

ASME SECTION IX-2010 -WPS & PQR CHECKLIST									
VARIABLES	SMAW	SAW	GMAW / FCAW	GTAW					
QW-402 - JOINTS									
.1 ϕ in groove design		N	N	N					N
.4 - of backing in single sided weld		N	N	N					N
.5 + of backing and chemical composition									N
.10 ϕ in root spacing		N	N	N					N
.11 \pm nonfusing retainers		N	N	N					N
QW-403 - BASE METAL									
.5 ϕ in group number QW-422	S	S	S	S					S
.6 T Limits impact	S	S	S	S					S
.7 T/t Limits > 8 in. (203 mm)	E	E	E	E					E
.8 ϕ T Qualified	E	E	E	E					E
.9 t pass > 1/2 in. (13 mm)	E	E	E	E					E
.10 T Limits Qualified (Short Circuit Arc)			E	E					
.11 ϕ P-N° Qualified	E	E	E	E					E
.13 ϕ P-N° 5/9/10	E	E	E	E					E
QW-404 - FILLER METALS									
.3 ϕ Size									N
.4 ϕ F-N°	E	E	E	E					E
.5 ϕ A-N°	E	E	E	E					E
.6 ϕ Diameter		N	N	N					
.7 ϕ Diameter > 1/4 in. (6 mm)	S								
.9 ϕ Flux/Wire Classification		E							
.10 ϕ Alloy flux		E							
.12 ϕ AWS classification	S		S	S					S
.14 \pm Filler									E
.22 \pm Consumable insert									N
.23 ϕ Filler metal product form (Solid/metal or flux-cored)			E	E					E
.24 \pm ϕ Supplemental Filler Metal		E	E	E					
.25 \pm Supplemental Powder Filler metal		E	E	E					
.26 > Supplemental Powder Filler metal		E	E	E					
.27 ϕ Alloy elements		E	E	E					
.29 ϕ Flux designation			N						
.30 ϕ t	E	E	E	E					E
.32 t Limits (Short Circuit Arc)			E	E					
.33 ϕ AWS Classification		N	N	N					N
.34 ϕ Flux Type		E							
.35 ϕ Flux/Wire Classification			S	N					
.36 Recrushed Slag		E							
.50 \pm Flux									N
QW-405 - POSITION									
.1 + Position		N	N	N					N
.2 ϕ Position	S			S					S
.3 ϕ \uparrow \downarrow Vertical Welding		N		N					N
QW-406 - PREHEAT									
.1 Decrease > 100°F (56°C)	E		E	E					E
.2 ϕ Preheat maintenance		N	N	N					N
.3 Increase > 100°F (56°C) (IP)	S	S	S	S					S

ASME SECTION IX-2010 -WPS & PQR CHECKLIST -CONT'D									
VARIABLES	SMAW	SAW	GMAW / FCAW	GTAW					
QW-407 - PWHT									
.1 ϕ PWHT	E		E	E					E
.2 ϕ PWHT (Time & Temperature Range)	S		S	S					S
.4 T Limits	E		E	E					E
QW-408 - GAS									
.1 \pm Trailing or ϕ composition								N	N
.2 ϕ Single, mixture or %			E	E					E
.3 ϕ Flow rate							N		N
.5 \pm or ϕ Backing flow							N		N
.9 - Backing or ϕ composition			E	E					E
.10 ϕ Shielding or trailing			E	E					E
QW-409 - ELECTRICAL CHARACTERISTICS									
.1 > Heat input	S		S	S					S
.2 ϕ Transfer Mode			E	E					
.3 \pm Pulsing I									N
.4 ϕ Current or Polarity	S	N	S	N	S	N	S	N	S
.8 ϕ I & E Range		N	N	N					N
.12 ϕ Tungsten electrode									N
QA-410 - TECHNIQUE									
.1 ϕ String/Weave		N	N	N					N
.3 ϕ Orifice cup, or nozzle size									N
.5 ϕ Method of cleaning		N	N	N					N
.6 ϕ Method of back gouge		N	N	N					N
.7 ϕ Oscillation		N	N	N					N
.8 ϕ Tube to Work distance			N	N					
.9 ϕ Multi to single pass per side		N	S	N	S	N	S	N	S
.10 ϕ Single to multi electrodes			S	N	S	N	S	N	S
.11 ϕ Closed to out of chamber welding									E
.15 ϕ Electrode spacing			N	N					N
.25 ϕ Manual or Automatic		N	N	N					N
.26 \pm Peening		N	N	N					N
.64 Use of Thermal Process	E		E	E					E
LEGEND									
+ Addition / - Deletion / > Increase / Greater than / < Decrease / Less than									
\uparrow Uphill / \downarrow Downhill / \leftarrow Forehand / \rightarrow Backhand / ϕ Change									
E = Essential Variables which must be indicated on both the WPS and recorded on the PQR. Any changes to these variables require requalification of WPS.									
S = Supplementary Essential Variables must be indicated on the WPS and Recorded on the PQR when Impact Testing is required. Changes to these variables when Impact testing is performed require requalification of WPS. (QW-403.6-Where notch toughness required min. base Metal Thk. qualified is 16mm).									
N = Nonessential variables must be indicated on the WPS but when changed do not require requalification of WPS.									
NOTE: WPS's are to indicate all Essential, Nonessential and Supplementary Essential variables. Do not indicate variables which are not used as NA they are applicable and should be entered on the WPS as None or Not used.									