Evaluated Tubesheet to Shell Welding for Non-Standard Shape

		O1 case Un-corr.	O1 case Corr.
Max. Axial Membrance Stress in Shell , σm (from UHX 13.5.10	[kg/mm^2]	1.3919	0.8023
Shell Outside Diameter , do	[mm]	323.8	323.8
Shell Nominal Thickness , t	[mm]	10.31	7.31
Internal Corrosion , CA	[mm]	0	3
Cross Section Area of Shell , As	[mm^2]	10153.885	7268.206
Axial Force on Shell due to Membrance Stress , Fa	[kg]	14133.192	5831.282
Allowable Stress of Welds (Base Material : SA-106 B) , Sw	[kg/mm^2]	12.02	12.02
Fillet welds leg size	[mm]	11	11
Allowable Load of <u>Fillet</u> welds on shell (per UW-18(d)) , Ff (product of the weld area (based on minimum leg dimension) , the maximum allowable stress value in tension of the material being welded, and a joint efficiency of 55%.)	[kg]	73975.270	73975.270
Thus Fa < Ff	[Accepted / Failed]	Accepted	Accepted
Allowable Load of <u>Groove</u> welds on shell (per UW-18(d)) , Fg (same concept as Fillet welds, but E = 0.74)	[kg]	90316.7741	64649.2408
Thus Fa < Fg	[Accepted / Failed]	Accepted	Accepted