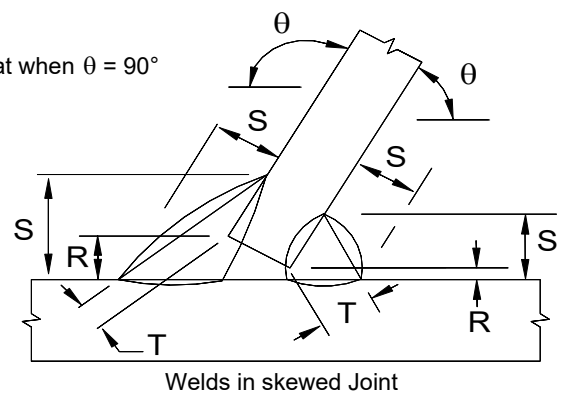
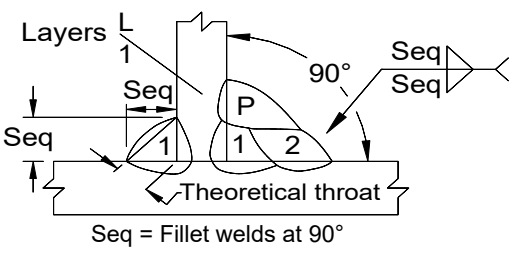


| | | | |
|---|--|-------------------------------|------------------------------------|
| WELDING PROCEDURE DATA SHEET (WPDS) | | WPDS No.: | SMAW - SKEW- 1 |
| RC Technical Services 512 MacDougall Road MacDougall Settlement, N.B. | | Date: | Sept. 02, 2019 |
| Base Metal: CSA W59: Table 11.1 groups 1, 2, 3 CSA G40.21: 300W (44W), 350W (50W) | | Ref. WPS: | SMAW-CS |
| Thickness Range: 3 mm (1/8") to UNLIMITED | | Ref. Standards: | CSA W47.1 CSA W59 |
| Position: FLAT, HORIZONTAL | | Filler Metal / Classification | |
| Joint Type: SKEWED TEE | | CSA W48: | E4918-H8 or -H4, E4918-1-H8 or -H4 |
| Eff. Throat Thickness: SEE SKETCH | | AWS A5.1: | E7018-H8 or -H4, E7018-1-H8 or -H4 |
| Penetration: N.A. | | SMAW | |
| Preheating Temp.: 10°C & Table 5.3 W59 | | Process: | |
| Interpass Temp.: 260°C (500°F) MAX | | | |

| Angle θ | Equivalency Factor F |
|------------|----------------------------|
| 60° | 0.71 |
| 65° | 0.76 |
| 70° | 0.81 |
| 75° | 0.86 |
| 80° | 0.91 |
| 85° | 0.96 |
| 90° | 1.00 |
| 95° | 1.03 |
| 100° | 1.08 |
| 105° | 1.12 |
| 110° | 1.16 |
| 115° | 1.19 |
| 120° | 1.23 |
| 125° | 1.25 |
| 130° | 1.28 |
| 135° | 1.31 |

S = Weld size for skewed joint. $S = (Seq \times F) + R$
Seq = Fillet weld size when plates are at 90°
θ = angle between plates (fusion faces)
F = Equivalency factor to provide same theoretical throat when θ = 90°
T = Theoretical throat of skewed joint
R = Root opening, maximum 5 mm (3/16")



Example #1: 1/4" Fillet required at 90° = Seq

At 135°
135° angle: F = 1.31
R = 0.176"

$S = (Seq \times F) + R$
 $S = (1/4" \text{ fillet} \times 1.31) + 0.176$
 $S = (0.25 \times 1.31) + 0.176 = 0.503"$
S = 1/2" fillet weld required at 135°

Example #2: 1/4" Fillet required at 90° = Seq

At 60°
60° angle: F = 0.71
R = 0

$S = (Seq \times F) + R$
 $S = (1/4" \text{ fillet} \times 0.71) + 0$
 $S = (0.25 \times 0.71) + 0 = 0.177"$
S = 3/16" fillet weld required at 60°

| Fillet size, S (see notes below) mm inch | Side | Layer | Pass | Electrode Diameter inch | Current Polarity | Amperes (+/-10%) | Wire Speed inch / min. (+/-10%) | Volts (+/-7%) | Arc Travel in/min (+/-15%) |
|---|------|-------|-------|-------------------------------|---------------------|---------------------|---------------------------------------|------------------|----------------------------------|
| 5 3/16 | | 1 | 1 | 5/32 | DCEP | 160 | | | |
| 6 1/4 | | 1 | 1 | 5/32 | DCEP | 160 | | | |
| 8 5/16 | | 1 - L | 1 - P | 5/32 | DCEP | 160 | | | |
| UNLIMITED | | 1 - L | 1 - P | 5/32 | DCEP | 160 | | | |

Notes:
See CSA W59, Table 4.4 for minimum fillet size or WPS SMAW-CS.
See CSA W59, Table 10.1 for maximum one pass fillet size or WPS SMAW-CS.
For angles over 135°, fillet shall not carry calculated loads.
For angles under 60°, a partial groove shall be used.

CWB Approval:

Company's Approval: