TRU-TUF 500

WELDING AND FORMING INSTRUCTIONS

Forming:

When forming, use an inside bend radius of at least 10t (where t is the plate thickness), with the bend axis transverse to the rolling direction (i.e., across the grain), for thickness up to and including 0.787" .

Maximum temperatures for hot forming and stress-relief:

TRU TUF 500 can be heated to approximately 435º F for about 20 minutes, for hot forming or stress relief operations. Additional time at this temperature may result in some loss of mechanical properties.

Welding:

TRU TUF 500 exhibits excellent weldability, because of its low alloy content.

This grade can be welded using simple procedures and common, readily available consumables. **TRU TUF 500** recommends low-hydrogen electrodes (a maximum of 10 ml per 100 gm of weld deposit).

High heat input welding processes such as electro-slag and electro-gas are not suitable of **TRU TUF 500** since they will reduce mechanical properties and hardness along the heat-affected zone.

thickness	nominal aim carbon equivalent	maximum carbon equivalent
0.236" up to 2.0"	0.60	0.70

The carbon equivalent on the mill test report should be used for critical calculations.

5020 Richmond Road
Bedford Hts., OH 44146
W www.trusteelmetals.com

T 216.831.4800
F 216.831.4880
info@trusteelmetals.com

Preheat and interpass temperatures

TRU TUF 500 recommends the following preheat and interpass temperatures, which should be monitored with temperature crayons, thermocouples, etc. Higher preheat temperatures may be required when there is less control of the hydrogen level, or when higher joint restraint is present.

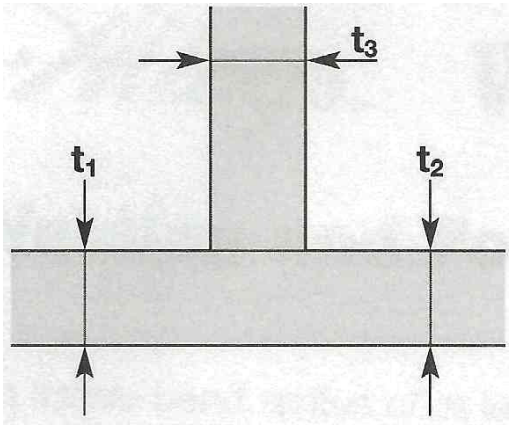
Combined plate thickness

*(t1 + t2 + t3)	low restraint	high restraint
<=0.75"	210º F	210º F
<=1.50"	210º F	255º F
<=2.25"	255º F	300º F
<=3.00"	300º F	350º F
> 3.00"	350º F	350º F

These temperatures are based on the SMAW process, using E7018 electrodes. Once the electrodes are removed from the sealed containers, they should be stored in an oven at 250º F.

Preheat temperatures can be reduced by 50º F for the GMAW process.

*



Combined Plate Thickness:
T Joint: $t = t_1 + t_2 + t_3$
Butt Joint: $t_3 = 0$

5020 Richmond Road
Bedford Hts., OH 44146
W www.trusteelmetals.com

T 216.831.4800
F 216.831.4880
info@trusteelmetals.com