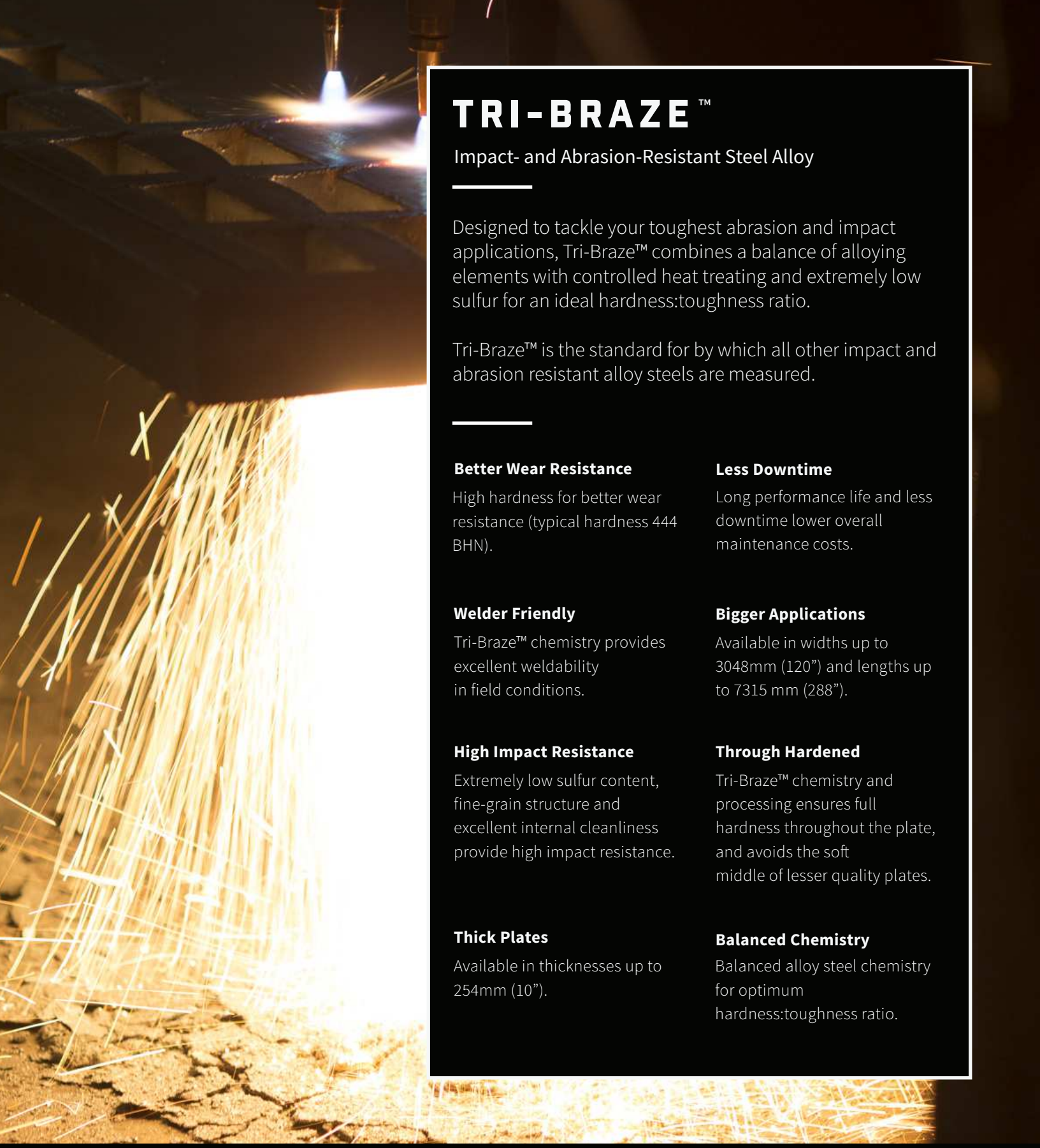


TRI-BRAZE™

Impact- and Abrasion-Resistant Steel Alloy

Designed to tackle your toughest abrasion and impact applications, Tri-Braze™ combines a balance of alloying elements with controlled heat treating and extremely low sulfur for an ideal hardness:toughness ratio.

Tri-Braze™ is the standard for by which all other impact and abrasion resistant alloy steels are measured.

Better Wear Resistance
High hardness for better wear resistance (typical hardness 444 BHN).

Less Downtime
Long performance life and less downtime lower overall maintenance costs.

Welder Friendly
Tri-Braze™ chemistry provides excellent weldability in field conditions.

Bigger Applications
Available in widths up to 3048mm (120”) and lengths up to 7315 mm (288”).

High Impact Resistance
Extremely low sulfur content, fine-grain structure and excellent internal cleanliness provide high impact resistance.

Through Hardened
Tri-Braze™ chemistry and processing ensures full hardness throughout the plate, and avoids the soft middle of lesser quality plates.

Thick Plates
Available in thicknesses up to 254mm (10”).

Balanced Chemistry
Balanced alloy steel chemistry for optimum hardness:toughness ratio.

Birmingham, AL	[800] 633-6054	[205] 956-2567
University Park, IL	[888] 932-3427	[708]235-8719
Elko, NV	[800] 833-8385	[775]738-1242

TRICON WEAR SOLUTIONS

WELDING TRI-BRAZE™

Designed with the welder in mind.

1. Material Preparation

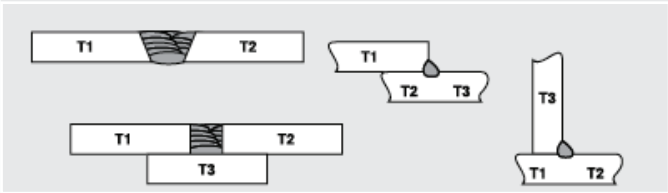
• Thoroughly remove rust, scale, grease, or oil from the weld areas.

2. Preheating

• Preheating may be performed by furnace heating, localized gas torches, or thermal strip blankets.
• Localized preheating should be done in a manner to ensure that the weld area and 305mm (12") beyond are uniformly heated through the material thickness.
• Preheat must be maintained until all welding has been completed.
• Cyclic heating and large temperature differentials should be avoided.
• Minimum preheat should be reached before gouging or welding is initiated.

Preheating Guidelines

	Combined Plate Thickness (T_{max})							
T_{max} = T1 + T2 = T3 =	25mm (1")	30mm (1.5")	51mm (2")	64mm (2.5")	76mm (3")	102mm (4")	127mm (5")	127mm (>5")
Preheat °F	21°C (70°F)	52°C (125°F)	66°C (150°F)	93°C (200°F)	107°C (225°F)	135°C (275°F)	149°C (300°F)	204°C (400°F)



3. Weld Interpass Temperature

• Maximum interpass temperature 260°C (500 °F).

4. Filler Material

Shielded Metal Arc Welding

• Welding electrodes should meet AWS 5.5 E8018 C-3 classification.
• Tri-Weld 3™ electrodes recommended.
• Electrode size for this procedure should not exceed 4,76mm (3/16") diameter.
• Ensure the electrodes are free of moisture.

Flux Cored Arc Welding

• The following listed AWS 5.29 wires can be used: E80T1Ni1, E80T5Ni1, E80T5K1, E81T1Ni1.
• Tri-Weld 3 FCG™ wire recommended.
• Wire should not exceed 2,38mm (3/32") diameter.

5. Post Weld

• Allow complete weldment to slow cool to ambient temperature.
• Post-weld thermal treatment is generally not necessary but is suggested when the welded component is subject to extreme load conditions. When deemed necessary, the welded component can be stress relieved by heating to 204°C (400°F) and held for 30 minutes to one hour per inch of thickness of the plate. The cooling should be done in still air.
• Post-Weld Inspection — rough, irregular-shaped welds should be ground smooth to remove stress risers that could cause cracks. 48–72 hours after welding, visually examine for cracks, gouges, laps, undercut, or other imperfections.

6. Cold Forming

With adequate power and proper procedures, moderate forming is possible on all thicknesses. Tri-Braze™ requires 4x the power of carbon steel. Remove flame-cut and rough edges with a grinder in the bend area using the largest permissible forming radius. Generally, T8 is the minimum inside radius recommended.

7. Flame Cutting

Conventional flame cutting procedures and fuels are satisfactory for Tri-Braze™. Hardening of the cut edges may occur when the heated cut surface is drastically quenched by surrounding cold base metal. If machining torch-cut metal, allow sufficient stock removal to get below the hardened edge or preheat to approximately 204°C (400°F) prior to flame cutting. Plates that reach temperatures below 10 °C (50 °F) and plates thicker than 38mm (1-1/2") should be preheated to approximately 93°C (200°F).

8. Plasma Cutting

Conventional gases and machine procedures recommended by the supplier of the equipment are usually sufficient for successful plasma cutting of Tri-Braze™. Plasma-cut heat-affected zones are generally more shallow than cuts made with flame. However, the same precautions apply.

9. Machining

Tri-Braze™ can be drilled and machined through conventional methods. Please contact your Tricon Wear Solutions representative for specific machining instructions.