at -40°F (27 Joules at -40°C) for thicknesses from 0.5" (12.7mm) up to 0.787" (20mm).

AlgoWear 400 is produced with certified CVNL values. CVNT values may be reported for information only, if requested at the time the order is placed.

HARDNESS:

Heat-treated to produce a through-thickness hard product with a range of 360-440 HBW.

CHEMICAL COMPOSITION - HEAT ANALYSIS (% MAXIMUM)

THICKNESS	C	Mn	P	S	Si	Cr	Ni	Mo	B
0.25" (6.35mm) to less than 0.787" (20mm)	0.32	1.65	0.025	0.015	0.70	2.40	1.50	0.60	0.005

Heat-Treated Plate

AlgoTuf 450F

Increased wear-resistance and toughness. Abrasion resistant heat-treated steel plate.

APPLICATIONS:

AlgoTuf 450F is the cost-effective material for truck and hopper liners, wear plates, chutes, buckets, crushers and similar heavy equipment

DIMENSIONS:

Thickness range:

0.25" (6.35mm) - 2.5" (65mm)

Maximum width:

154" (3,912mm)

Maximum length:

960" (24,400mm)

The stock plate size most commonly available through Algoma's distributor network is 96" x 288" (2,440mm x 7,315mm).

NOTCH TOUGHNESS:

AlgoTuf 450F will typically have CVNL average values of 30 ft-lbs at -40°F (40 Joules at -40°C) for thicknesses up to 0.787" (20mm), and 15 ft-lbs at -40°F (20 Joules at -40°C) for thicknesses greater than 0.787" (20mm).

AlgoTuf 450F is not normally produced with certified notch toughness values. However, impact values may be reported, for information only, if requested at the time the order is placed.

HARDNESS:

AlgoTuf 450F is heat-treated to produce a through-thickness hard product with a range of 410-477 HBW for thicknesses up to 0.787" (20mm), and 420-477 HBW for thicknesses greater than 0.787" (20mm) to less than 2.25" (57mm). For greater thicknesses, there may be some softening in the core below the 420 HBW minimum value. Hardness testing is conducted and reported on a basis of per-heat, per 40 tons, per ± 0.591 " (15mm) thickness deviation from the nominal thickness supplied.

CHEMICAL COMPOSITION - HEAT ANALYSIS (% MAXIMUM)

THICKNESS	C	Mn	P	S	Si	Cr	Mo	B
0.25" (6.35mm) to 0.787" (20mm)	0.23	1.50	0.025	0.015	0.45	0.20	0.35	0.003
Over 0.787" (20mm) to 2.5" (65mm)	0.26	1.50	0.025	0.015	0.45	0.60	0.45	0.003

Notes:

1. The molybdenum content will vary according to thickness.
2. To meet the required mechanical properties, Algoma may use additional alloy elements, which it will report to purchasers.

Heat-Treated Plate

AlgoTuf 500

Maximum wear-resistance. Abrasion resistant heat-treated steel plate.

APPLICATIONS:

AlgoTuf 500 is designed specifically for applications which require extremely high abrasion resistance. This 500 HBW material has become the popular abrasion-resistant product for mining and other highly abrasive industrial applications.

DIMENSIONS:

Thickness range:

0.25" (6.35mm) - 1.25" (31.75 mm)

Maximum width:

154" (3,912mm)

Maximum length:

960" (24,400mm)

The stock plate size most commonly available through Algoma's distributor network is 96" x 288" (2,440mm x 7,315mm).

NOTCH TOUGHNESS:

AlgoTuf 500 will typically have CVNL average values of 20 ft-lbs at -40°F (27 Joules at -40°C). AlgoTuf 500 is not normally produced with certified notch toughness values. However, impact values may be reported, for information only, if requested at the time the order is placed.

HARDNESS:

AlgoTuf 500 is heat-treated to produce a through-thickness hard product with a range of 477-545 HBW for thicknesses up to 1.25" (31.75mm).

CHEMICAL COMPOSITION - HEAT ANALYSIS (% MAXIMUM)

THICKNESS	C	Mn	P	S	Si	Cr	Mo	Ni	B
0.25" (6.35mm) to 1.25" (31.75mm)	0.33	1.50	0.025	0.015	0.50	0.70	0.35	0.70	0.003

Notes:

1. The molybdenum content will vary according to thickness.
2. To meet the required mechanical properties, Algoma may use additional alloy elements, which it will report to purchasers.

Heat-Treated Plate

Armour Plate

High hardness steel for ballistic applications.

APPLICATIONS:

Algoma Steel is one of North America's leading producers of Armour Plate which is used in ballistic and blast protection applications, such as tanks, trucks, personnel carriers, and other vehicles. Algoma's Armour Plate is used by the U.S. Armed Forces as well as the armed forces of other countries around the world.

DIMENSIONS:

Thickness range:

0.236" (6mm) – 1.250" (31.75mm) inclusive

Typical plate size:

96" x 288" (2440mm x 7315mm).

CLASSIFICATIONS:

Algoma currently produces Armour Plate meeting the specification requirements of MIL-DTL-46100E(MR) Class 1.

HARDNESS (AVERAGE):

477-534 HBW

NOTCH TOUGHNESS:

CVNL full size min. avg. impact: 14 ft-lbs @ -40°F
CVNT full size min. avg. impact: 12 ft-lbs @ -40°F
Heat Treatment Requires Q&T.

CHEMICAL COMPOSITION (%)

UNLESS A RANGE IS SPECIFIED, INDIVIDUAL VALUES ARE MAXIMUMS

Carbon	0.22 - 0.32
Manganese	0.60 - 0.90
Phosphorus	0.020
Sulfur	0.010
Silicon	0.20 - 0.40
Chromium	0.40 - 0.70
Nickel	0.35 - 0.85
Molybdenum	0.20 - 0.35
Copper	0.25

Algoma 100XF

APPLICATIONS:

Algoma 100XF is a low carbon, micro-alloyed hot rolled ultra high strength steel (UHSS) with minimum yield strength of 100ksi. It is used for various cold formed components and delivered in coil or cut-to-length sheet. Trial can be accepted for hot-dip galvanizing applications. Algoma 100XF meets the requirements of generic specifications such as ASTM A1018 UHSS Gr100 and ASTM A656 Gr100.

DIMENSIONS:

Thickness range:

0.1875" - 0.375"

Maximum width:

62"

Note: Inquiry on sizes outside of these limits.

CHEMICAL COMPOSITION - HEAT ANALYSIS

C (max %)	Mn (max %)	S (max %)	P (max %)	Si (max %)	Al (min %)	Nb+Ti+V (max %)
0.12	2.00	0.010	0.025	0.40	0.015	0.22

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