

Table for PP

Heating up time = **15 x** wall thickness [sec], for 2 - 4 mm wall thickness; and **6 x** wall thickness [sec], for 5 - 10 mm wall thickness

Cooling down time under joining pressure = **2,0 x** wall thickness [min], for 2 - 4 mm; and **1,75 x** wall thickness [min] for >4 - 10 mm wall thick

The standard value for heating element temperature is 210° C ± 10 °C, for **smaller** wall thickness higher temperatures have to be realized.

1 kp = 23 N; For the given adjusting and welding pressure the movement pressure of the welding slide has to be added!

Thickness	2	3	4	5	6	7	8	9	9	10	11	12	13	14	15	16	17	18	19	20
Bead height	0,5	0,5	0,5	0,5	0,5	0,5	1	1	1	1	1	1	1	1	1	1	1	1	1	1,5
Lenght	Joining pressure [bar]																			
100	1	2	2	3	3	4	4	4	4	5	5	6	6	7	7	7	8	8	9	9
120	2	2	3	3	4	4	5	5	5	6	6	7	7	8	8	9	9	10	10	11
140	2	2	3	4	4	5	5	6	6	7	7	8	8	9	10	10	11	11	12	13
160	2	3	3	4	5	5	6	7	7	7	8	9	10	10	11	12	12	13	14	14
180	2	3	4	4	5	6	7	8	8	8	9	10	11	11	12	13	14	15	15	16
200	2	3	4	5	6	7	7	8	8	9	10	11	12	13	14	14	15	16	17	18
220	2	3	4	5	6	7	8	9	9	10	11	12	13	14	15	16	17	18	19	20
240	3	4	5	6	7	8	9	10	10	11	12	13	14	15	16	17	18	19	20	21
260	3	4	5	6	7	8	10	11	11	12	13	14	15	16	17	19	20	21	22	23
280	3	4	5	7	8	9	10	11	11	13	14	15	16	18	19	20	21	22	24	25
300	3	4	6	7	8	10	11	12	12	14	15	16	17	19	20	21	23	24	25	27
320	3	5	6	7	9	10	12	13	13	14	16	17	19	20	21	23	24	26	27	28
340	3	5	6	8	9	11	12	14	14	15	17	18	20	21	23	24	26	27	29	30
360	4	5	7	8	10	11	13	15	15	16	18	19	21	22	24	26	27	29	30	32
380	4	5	7	9	10	12	14	15	15	17	19	20	22	24	25	27	29	30	32	34
400	4	6	7	9	11	13	14	16	16	18	20	21	23	25	27	28	30	32	34	35

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Cooling down time under joining pressure = **2,0 x** wall thickness [min], for 2 - 4 mm; and **1,75 x** wall thickness [min] for >4 - 10 mm wall thick

The standard value for heating element temperature is 210° C ± 10 °C, for **smaller** wall thickness higher temperatures have to be realized.

1 kp = 23 N; For the given adjusting and welding pressure the movement pressure of the welding slide has to be added!

Thickness	2	3	4	5	6	7	8	9	9	10	11	12	13	14	15	16	17	18	19	20
Bead height	0,5	0,5	0,5	0,5	0,5	0,5	1	1	1	1	1	1	1	1	1	1	1	1	1	1,5
Lenght	Joining pressure [bar]																			
420	4	6	8	10	11	13	15	17	17	19	21	22	24	26	28	30	32	33	35	37
440	4	6	8	10	12	14	16	18	18	20	22	23	25	27	29	31	33	35	37	39
460	5	7	9	11	13	15	17	19	19	21	23	25	27	29	31	33	35	37	39	41
480	5	7	9	11	13	15	17	19	19	21	23	26	28	30	32	34	36	38	40	42
500	5	7	9	11	14	16	18	20	20	22	24	27	29	31	33	35	37	40	42	44
520	5	7	10	12	14	16	19	21	21	23	25	28	30	32	34	37	39	41	43	46
540	5	8	10	12	15	17	19	22	22	24	26	29	31	33	36	38	40	43	45	47
560	5	8	10	13	15	18	20	22	22	25	27	30	32	35	37	39	42	44	47	49
580	6	8	11	13	16	18	21	23	23	26	28	31	33	36	38	41	43	46	48	51
600	6	8	11	14	16	19	21	24	24	27	29	32	34	37	40	42	45	47	50	53
620	6	9	11	14	17	19	22	25	25	27	30	33	36	38	41	44	46	49	52	54
640	6	9	12	14	17	20	23	26	26	28	31	34	37	39	42	45	48	51	53	56
660	6	9	12	15	18	21	23	26	26	29	32	35	38	41	44	46	49	52	55	58
680	6	9	12	15	18	21	24	27	27	30	33	36	39	42	45	48	51	54	57	60
700	7	10	13	16	19	22	25	28	28	31	34	37	40	43	46	49	52	55	58	61
720	7	10	13	16	19	22	26	29	29	32	35	38	41	44	47	51	54	57	60	63
740	7	10	13	17	20	23	26	29	29	33	36	39	42	46	49	52	55	58	62	65
760	7	10	14	17	20	24	27	30	30	34	37	40	43	47	50	53	57	60	63	67
780	7	11	14	17	21	24	28	31	31	34	38	41	45	48	51	55	58	62	65	68

Table for PP

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Cooling down time under joining pressure = **2,0 x** wall thickness [min], for 2 - 4 mm; and **1,75 x** wall thickness [min] for >4 - 10 mm wall thick

The standard value for heating element temperature is 210° C ± 10 °C, for **smaller** wall thickness higher temperatures have to be realized.

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Thickness	2	3	4	5	6	7	8	9	9	10	11	12	13	14	15	16	17	18	19	20
Bead height	0,5	0,5	0,5	0,5	0,5	0,5	1	1	1	1	1	1	1	1	1	1	1	1	1	1,5
Lenght	Joining pressure [bar]																			
800	7	11	14	18	21	25	28	32	32	35	39	42	46	49	53	56	60	63	67	70
820	8	11	15	18	22	25	29	33	33	36	40	43	47	50	54	58	61	65	68	72
840	8	11	15	19	22	26	30	33	33	37	41	44	48	52	55	59	63	66	70	74
860	8	12	15	19	23	27	30	34	34	38	42	45	49	53	57	60	64	68	72	75
880	8	12	16	20	23	27	31	35	35	39	43	46	50	54	58	62	66	69	73	77
900	8	12	16	20	24	28	32	36	36	40	44	47	51	55	59	63	67	71	75	79
920	9	13	17	21	25	29	33	37	37	41	45	49	53	57	61	65	69	73	77	81
940	9	13	17	21	25	29	33	37	37	41	45	50	54	58	62	66	70	74	78	82
960	9	13	17	21	26	30	34	38	38	42	46	51	55	59	63	67	71	76	80	84
980	9	13	18	22	26	30	35	39	39	43	47	52	56	60	64	69	73	77	81	86
1000	9	14	18	22	27	31	35	40	40	44	48	53	57	61	66	70	74	79	83	87
1020	9	14	18	23	27	32	36	40	40	45	49	54	58	63	67	71	76	80	85	89
1040	10	14	19	23	28	32	37	41	41	46	50	55	59	64	68	73	77	82	86	91
1060	10	14	19	24	28	33	37	42	42	47	51	56	60	65	70	74	79	83	88	93
1080	10	15	19	24	29	33	38	43	43	47	52	57	62	66	71	76	80	85	90	94
1100	10	15	20	24	29	34	39	44	44	48	53	58	63	67	72	77	82	87	91	96
1120	10	15	20	25	30	35	39	44	44	49	54	59	64	69	74	78	83	88	93	98
1140	10	15	20	25	30	35	40	45	45	50	55	60	65	70	75	80	85	90	95	100
1160	11	16	21	26	31	36	41	46	46	51	56	61	66	71	76	81	86	91	96	101

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Thickness	2	3	4	5	6	7	8	9	9	10	11	12	13	14	15	16	17	18	19	20
Bead height	0,5	0,5	0,5	0,5	0,5	0,5	1	1	1	1	1	1	1	1	1	1	1	1	1	1,5
Lenght	Joining pressure [bar]																			
1180	11	16	21	26	31	36	42	47	47	52	57	62	67	72	77	83	88	93	98	103
1200	11	16	21	27	32	37	42	47	47	53	58	63	68	74	79	84	89	94	100	105
1220	11	16	22	27	32	38	43	48	48	54	59	64	69	75	80	85	91	96	101	107
1240	11	17	22	27	33	38	44	49	49	54	60	65	71	76	81	87	92	98	103	108
1260	11	17	22	28	33	39	44	50	50	55	61	66	72	77	83	88	94	99	105	110
1280	12	17	23	28	34	39	45	51	51	56	62	67	73	78	84	90	95	101	106	112
1300	12	17	23	29	34	40	46	51	51	57	63	68	74	80	85	91	97	102	108	114
1320	12	18	23	29	35	41	46	52	52	58	64	69	75	81	87	92	98	104	110	115
1340	12	18	24	30	35	41	47	53	53	59	65	70	76	82	88	94	100	105	111	117
1360	12	18	24	30	36	42	48	54	54	60	66	71	77	83	89	95	101	107	113	119
1380	13	19	25	31	37	43	49	55	55	61	67	73	79	85	91	97	103	109	115	121
1400	13	19	25	31	37	43	49	55	55	61	67	74	80	86	92	98	104	110	116	122
1420	13	19	25	31	38	44	50	56	56	62	68	75	81	87	93	99	105	112	118	124
1440	13	19	26	32	38	44	51	57	57	63	69	76	82	88	94	101	107	113	119	126
1460	13	20	26	32	39	45	51	58	58	64	70	77	83	89	96	102	108	115	121	127
1480	13	20	26	33	39	46	52	58	58	65	71	78	84	91	97	103	110	116	123	129
1500	14	20	27	33	40	46	53	59	59	66	72	79	85	92	98	105	111	118	124	131
1520	14	20	27	34	40	47	53	60	60	67	73	80	86	93	100	106	113	119	126	133
1540	14	21	27	34	41	47	54	61	61	67	74	81	88	94	101	108	114	121	128	134

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Thickness	2	3	4	5	6	7	8	9	9	10	11	12	13	14	15	16	17	18	19	20
Bead height	0,5	0,5	0,5	0,5	0,5	0,5	1	1	1	1	1	1	1	1	1	1	1	1	1	1,5
Lenght	Joining pressure [bar]																			
1560	14	21	28	34	41	48	55	62	62	68	75	82	89	95	102	109	116	123	129	136
1580	14	21	28	35	42	49	55	62	62	69	76	83	90	97	104	110	117	124	131	138
1600	14	21	28	35	42	49	56	63	63	70	77	84	91	98	105	112	119	126	133	140
1620	15	22	29	36	43	50	57	64	64	71	78	85	92	99	106	113	120	127	134	141
1640	15	22	29	36	43	50	58	65	65	72	79	86	93	100	107	115	122	129	136	143
1660	15	22	29	37	44	51	58	65	65	73	80	87	94	102	109	116	123	130	138	145
1680	15	22	30	37	44	52	59	66	66	74	81	88	95	103	110	117	125	132	139	147
1700	15	23	30	37	45	52	60	67	67	74	82	89	97	104	111	119	126	134	141	148
1720	15	23	30	38	45	53	60	68	68	75	83	90	98	105	113	120	128	135	143	150
1740	16	23	31	38	46	53	61	69	69	76	84	91	99	106	114	122	129	137	144	152
1760	16	23	31	39	46	54	62	69	69	77	85	92	100	108	115	123	131	138	146	154
1780	16	24	31	39	47	55	62	70	70	78	86	93	101	109	117	124	132	140	148	155
1800	16	24	32	40	47	55	63	71	71	79	87	94	102	110	118	126	134	141	149	157
1820	16	24	32	40	48	56	64	72	72	80	88	95	103	111	119	127	135	143	151	159
1840	17	25	33	41	49	57	65	73	73	81	89	97	105	113	121	129	137	145	153	161
1860	17	25	33	41	49	57	65	73	73	81	89	98	106	114	122	130	138	146	154	162
1880	17	25	33	41	50	58	66	74	74	82	90	99	107	115	123	131	139	148	156	164

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Thickness	2	3	4	5	6	7	8	9	9	10	11	12	13	14	15	16	17	18	19	20
Bead height	0,5	0,5	0,5	0,5	0,5	0,5	1	1	1	1	1	1	1	1	1	1	1	1	1	1,5
Lenght	Joining pressure [bar]																			
1900	17	25	34	42	50	58	67	75	75	83	91	100	108	116	124	133	141	149	157	166
1920	17	26	34	42	51	59	67	76	76	84	92	101	109	117	126	134	142	151	159	167
1940	17	26	34	43	51	60	68	76	76	85	93	102	110	119	127	135	144	152	161	169
1960	18	26	35	43	52	60	69	77	77	86	94	103	111	120	128	137	145	154	162	171
1980	18	26	35	44	52	61	69	78	78	87	95	104	112	121	130	138	147	155	164	173
2000	18	27	35	44	53	61	70	79	79	87	96	105	114	122	131	140	148	157	166	174