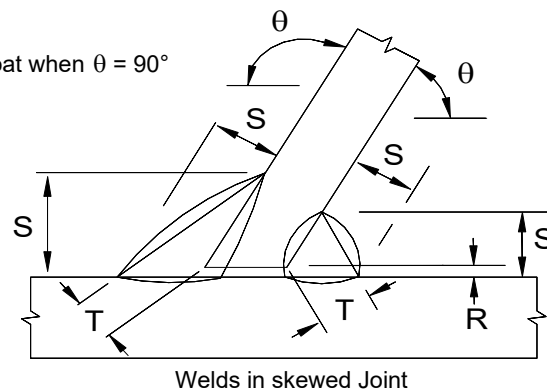
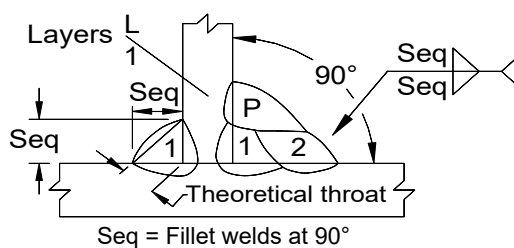


WELDING PROCEDURE DATA SHEET (WPDS)		WPDS No.:	SMAW-SKEW-2
RC Technical Services 512 MacDougall Road MacDougall Settlement, N.B.		Date:	Sept. 02, 2019
Base Metal: CSA W59: Table 11.1 groups 1, 2, 3 CSA G40.21: 300W (44W), 350W (50W)		Ref. WPS:	SMAW-CS
Thickness Range: 3 mm (1/8") to UNLIMITED		Ref. Standards: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

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 = 0.125"

$S = (Seq \times F) + R$
 $S = (1/4" \text{ fillet} \times 1.31) + 0$
 $S = (0.25 \times 1.31) + 0 = 0.327"$
S = 3/8" 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: