

TECHNIQUES, PROCEDURES AND COSTS

BUTT WELDS

FLAT POSITION—SQUARE EDGE—WELDED FROM BOTH SIDES

For high welding speed and economy of joint preparation. Use on steels within the preferred analysis range (see Page 2-6) where plates can be turned for downhand welding on both sides and where joint is level.

PREPARATION:
Square Edge

ELECTRODE:
E6010

FIT-UP:
Maximum gap recommended, $\frac{1}{16}$ "†

POLARITY:
Electrode Positive



CHIPPING NOT NECESSARY

Fig. 2-34.

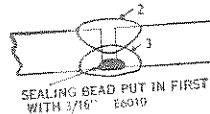


Fig. 2-35.

Plate Thickness (In.)	Electrode Size (In.)	Current (Amps.)	Electrode Melt Off Rate (In. per Min.) ‡	Arc Speed (In. per Min. per Pass)	Passes or Beads	Ft. of Joint Welded per Hr. (100% Operating Factor)	Lbs. of Electrode per Ft. of Weld
$\frac{3}{16}$	$\frac{1}{4}$	190	7	18	2	45	.16
$\frac{1}{4}$	$\frac{5}{16}$	325	7	18	2	45	.27
$\frac{5}{16}$	$\frac{5}{16}$	375	8	18	2	45	.31

†If gap is over $\frac{1}{16}$ ", put in flush sealing bead as shown in Fig. 2-35. The sealing bead need not be chipped out before putting in the second pass.

‡This is the minimum melt-off rate which should be used to assure complete penetration.

BUTT WELDS

Flat Position*

Welded From Both Sides

Single V-Groove

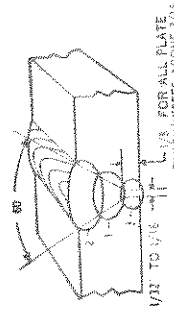


Fig. 2-36.

ELECTRODE & POLARITY
E6011—AC
E6027—AC

For use where plates can be turned for downhand welding on both sides.*
PREPARATION:
60° V-groove with $\frac{1}{8}$ " shoulder
FIT-UP:**
Recommended gap $\frac{1}{4}$ " to $\frac{1}{2}$ "

Plate Thickness (In.)	Electrode Size (In.)	AC Current (Amps.)	Electrode Melt-Off Rate (In. per Min.)	Arc Speed (In. per Min. for First Pass)	Passes or Beads	Ft. of Joint Welded per Hr. (100% Operating Factor)	Lbs. of Electrode per Ft. of Weld	
								Total
$\frac{3}{8}$	$\frac{3}{16}$ E6011	175	10.0	9.0	1st (2nd & Back)	20.1	.17	
	$\frac{1}{4}$ E6027	280	12.3				.34	
$\frac{1}{2}$	$\frac{1}{4}$ E6011	275	9.0	8.2	1st (2nd & Back)	17.4	.23	
	$\frac{3}{8}$ E6027	315	10.8				.52	
$\frac{5}{8}$	$\frac{1}{4}$ E6011	275	9.0	7.7	1st (2nd & 3rd) Back	13.2	.24	
	$\frac{1}{4}$ E6027	375	10.0				.80	
	$\frac{3}{8}$ E6027	315	10.8				.23	
							Total	1.27

**See Page 2-38.

*Where the plates cannot be turned over, chip into bead 1 (Figure 2-36) and put the last pass in overhead with $\frac{5}{16}$ " E6010 or E6011 with the current adjusted to produce an electrode melt-off of approximately $\frac{8}{16}$ " per minute.