

GENERAL WELDING INSTRUCTIONS

For: Adapters, Base Edges, Lip Protectors, Side Styles, Repair Noses and other Heat Treated, 400, 450 and 500HB steel Items.

Note: *Before cutting off any existing componentry, it is recommended to heat up the area to approx 100° to avoid affecting the steel hardness when cutting it cold.*

Cleaning and preliminary preparation

First of all, clean the parts to weld. The target is to remove paintings, greases, oxides and other elements which can produce blowholes in the welding stage or another problems. To do this in the right way, use a metallic brush or light grinding.

Preheating

Its principal target is to prevent cracks. To avoid them, preheat and keep the area to be weld, between 140-180°C. We recommend to use a gas torch, and control temperature with tempersticks or contact or radiation pyrometers.

Maximum Temperature and final check

During the welding process, do not go over 250°C, except the direct affected parts. The best method to keep the temperature within these limits, is to space each run. When finishing the welding, it is essential to check the quality of the surface of the filler material and the absence of defects. The surface of beads must be as flat and regular as possible. Grind the irregularities, avoiding parallel grinding lines to the beads.

Covered electrode procedure

If you use covered electrodes, we recommend to use basic covered electrodes with a low-hydrogen content.

Diameter: use the bigger diameter as possible, 6 mm is suitable. Types: UNE-EN 499 E 42 B or UNE-EN 499 E 46 B; AWS A5.1 E- 7016 or AWS A5.1 E-7018 Amperage and Polarity: follow manufacturer's instructions.



Weld must be done with short beads and a maximum oscillation of three times the diameter of the electrode. Completely remove the slags and lightly hammer the bead to reduce tensions after each run.

Basic cover absorbs humidity. To avoid this, we recommend to stock electrodes in the original packaging hermetically sealed. Once opened, keep them heated within 65-150°C.

GMAW procedure (Gas Metal Arc Welding)

When it is done with gaseous protection, for moderate thickness and requirement welding, we recommend to use welding wire with solid thread. For high thickness and high requirement welding, use welding wire of tubular thread (Flux-core).

■ Welding wire of solid thread Diameter: 1,6 mm (maximum recommended) Types: UNE-EN 440 type G 46 M or G 50 M; ASME/AWS ER 70 S-6; DIN 8559 SG2; and equivalents. Gas protection flow: 12-18 liters per minute.

■ Welding wire of tubular thread (Flux-core) Types: ASME/AWS ER 70 T1 (rutile type); ASME/AWS E 70 T5 (basic type); DIN 8559.

With both types of welding wire, the welding must be done with a maximum oscillation of 10 mm. Lightly hammer the bead to avoid residual stresses after each run. It is very important to avoid draughts to protect the gas.

For the highest thickness and requirement welding, use welding wire of tubular thread (Flux-core) with low-hydrogen content, type DIN SG B1 C5254.