CSA W47.2-2011
Certification of companies for fusion welding of aluminum:
Quick Review on Essential Variables

10 Qualification of welding procedures

10.2 Limitation of variables, (See Table 3 of CSA W47.2)

When welding aluminum in GMAW (MIG), GTAW (TIG) or PAW process, any following changes require re-qualification of welding procedure, by welding test (PQR):

-a change of base-metals alloy group (*Note 1*), filler-metals alloy group (*Note 2 and 3*), position, thickness, shielding gas, current type, cleaning procedure,

-a change in specified joint geometry (e.g., from single-V to double-V), omission of back gouging, omission of backing or substitution of backing to other than aluminum material,

-a change from vertical up to down or vice versa, change of current, voltage, preheat, travel speed, etc. over what are permitted in Table 3 of CSA W47.2 require re-qualification of WPDS procedure.

***Note 1*:** Base-Metal Group numbers (1 thru 5) with metal alloys for each group are shown in Table 1 of CSA W47.2

***Note 2*:** Filler metal alloy groups 1 (5183, 5356, 5554, 5556, 5654), 2 (4043, 4047, 4145) or 3 (1100) are shown in Table 2 of CSA W47.2

***Note 3*:** Filler metals shall be certified by the CWB to the requirements of ANSI/AWS A5.10 (Clause 10.2.2 of CSA W47.2).

10.3 Position of test welds

10.3.1: Qualification of a joint in any one of the horizontal, vertical, or overhead positions shall qualify that joint in the flat position.

10.6.1.3 Acceptance of a PJP groove weld based on CJP groove weld test (PQR) of the same metal thickness range and the same welding position in which PJP groove weld is made.

CJP: Complete joint penetration groove weld

PJP: Partial joint penetration groove weld