Case Studies on Pressure Vessel Categorisations

6 Case Studies for 6 Vessel Designs and 5 different processes

What parameters determine the categorizations?

		Operating	Operating	Jacket	Jacket	Process	Jacket	OD	Height	Jacket	Jacket	
		Temp.°C	Pressure	Temp.°C	Pressure	Product	Product	Tank m	Tank m	Width m	Litres	
1.	N-R	50	16kPa	25	350kPa	Resin	Tap Water	1,950	2,110	0,05	646	Case 1
2.	SC-S	35	16kPa	25	300kPa	Paste	Tap Water	1,160	1,15	0,04	168	Case 2
3a.	B-1	180	Atmospheric	230		Bitumen	Oil	2,000	2,107	0,08	1059	Case 3a
3b.	B-2	180	Atmospheric	230		Bitumen	Oil	2,300	2,645	0,08	1529	Case 3b
4.	C-Paints	45	Atmospheric	25	700kPa	Solvent	Tap Water	1,190	1,455	0,05	272	Case 4
5.	P-S	150	Atmospheric	250	600kPa	Sealant	Oil	1,460	1,460	0,05	335	Case 5

		Operating	Operating	Jacket	Jacket	Process	Jacket	OD	Height	Jacket	Jacket		
	CASE STUDY	Temp. °C	Pressure	Temp. °C	Pressure	Product	Product	Tank m	Tank m	Width m	Litres	DESIGN CONSIDERATIONS	
1.	N-R	50	16kPa	25	350kPa	Resin	Tap Water	1,950	2,110	0,05	646	Vacuum not PER	
												Jacket critical	
2.	SC-S	35	16kPa	25	300kPa	Paste	Tap Water	1,160	1,15	0,04	168	Vacuum not PER	
												Pack-off 500kPa	
3a.	B-1	180	Atmospheric	230	600kPa	Bitumen	Oil	2,000	2,107	0,08	1059	Jacket critical	
3b.	B-2	180	Atmospheric	230	600kPa	Bitumen	Oil	2,300	2,645	0,08	1529	Jacket critical	
4.	C-Paints	45	Atmospheric	25	700kPa	Solvent	Tap Water	1,190	1,455	0,05	272	No critical	
5.	P-S	150	Atmospheric	250	600kPa	Sealant	Oil	1,460	1,460	0,05	335	Feed system design	
												Jacket critical	