

TEMP: 220 ± 10C			PHASE 1				PHASE 2		PHASE 3	PHASE 4				PHASE 5		
Pipe Details (e _n = Wall Thickness) Max e _n = 130mm			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	1	1	1	0.5	0.04	0m 45s	5s	5s	1	1	1	0h 4m	0h 5m	0h 7m
	33	2.7	1	1	1	0.5	0.04	0m 45s	5s	5s	1	1	1	0h 4m	0h 5m	0h 7m
	26	3.5	1	1	1	0.5	0.05	0m 45s	5s	5s	1	1	1	0h 4m	0h 5m	0h 7m
	21	4.3	1	1	1	0.5	0.06	0m 45s	5s	5s	1	1	1	0h 4m	0h 5m	0h 7m
	17	5.3	1	1	1	1.0	0.08	0m 51s	5.3s	5.3s	1	1	1	0h 4m	0h 6m	0h 7m
	13.6	6.6	1	1	1	1.0	0.09	1m 10s	6s	6s	1	1	1	0h 6m	0h 7m	0h 9m
	11	8.2	2	2	2	1.5	0.11	1m 21s	6.5s	6.5s	2	2	2	0h 7m	0h 8m	0h 11m
	9	10.0	2	2	2	1.5	0.13	1m 43s	7.4s	7.4s	2	2	2	0h 8m	0h 10m	0h 13m
110	7.4	12.2	2	2	2	2.0	0.15	2m 0s	8s	8s	2	2	2	0h 10m	0h 12m	0h 16m
	41	2.7	1	1	1	0.5	0.05	0m 45s	5s	5s	1	1	1	0h 4m	0h 5m	0h 7m
	33	3.3	1	1	1	0.5	0.06	0m 45s	5s	5s	1	1	1	0h 4m	0h 5m	0h 7m
	26	4.2	1	1	1	0.5	0.08	0m 45s	5s	5s	1	1	1	0h 4m	0h 5m	0h 7m
	21	5.2	1	1	1	1.0	0.09	0m 51s	5.3s	5.3s	1	1	1	0h 4m	0h 6m	0h 7m
	17	6.5	2	2	2	1.0	0.11	1m 4s	5.8s	5.8s	2	2	2	0h 5m	0h 7m	0h 8m
	13.6	8.1	2	2	2	1.5	0.13	1m 21s	6.5s	6.5s	2	2	2	0h 7m	0h 8m	0h 11m
	11	10.0	2	2	3	1.5	0.16	1m 43s	7.4s	7.4s	2	2	3	0h 8m	0h 10m	0h 13m
125	9	12.2	3	3	3	2.0	0.19	2m 0s	8s	8s	3	3	3	0h 10m	0h 12m	0h 16m
	7.4	14.9	3	3	4	2.0	0.23	2m 27s	8.8s	9.2s	3	3	4	0h 11m	0h 14m	0h 19m
	41	3.0	1	1	1	0.5	0.06	0m 45s	5s	5s	1	1	1	0h 4m	0h 5m	0h 7m
	33	3.8	1	1	1	0.5	0.08	0m 45s	5s	5s	1	1	1	0h 4m	0h 5m	0h 7m
	26	4.8	1	1	2	1.0	0.10	0m 45s	5s	5s	1	1	2	0h 4m	0h 5m	0h 7m
	21	6.0	2	2	2	1.0	0.12	0m 58s	5.5s	5.5s	2	2	2	0h 5m	0h 6m	0h 8m
	17	7.4	2	2	2	1.5	0.14	1m 10s	6s	6s	2	2	2	0h 6m	0h 8m	0h 10m
	13.6	9.2	2	3	3	1.5	0.17	1m 32s	6.9s	6.9s	2	3	3	0h 7m	0h 9m	0h 12m
140	11	11.4	3	3	3	1.5	0.21	1m 55s	7.8s	7.8s	3	3	3	0h 9m	0h 11m	0h 14m
	9	13.9	3	4	4	2.0	0.25	2m 16s	8.5s	8.7s	3	4	4	0h 11m	0h 13m	0h 17m
	7.4	16.9	4	4	5	2.0	0.29	2m 49s	9.4s	10.1s	4	4	5	0h 12m	0h 16m	0h 21m
	41	3.4	1	1	1	0.5	0.08	0m 45s	5s	5s	1	1	1	0h 4m	0h 5m	0h 7m
	33	4.2	1	1	2	0.5	0.10	0m 45s	5s	5s	1	1	2	0h 4m	0h 5m	0h 7m
	26	5.4	2	2	2	1.0	0.12	0m 51s	5.3s	5.3s	2	2	2	0h 4m	0h 6m	0h 7m
	21	6.7	2	2	2	1.0	0.14	1m 10s	6s	6s	2	2	2	0h 6m	0h 7m	0h 9m
	17	8.2	2	3	3	1.5	0.18	1m 21s	6.5s	6.5s	2	3	3	0h 7m	0h 8m	0h 11m
	13.6	10.3	3	3	3	1.5	0.21	1m 43s	7.4s	7.4s	3	3	3	0h 8m	0h 10m	0h 13m
	11	12.7	4	4	4	2.0	0.26	2m 5s	8.2s	8.3s	4	4	4	0h 10m	0h 13m	0h 16m
	9	15.6	4	5	5	2.0	0.31	2m 38s	9.1s	9.7s	4	5	5	0h 12m	0h 15m	0h 20m
	7.4	18.9	5	5	6	2.0	0.36	3m 10s	10s	11s	5	5	6	0h 14m	0h 18m	0h 23m

TEMP: 220 ± 10C			PHASE 1				PHASE 2		PHASE 3	PHASE 4				PHASE 5		
Pipe Details (e _n = Wall Thickness) Max e _n = 130mm			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	2	2	0.5	0.10	0m 45s	5s	5s	1	2	2	0h 4m	0h 5m	0h 7m
	33	4.8	2	2	2	1.0	0.12	0m 45s	5s	5s	2	2	2	0h 4m	0h 5m	0h 7m
	26	6.2	2	2	2	1.0	0.15	1m 4s	5.8s	5.8s	2	2	2	0h 5m	0h 7m	0h 8m
	21	7.6	3	3	3	1.5	0.19	1m 16s	6.3s	6.3s	3	3	3	0h 6m	0h 8m	0h 10m
	17	9.4	3	3	4	1.5	0.23	1m 32s	6.9s	6.9s	3	3	4	0h 7m	0h 9m	0h 12m
	13.6	11.8	4	4	4	1.5	0.28	2m 0s	8s	8s	4	4	4	0h 9m	0h 12m	0h 15m
	11	14.5	5	5	5	2.0	0.34	2m 27s	8.8s	9.2s	5	5	5	0h 11m	0h 14m	0h 19m
	9	17.8	6	6	6	2.0	0.40	2m 59s	9.7s	10.6s	6	6	6	0h 13m	0h 17m	0h 22m
180	7.4	21.6	7	7	8	2.5	0.47	3m 37s	10.8s	12.2s	7	7	8	0h 16m	0h 20m	0h 27m
	41	4.4	2	2	2	0.5	0.13	0m 45s	5s	5s	2	2	2	0h 4m	0h 5m	0h 7m
	33	5.5	2	2	2	1.0	0.15	0m 51s	5.3s	5.3s	2	2	2	0h 4m	0h 6m	0h 7m
	26	6.9	3	3	3	1.0	0.19	1m 10s	6s	6s	3	3	3	0h 6m	0h 7m	0h 9m
	21	8.6	3	4	4	1.5	0.24	1m 27s	6.7s	6.7s	3	4	4	0h 7m	0h 9m	0h 11m
	17	10.6	4	4	5	1.5	0.29	1m 49s	7.6s	7.6s	4	4	5	0h 9m	0h 11m	0h 14m
	13.6	13.2	5	5	6	2.0	0.35	2m 11s	8.4s	8.5s	5	5	6	0h 10m	0h 13m	0h 17m
	11	16.4	6	6	7	2.0	0.43	2m 43s	9.3s	9.9s	6	6	7	0h 12m	0h 16m	0h 20m
200	9	20.0	7	8	8	2.5	0.51	3m 21s	10.4s	11.5s	7	8	8	0h 15m	0h 19m	0h 25m
	7.4	24.3	8	9	10	2.5	0.60	4m 4s	11.6s	13.4s	8	9	10	0h 18m	0h 22m	0h 30m
	41	4.9	2	2	2	1.0	0.15	0m 45s	5s	5s	2	2	2	0h 4m	0h 5m	0h 7m
	33	6.1	3	3	3	1.0	0.19	1m 4s	5.8s	5.8s	3	3	3	0h 5m	0h 7m	0h 8m
	26	7.7	3	4	4	1.5	0.24	1m 16s	6.3s	6.3s	3	4	4	0h 6m	0h 8m	0h 10m
	21	9.5	4	4	5	1.5	0.29	1m 38s	7.2s	7.2s	4	4	5	0h 8m	0h 10m	0h 13m
	17	11.8	5	5	6	1.5	0.35	2m 0s	8s	8s	5	5	6	0h 9m	0h 12m	0h 15m
	13.6	14.7	6	7	7	2.0	0.43	2m 27s	8.8s	9.2s	6	7	7	0h 11m	0h 14m	0h 19m
225	11	18.2	7	8	8	2.0	0.52	3m 5s	9.9s	10.8s	7	8	8	0h 13m	0h 17m	0h 23m
	9	22.2	9	9	10	2.5	0.62	3m 42s	11s	12.4s	9	9	10	0h 16m	0h 21m	0h 28m
	7.4	27.0	10	11	12	3.0	0.74	4m 31s	12.4s	14.5s	10	11	12	0h 20m	0h 25m	0h 33m
	41	5.5	3	3	3	1.0	0.19	0m 51s	5.3s	5.3s	3	3	3	0h 4m	0h 6m	0h 7m
	33	6.8	3	4	4	1.0	0.24	1m 10s	6s	6s	3	4	4	0h 6m	0h 7m	0h 9m
	26	8.7	4	5	5	1.5	0.30	1m 27s	6.7s	6.7s	4	5	5	0h 7m	0h 9m	0h 11m
	21	10.7	5	6	6	1.5	0.37	1m 49s	7.6s	7.6s	5	6	6	0h 9m	0h 11m	0h 14m
	17	13.2	6	7	7	2.0	0.44	2m 11s	8.4s	8.5s	6	7	7	0h 10m	0h 13m	0h 17m
	13.6	16.5	8	8	9	2.0	0.55	2m 49s	9.4s	10.1s	8	8	9	0h 12m	0h 16m	0h 21m
	11	20.5	9	10	11	2.5	0.66	3m 21s	10.4s	11.5s	9	10	11	0h 15m	0h 19m	0h 25m
	9	25.0	11	12	13	2.5	0.79	4m 15s	11.9s	13.8s	11	12	13	0h 18m	0h 23m	0h 31m
	7.4	30.4	13	14	15	3.0	0.93	5m 2s	13.6s	16s	13	14	15	0h 22m	0h 28m	0h 37m

TEMP: 220 ± 10C			PHASE 1				PHASE 2		PHASE 3	PHASE 4				PHASE 5		
Pipe Details (e _n = Wall Thickness) Max e _n = 130mm			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	3	4	4	1.0	0.24	1m 4s	5.8s	5.8s	3	4	4	0h 5m	0h 7m	0h 8m
	33	7.6	4	4	5	1.5	0.29	1m 16s	6.3s	6.3s	4	4	5	0h 6m	0h 8m	0h 10m
	26	9.6	5	6	6	1.5	0.37	1m 38s	7.2s	7.2s	5	6	6	0h 8m	0h 10m	0h 13m
	21	11.9	6	7	7	1.5	0.45	2m 0s	8s	8s	6	7	7	0h 9m	0h 12m	0h 15m
	17	14.7	8	8	9	2.0	0.55	2m 27s	8.8s	9.2s	8	8	9	0h 11m	0h 14m	0h 19m
	13.6	18.4	9	10	11	2.0	0.67	3m 5s	9.9s	10.8s	9	10	11	0h 13m	0h 17m	0h 23m
	11	22.7	11	12	13	2.5	0.82	3m 48s	11.1s	12.7s	11	12	13	0h 17m	0h 21m	0h 28m
	9	27.8	14	15	16	3.0	0.97	4m 36s	12.6s	14.8s	14	15	16	0h 20m	0h 25m	0h 34m
280	7.4	33.8	16	17	18	3.0	1.15	5m 39s	14.9s	17.6s	16	17	18	0h 25m	0h 31m	0h 41m
	41	6.8	4	4	5	1.0	0.30	1m 10s	6s	6s	4	4	5	0h 6m	0h 7m	0h 9m
	33	8.5	5	6	6	1.5	0.37	1m 21s	6.5s	6.5s	5	6	6	0h 7m	0h 8m	0h 11m
	26	10.8	6	7	7	1.5	0.46	1m 49s	7.6s	7.6s	6	7	7	0h 9m	0h 11m	0h 14m
	21	13.3	8	8	9	2.0	0.56	2m 11s	8.4s	8.5s	8	8	9	0h 10m	0h 13m	0h 17m
	17	16.5	10	10	11	2.0	0.69	2m 43s	9.3s	9.9s	10	10	11	0h 12m	0h 16m	0h 20m
	13.6	20.6	12	13	14	2.5	0.84	3m 26s	10.5s	11.7s	12	13	14	0h 15m	0h 19m	0h 26m
	11	25.5	14	15	16	2.5	1.02	4m 15s	11.9s	13.8s	14	15	16	0h 18m	0h 23m	0h 31m
315	9	31.1	17	18	20	3.0	1.22	5m 12s	14s	16.4s	17	18	20	0h 23m	0h 29m	0h 38m
	7.4	37.8	20	22	23	3.5	1.44	6m 15s	16.2s	19.3s	20	22	23	0h 27m	0h 35m	0h 46m
	41	7.7	5	6	6	1.5	0.38	1m 16s	6.3s	6.3s	5	6	6	0h 6m	0h 8m	0h 10m
	33	9.5	7	7	7	1.5	0.46	1m 38s	7.2s	7.2s	7	7	7	0h 8m	0h 10m	0h 13m
	26	12.1	8	9	9	2.0	0.58	2m 0s	8s	8s	8	9	9	0h 10m	0h 12m	0h 16m
	21	15.0	10	11	11	2.0	0.71	2m 32s	9s	9.4s	10	11	11	0h 12m	0h 15m	0h 19m
	17	18.5	12	13	14	2.0	0.87	3m 10s	10s	11s	12	13	14	0h 14m	0h 18m	0h 23m
	13.6	23.2	15	16	17	2.5	1.07	3m 53s	11.3s	12.9s	15	16	17	0h 17m	0h 22m	0h 29m
355	11	28.6	18	19	21	3.0	1.29	4m 46s	13s	15.2s	18	19	21	0h 21m	0h 26m	0h 35m
	9	35.0	22	23	25	3.0	1.54	5m 54s	15.5s	18.3s	22	23	25	0h 26m	0h 32m	0h 43m
	7.4	42.6	26	27	29	3.5	1.82	7m 7s	17.8s	21.7s	26	27	29	0h 31m	0h 39m	0h 52m
	41	8.7	7	7	8	1.5	0.48	1m 27s	6.7s	6.7s	7	7	8	0h 7m	0h 9m	0h 11m
	33	10.8	8	9	9	1.5	0.59	1m 49s	7.6s	7.6s	8	9	9	0h 9m	0h 11m	0h 14m
	26	13.7	10	11	12	2.0	0.74	2m 16s	8.5s	8.7s	10	11	12	0h 11m	0h 13m	0h 17m
	21	16.9	13	14	14	2.0	0.90	2m 49s	9.4s	10.1s	13	14	14	0h 12m	0h 16m	0h 21m
	17	20.9	15	17	18	2.5	1.10	3m 26s	10.5s	11.7s	15	17	18	0h 15m	0h 19m	0h 26m
	13.6	26.1	19	20	22	3.0	1.35	4m 20s	12s	14s	19	20	22	0h 19m	0h 24m	0h 32m
	11	32.3	23	25	26	3.0	1.64	5m 23s	14.3s	16.9s	23	25	26	0h 23m	0h 30m	0h 39m
	9	39.4	27	29	31	3.5	1.96	6m 31s	16.7s	20s	27	29	31	0h 28m	0h 36m	0h 48m
	7.4	48.0	32	35	37	3.5	2.32	7m 59s	19.4s	24.1s	32	35	37	0h 34m	0h 44m	0h 58m