

TEMP: 210 ± 10C			PHASE 1				PHASE 2		PHASE 3	PHASE 4				PHASE 5		
Pipe Details (e _n = Wall Thickness) Max e _n = 70mm			Equalising				Preheating		Changeover Time	Joining (See Note a)				Minimum Cool Time Under Pressure (See Note b)		
			Equalising Pressure BAR			Bead Height (Minimum)				Buildup Time	Joining Pressure BAR			Up to 15°C	15°C to 25°C	25°C to 40°C
D _n	SDR	e _n	Min	Tgt	Max	mm	BAR	Time	Max	Max	Min	Tgt	Max			
90	41	2.2	0	0	0	0.5	0.04	0m 53s	5s	6s	0	0	0	0h 4m	0h 5m	0h 7m
	33	2.7	0	0	1	0.5	0.04	0m 53s	5s	6s	0	0	1	0h 4m	0h 5m	0h 7m
	26	3.5	1	1	1	0.5	0.05	0m 53s	5s	6s	1	1	1	0h 4m	0h 5m	0h 7m
	21	4.3	1	1	1	0.5	0.06	0m 53s	5s	6s	1	1	1	0h 4m	0h 5m	0h 7m
	17	5.3	1	1	1	0.5	0.08	0m 59s	5.2s	6.2s	1	1	1	0h 4m	0h 6m	0h 7m
	13.6	6.6	1	1	1	0.5	0.09	1m 15s	5.8s	6.8s	1	1	1	0h 6m	0h 7m	0h 9m
	11	8.2	1	1	1	1.0	0.11	1m 32s	6.2s	7.8s	1	1	1	0h 7m	0h 8m	0h 11m
	9	10.0	1	1	1	1.0	0.13	1m 53s	6.6s	9.4s	1	1	1	0h 8m	0h 10m	0h 13m
110	7.4	12.2	1	2	2	1.0	0.15	2m 15s	7s	11s	1	2	2	0h 10m	0h 12m	0h 16m
	41	2.7	1	1	1	0.5	0.05	0m 53s	5s	6s	1	1	1	0h 4m	0h 5m	0h 7m
	33	3.3	1	1	1	0.5	0.06	0m 53s	5s	6s	1	1	1	0h 4m	0h 5m	0h 7m
	26	4.2	1	1	1	0.5	0.08	0m 53s	5s	6s	1	1	1	0h 4m	0h 5m	0h 7m
	21	5.2	1	1	1	0.5	0.09	0m 59s	5.2s	6.2s	1	1	1	0h 4m	0h 6m	0h 7m
	17	6.5	1	1	1	0.5	0.11	1m 10s	5.6s	6.6s	1	1	1	0h 5m	0h 7m	0h 8m
	13.6	8.1	1	1	2	1.0	0.13	1m 32s	6.2s	7.8s	1	1	2	0h 7m	0h 8m	0h 11m
	11	10.0	2	2	2	1.0	0.16	1m 53s	6.6s	9.4s	2	2	2	0h 8m	0h 10m	0h 13m
125	9	12.2	2	2	2	1.0	0.19	2m 15s	7s	11s	2	2	2	0h 10m	0h 12m	0h 16m
	7.4	14.9	2	2	3	1.0	0.23	2m 40s	7.8s	13.2s	2	2	3	0h 11m	0h 14m	0h 19m
	41	3.0	1	1	1	0.5	0.06	0m 53s	5s	6s	1	1	1	0h 4m	0h 5m	0h 7m
	33	3.8	1	1	1	0.5	0.08	0m 53s	5s	6s	1	1	1	0h 4m	0h 5m	0h 7m
	26	4.8	1	1	1	0.5	0.10	0m 53s	5s	6s	1	1	1	0h 4m	0h 5m	0h 7m
	21	6.0	1	1	1	0.5	0.12	1m 4s	5.4s	6.4s	1	1	1	0h 5m	0h 6m	0h 8m
	17	7.4	1	1	2	1.0	0.14	1m 21s	6s	7s	1	1	2	0h 6m	0h 8m	0h 10m
	13.6	9.2	2	2	2	1.0	0.17	1m 43s	6.4s	8.6s	2	2	2	0h 7m	0h 9m	0h 12m
140	11	11.4	2	2	2	1.0	0.21	2m 4s	6.8s	10.2s	2	2	2	0h 9m	0h 11m	0h 14m
	9	13.9	2	3	3	1.0	0.25	2m 30s	7.5s	12.3s	2	3	3	0h 11m	0h 13m	0h 17m
	7.4	16.9	3	3	3	1.0	0.29	3m 1s	8.3s	14.9s	3	3	3	0h 12m	0h 16m	0h 21m
	41	3.4	1	1	1	0.5	0.08	0m 53s	5s	6s	1	1	1	0h 4m	0h 5m	0h 7m
	33	4.2	1	1	1	0.5	0.10	0m 53s	5s	6s	1	1	1	0h 4m	0h 5m	0h 7m
	26	5.4	1	1	1	0.5	0.12	0m 59s	5.2s	6.2s	1	1	1	0h 4m	0h 6m	0h 7m
	21	6.7	1	1	2	0.5	0.14	1m 15s	5.8s	6.8s	1	1	2	0h 6m	0h 7m	0h 9m
	17	8.2	2	2	2	1.0	0.18	1m 32s	6.2s	7.8s	2	2	2	0h 7m	0h 8m	0h 11m
140	13.6	10.3	2	2	2	1.0	0.21	1m 53s	6.6s	9.4s	2	2	2	0h 8m	0h 10m	0h 13m
	11	12.7	2	3	3	1.0	0.26	2m 20s	7.2s	11.5s	2	3	3	0h 10m	0h 13m	0h 16m
	9	15.6	3	3	3	1.0	0.31	2m 51s	8s	14s	3	3	3	0h 12m	0h 15m	0h 20m
	7.4	18.9	3	4	4	1.0	0.36	3m 21s	8.9s	16.6s	3	4	4	0h 14m	0h 18m	0h 23m

TEMP: 210 ± 10C			PHASE 1				PHASE 2		PHASE 3	PHASE 4				PHASE 5		
Pipe Details (e _n = Wall Thickness) Max e _n = 70mm			Equalising				Preheating		Changeover Time	Joining (See Note a)				Minimum Cool Time Under Pressure (See Note b)		
			Equalising Pressure BAR			Bead Height (Minimum)				Buildup Time	Joining Pressure BAR			Up to 15°C	15°C to 25°C	25°C to 40°C
D _n	SDR	e _n	Min	Tgt	Max	mm	BAR	Time	Max	Max	Min	Tgt	Max			
160	41	3.9	1	1	1	0.5	0.10	0m 53s	5s	6s	1	1	1	0h 4m	0h 5m	0h 7m
	33	4.8	1	1	1	0.5	0.12	0m 53s	5s	6s	1	1	1	0h 4m	0h 5m	0h 7m
	26	6.2	1	2	2	0.5	0.15	1m 10s	5.6s	6.6s	1	2	2	0h 5m	0h 7m	0h 8m
	21	7.6	2	2	2	1.0	0.19	1m 26s	6.1s	7.4s	2	2	2	0h 6m	0h 8m	0h 10m
	17	9.4	2	2	3	1.0	0.23	1m 43s	6.4s	8.6s	2	2	3	0h 7m	0h 9m	0h 12m
	13.6	11.8	3	3	3	1.0	0.28	2m 10s	6.9s	10.6s	3	3	3	0h 9m	0h 12m	0h 15m
	11	14.5	3	3	4	1.0	0.34	2m 40s	7.8s	13.2s	3	3	4	0h 11m	0h 14m	0h 19m
	9	17.8	4	4	4	1.0	0.40	3m 11s	8.6s	15.8s	4	4	4	0h 13m	0h 17m	0h 22m
180	7.4	21.6	4	5	5	1.5	0.47	3m 49s	9.8s	18.8s	4	5	5	0h 16m	0h 20m	0h 27m
	41	4.4	1	1	1	0.5	0.13	0m 53s	5s	6s	1	1	1	0h 4m	0h 5m	0h 7m
	33	5.5	1	2	2	0.5	0.15	0m 59s	5.2s	6.2s	1	2	2	0h 4m	0h 6m	0h 7m
	26	6.9	2	2	2	0.5	0.19	1m 15s	5.8s	6.8s	2	2	2	0h 6m	0h 7m	0h 9m
	21	8.6	2	2	3	1.0	0.24	1m 37s	6.3s	8.2s	2	2	3	0h 7m	0h 9m	0h 11m
	17	10.6	3	3	3	1.0	0.29	1m 59s	6.7s	9.8s	3	3	3	0h 9m	0h 11m	0h 14m
	13.6	13.2	3	4	4	1.0	0.35	2m 25s	7.3s	11.9s	3	4	4	0h 10m	0h 13m	0h 17m
	11	16.4	4	4	5	1.0	0.43	2m 56s	8.2s	14.5s	4	4	5	0h 12m	0h 16m	0h 20m
200	9	20.0	5	5	6	1.5	0.51	3m 35s	9.3s	17.8s	5	5	6	0h 15m	0h 19m	0h 25m
	7.4	24.3	5	6	7	1.5	0.60	4m 13s	10.5s	20.6s	5	6	7	0h 18m	0h 22m	0h 30m
	41	4.9	1	2	2	0.5	0.15	0m 53s	5s	6s	1	2	2	0h 4m	0h 5m	0h 7m
	33	6.1	2	2	2	0.5	0.19	1m 10s	5.6s	6.6s	2	2	2	0h 5m	0h 7m	0h 8m
	26	7.7	2	2	3	1.0	0.24	1m 26s	6.1s	7.4s	2	2	3	0h 6m	0h 8m	0h 10m
	21	9.5	3	3	3	1.0	0.29	1m 48s	6.5s	9s	3	3	3	0h 8m	0h 10m	0h 13m
	17	11.8	3	4	4	1.0	0.35	2m 10s	6.9s	10.6s	3	4	4	0h 9m	0h 12m	0h 15m
	13.6	14.7	4	4	5	1.0	0.43	2m 40s	7.8s	13.2s	4	4	5	0h 11m	0h 14m	0h 19m
225	11	18.2	5	5	6	1.0	0.52	3m 16s	8.8s	16.2s	5	5	6	0h 13m	0h 17m	0h 23m
	9	22.2	6	6	7	1.5	0.62	3m 54s	9.9s	19.2s	6	6	7	0h 16m	0h 21m	0h 28m
	7.4	27.0	7	7	8	2.0	0.74	4m 39s	11.3s	23s	7	7	8	0h 20m	0h 25m	0h 33m
	41	5.5	2	2	2	0.5	0.19	0m 59s	5.2s	6.2s	2	2	2	0h 4m	0h 6m	0h 7m
	33	6.8	2	2	3	0.5	0.24	1m 15s	5.8s	6.8s	2	2	3	0h 6m	0h 7m	0h 9m
	26	8.7	3	3	3	1.0	0.30	1m 37s	6.3s	8.2s	3	3	3	0h 7m	0h 9m	0h 11m
	21	10.7	3	4	4	1.0	0.37	1m 59s	6.7s	9.8s	3	4	4	0h 9m	0h 11m	0h 14m
	17	13.2	4	4	5	1.0	0.44	2m 25s	7.3s	11.9s	4	4	5	0h 10m	0h 13m	0h 17m
	13.6	16.5	5	6	6	1.0	0.55	3m 1s	8.3s	14.9s	5	6	6	0h 12m	0h 16m	0h 21m
	11	20.5	6	7	7	1.5	0.66	3m 35s	9.3s	17.8s	6	7	7	0h 15m	0h 19m	0h 25m
	9	25.0	7	8	9	1.5	0.79	4m 22s	10.8s	21.3s	7	8	9	0h 18m	0h 23m	0h 31m
	7.4	30.4	8	9	10	2.0	0.93	5m 4s	12.1s	25.7s	8	9	10	0h 22m	0h 28m	0h 37m

TEMP: 210 ± 10C			PHASE 1				PHASE 2		PHASE 3	PHASE 4				PHASE 5		
Pipe Details (e _n = Wall Thickness) Max e _n = 70mm			Equalising				Preheating		Changeover Time	Joining (See Note a)				Minimum Cool Time Under Pressure (See Note b)		
			Equalising Pressure BAR			Bead Height (Minimum)				Buildup Time	Joining Pressure BAR			Up to 15°C	15°C to 25°C	25°C to 40°C
D _n	SDR	e _n	Min	Tgt	Max	mm	BAR	Time	Max	Max	Min	Tgt	Max			
250	41	6.1	2	2	3	0.5	0.24	1m 10s	5.6s	6.6s	2	2	3	0h 5m	0h 7m	0h 8m
	33	7.6	3	3	3	1.0	0.29	1m 26s	6.1s	7.4s	3	3	3	0h 6m	0h 8m	0h 10m
	26	9.6	3	4	4	1.0	0.37	1m 48s	6.5s	9s	3	4	4	0h 8m	0h 10m	0h 13m
	21	11.9	4	5	5	1.0	0.45	2m 10s	6.9s	10.6s	4	5	5	0h 9m	0h 12m	0h 15m
	17	14.7	5	6	6	1.0	0.55	2m 40s	7.8s	13.2s	5	6	6	0h 11m	0h 14m	0h 19m
	13.6	18.4	6	7	7	1.0	0.67	3m 16s	8.8s	16.2s	6	7	7	0h 13m	0h 17m	0h 23m
	11	22.7	7	8	9	1.5	0.82	3m 59s	10s	19.5s	7	8	9	0h 17m	0h 21m	0h 28m
	9	27.8	9	10	11	2.0	0.97	4m 44s	11.5s	23.4s	9	10	11	0h 20m	0h 25m	0h 34m
280	7.4	33.8	10	12	13	2.0	1.15	5m 33s	13.1s	28.9s	10	12	13	0h 25m	0h 31m	0h 41m
	41	6.8	3	3	3	0.5	0.30	1m 15s	5.8s	6.8s	3	3	3	0h 6m	0h 7m	0h 9m
	33	8.5	3	4	4	1.0	0.37	1m 32s	6.2s	7.8s	3	4	4	0h 7m	0h 8m	0h 11m
	26	10.8	4	5	5	1.0	0.46	1m 59s	6.7s	9.8s	4	5	5	0h 9m	0h 11m	0h 14m
	21	13.3	5	6	6	1.0	0.56	2m 25s	7.3s	11.9s	5	6	6	0h 10m	0h 13m	0h 17m
	17	16.5	6	7	8	1.0	0.69	2m 56s	8.2s	14.5s	6	7	8	0h 12m	0h 16m	0h 20m
	13.6	20.6	8	8	9	1.5	0.84	3m 40s	9.5s	18.1s	8	8	9	0h 15m	0h 19m	0h 26m
	11	25.5	9	10	11	1.5	1.02	4m 22s	10.8s	21.3s	9	10	11	0h 18m	0h 23m	0h 31m
315	9	31.1	11	12	13	2.0	1.22	5m 12s	12.4s	26.6s	11	12	13	0h 23m	0h 29m	0h 38m
	7.4	37.8	13	14	16	2.5	1.44	6m 5s	14.2s	32.5s	13	14	16	0h 27m	0h 35m	0h 46m
	41	7.7	3	4	4	1.0	0.38	1m 26s	6.1s	7.4s	3	4	4	0h 6m	0h 8m	0h 10m
	33	9.5	4	5	5	1.0	0.46	1m 48s	6.5s	9s	4	5	5	0h 8m	0h 10m	0h 13m
	26	12.1	5	6	6	1.0	0.58	2m 15s	7s	11s	5	6	6	0h 10m	0h 12m	0h 16m
	21	15.0	6	7	8	1.0	0.71	2m 46s	7.9s	13.6s	6	7	8	0h 12m	0h 15m	0h 19m
	17	18.5	8	9	10	1.0	0.87	3m 21s	8.9s	16.6s	8	9	10	0h 14m	0h 18m	0h 23m
	13.6	23.2	10	11	12	1.5	1.07	4m 3s	10.2s	19.9s	10	11	12	0h 17m	0h 22m	0h 29m
355	11	28.6	12	13	14	2.0	1.29	4m 52s	11.7s	24.3s	12	13	14	0h 21m	0h 26m	0h 35m
	9	35.0	14	15	17	2.0	1.54	5m 46s	13.5s	30.2s	14	15	17	0h 26m	0h 32m	0h 43m
	7.4	42.6	16	18	20	2.5	1.82	6m 39s	15.3s	36.7s	16	18	20	0h 31m	0h 39m	0h 52m
	41	8.7	4	5	5	1.0	0.48	1m 37s	6.3s	8.2s	4	5	5	0h 7m	0h 9m	0h 11m
	33	10.8	5	6	6	1.0	0.59	1m 59s	6.7s	9.8s	5	6	6	0h 9m	0h 11m	0h 14m
	26	13.7	7	7	8	1.0	0.74	2m 30s	7.5s	12.3s	7	7	8	0h 11m	0h 13m	0h 17m
	21	16.9	8	9	10	1.0	0.90	3m 1s	8.3s	14.9s	8	9	10	0h 12m	0h 16m	0h 21m
	17	20.9	10	11	12	1.5	1.10	3m 40s	9.5s	18.1s	10	11	12	0h 15m	0h 19m	0h 26m
355	13.6	26.1	12	14	15	2.0	1.35	4m 31s	11s	22s	12	14	15	0h 19m	0h 24m	0h 32m
	11	32.3	15	16	18	2.0	1.64	5m 21s	12.7s	27.5s	15	16	18	0h 23m	0h 30m	0h 39m
	9	39.4	18	20	22	2.5	1.96	6m 16s	14.5s	33.7s	18	20	22	0h 28m	0h 36m	0h 48m
	7.4	48.0	21	23	26	2.5	2.32	7m 13s	16.5s	40.9s	21	23	26	0h 34m	0h 44m	0h 58m