

# Field 20 (Butt) Welding Parameters

CURRENT AS OF  
04/11/2023

Product Line & Material	Pipe Size	Initial Melt Pressure	Bead Height	Melt Pressure	Heatsoak Time	Changeover Time	Welding Pressure	Cooling Time
Air-Pro® (PE)	8" (200mm) SDR11	12.0 bar	2 mm	Almost Zero	182 seconds	10 seconds	12.0 bar	17.3 min
Air-Pro® (PE)	10" (250mm) SDR11	18.0 bar	2.5 mm	Almost Zero	227 seconds	11 seconds	18.0 bar	21.2 min
Air-Pro® (PE)	12" (315mm) SDR11	28.0 bar	3 mm	Almost Zero	286 seconds	13 seconds	28.0 bar	26.4 min
Asahitec™ Solid Wall (PP-RCT)	8" (200mm) SDR11	8.0 bar	1 mm	Almost Zero	198 seconds	9 seconds	8.0 bar	17.3 min
Asahitec™ Solid Wall (PP-RCT)	10" (250mm) SDR11	12.0 bar	1.5 mm	Almost Zero	240 seconds	10 seconds	12.0 bar	21.2 min
Asahitec™ Solid Wall (PP-RCT)	12" (315mm) SDR11	19.0 bar	2 mm	Almost Zero	293 seconds	12 seconds	19.0 bar	26.4 min
Asahitec™ Solid Wall (PP-RCT)	14" (355mm) SDR11	24.0 bar	2 mm	Almost Zero	322 seconds	13 seconds	24.0 bar	29.6 min
Asahitec™ Solid Wall (PP-RCT)	16" (400mm) SDR11	20.0 bar	2 mm	Almost Zero	356 seconds	14 seconds	20.0 bar	33.4 min
Asahitec™ Solid Wall (PP-RCT)	18" (450mm) SDR11	38.0 bar	2.5 mm	Almost Zero	388 seconds	15 seconds	38.0 bar	37.6 min
Chem Proline® (PE)	8" (200mm) SDR11	12.0 bar	2 mm	Almost Zero	182 seconds	10 seconds	12.0 bar	17.3 min
Chem Proline® (PE)	10" (250mm) SDR11	18.0 bar	2.5 mm	Almost Zero	227 seconds	11 seconds	18.0 bar	21.2 min
Chem Proline® (PE)	12" (315mm) SDR11	28.0 bar	3 mm	Almost Zero	286 seconds	13 seconds	28.0 bar	26.4 min
Climatec™ (PP-RCT)	8" (200mm) SDR17	5.0 bar	1 mm	Almost Zero	134 seconds	7 seconds	5.0 bar	11.9 min



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### Welding Temperatures

PP: 393°F - 410°F (200°C - 210°C)  
 PE: 420°F - 446°F (215°C - 230°C)  
 PVDF: 436°F - 446°F (225°C - 230°C)  
 ECTFE: 527°F - 536°F (275°C - 280°C)

A reduction in the cooling time of up to 50%, i.e. removal of the welded part from the welding machine, is permitted in the following circumstances:  
 - the joint connection was created under workshop conditions and  
 - the removal of the part from the welding machine and its temporary storage until the complete cooling time according to the Cooling Time column causes negligible loading of the joint

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Climatec™ (PP-RCT)	10" (250mm) SDR17	8.0 bar	1 mm	Almost Zero	163 seconds	8 seconds	8.0 bar	14.4 min
Climatec™ (PP-RCT)	12" (315mm) SDR17	13.0 bar	1 mm	Almost Zero	203 seconds	9 seconds	13.0 bar	17.8 min
Climatec™ (PP-RCT)	14" (355mm) SDR17	16.0 bar	1.5 mm	Almost Zero	225 seconds	10 seconds	16.0 bar	19.8 min
Climatec™ (PP-RCT)	16" (400mm) SDR17	20.0 bar	1.5 mm	Almost Zero	250 seconds	10 seconds	20.0 bar	22.0 min
Climatec™ (PP-RCT)	18" (450mm) SDR17	26.0 bar	2 mm	Almost Zero	277 seconds	11 seconds	26.0 bar	24.6 min
Climatec™ (PP-RCT)	20" (500mm) SDR17	32.0 bar	2 mm	Almost Zero	302 seconds	12 seconds	32.0 bar	27.4 min
Proline® PRO150 (PP)	8" (200mm) SDR11	8.0 bar	1 mm	Almost Zero	198 seconds	9 seconds	8.0 bar	17.3 min
Proline® PRO150 (PP)	9" (225mm) SDR11	10.0 bar	1.5 mm	Almost Zero	220 seconds	9 seconds	10.0 bar	19.3 min
Proline® PRO150 (PP)	10" (250mm) SDR11	12.0 bar	1.5 mm	Almost Zero	240 seconds	10 seconds	12.0 bar	21.2 min
Proline® PRO150 (PP)	11" (280mm) SDR11	15.0 bar	1.5 mm	Almost Zero	265 seconds	11 seconds	15.0 bar	23.5 min
Proline® PRO150 (PP)	12" (315mm) SDR11	19.0 bar	2 mm	Almost Zero	293 seconds	12 seconds	19.0 bar	26.4 min
Proline® PRO150 (PP)	14" (355mm) SDR11	24.0 bar	2 mm	Almost Zero	322 seconds	13 seconds	24.0 bar	29.6 min
Proline® PRO150 (PP)	16" (400mm) SDR11	20.0 bar	2 mm	Almost Zero	356 seconds	14 seconds	20.0 bar	33.4 min



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 PE: 420°F - 446°F (215°C - 230°C)  
 PVDF: 436°F - 446°F (225°C - 230°C)  
 ECTFE: 527°F - 536°F (275°C - 280°C)

A reduction in the cooling time of up to 50%, i.e. removal of the welded part from the welding machine, is permitted in the following circumstances:

- the joint connection was created under workshop conditions and
- the removal of the part from the welding machine and its temporary storage until the complete cooling time according to the Cooling Time column causes negligible loading of the joint

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Product Line & Material	Pipe Size	Initial Melt Pressure	Bead Height	Melt Pressure	Heatsoak Time	Changeover Time	Welding Pressure	Cooling Time
Proline® PRO150 (PP)	18" (450mm) SDR11	38.0 bar	2.5 mm	Almost Zero	388 seconds	15 seconds	38.0 bar	37.6 min
Proline® PRO90 (PP)	8" (200mm) SDR17.6	5.0 bar	1 mm	Almost Zero	129 seconds	7 seconds	5.0 bar	11.3 min
Proline® PRO90 (PP)	9" (225mm) SDR17.6	7.0 bar	1 mm	Almost Zero	143 seconds	7 seconds	7.0 bar	12.4 min
Proline® PRO90 (PP)	10" (250mm) SDR17.6	8.0 bar	1 mm	Almost Zero	157 seconds	8 seconds	8.0 bar	13.5 min
Proline® PRO90 (PP)	11" (280mm) SDR17.6	10.0 bar	1 mm	Almost Zero	175 seconds	8 seconds	10.0 bar	15.2 min
Proline® PRO90 (PP)	12" (315mm) SDR17.6	12.0 bar	1 mm	Almost Zero	195 seconds	9 seconds	12.0 bar	17.0 min
Proline® PRO90 (PP)	14" (355mm) SDR17.6	15.0 bar	1.5 mm	Almost Zero	201 seconds	10 seconds	15.0 bar	18.6 min
Proline® PRO90 (PP)	16" (400mm) SDR17.6	20.0 bar	1.5 mm	Almost Zero	240 seconds	10 seconds	20.0 bar	21.1 min
Proline® PRO90 (PP)	18" (450mm) SDR17.6	25.0 bar	1.5 mm	Almost Zero	266 seconds	11 seconds	25.0 bar	23.3 min
Proline® PRO90 (PP)	20" (500mm) SDR17.6	30.0 bar	2 mm	Almost Zero	291 seconds	12 seconds	30.0 bar	26.1 min
Proline® PRO45 (PP)	8" (200mm) SDR33	3.0 bar	0.5 mm	Almost Zero	72 seconds	6 seconds	3.0 bar	6.7 min
Proline® PRO45 (PP)	9" (225mm) SDR33	4.0 bar	0.5 mm	Almost Zero	80 seconds	6 seconds	4.0 bar	7.4 min
Proline® PRO45 (PP)	10" (250mm) SDR33	5.0 bar	1 mm	Almost Zero	89 seconds	6 seconds	5.0 bar	8.1 min



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 PE: 420°F - 446°F (215°C - 230°C)  
 PVDF: 436°F - 446°F (225°C - 230°C)  
 ECTFE: 527°F - 536°F (275°C - 280°C)

A reduction in the cooling time of up to 50%, i.e. removal of the welded part from the welding machine, is permitted in the following circumstances:

- the joint connection was created under workshop conditions and
- the removal of the part from the welding machine and its temporary storage until the complete cooling time according to the Cooling Time column causes negligible loading of the joint

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Product Line & Material	Pipe Size	Initial Melt Pressure	Bead Height	Melt Pressure	Heatsoak Time	Changeover Time	Welding Pressure	Cooling Time
Proline® PRO45 (PP)	11" (280mm) SDR33	6.0 bar	1 mm	Almost Zero	98 seconds	6 seconds	6.0 bar	8.9 min
Proline® PRO45 (PP)	12" (315mm) SDR33	7.0 bar	1 mm	Almost Zero	110 seconds	7 seconds	7.0 bar	9.9 min
Proline® PRO45 (PP)	14" (355mm) SDR33	9.0 bar	1 mm	Almost Zero	123 seconds	7 seconds	9.0 bar	11.0 min
Proline® PRO45 (PP)	16" (400mm) SDR33	11.0 bar	1 mm	Almost Zero	138 seconds	7 seconds	11.0 bar	12.3 min
Proline® PRO45 (PP)	18" (450mm) SDR33	14.0 bar	1 mm	Almost Zero	153 seconds	8 seconds	14.0 bar	13.6 min
Proline® PRO45 (PP)	20" (500mm) SDR33	17.0 bar	1 mm	Almost Zero	168 seconds	8 seconds	17.0 bar	14.8 min
Super Proline® (PVDF)	8" (200mm) SDR21	5.0 bar	1 mm	Almost Zero	136 seconds	4 seconds	5.0 bar	13.5 min
Super Proline® (PVDF)	10" (250mm) SDR21	7.0 bar	1.1 mm	Almost Zero	159 seconds	4 seconds	7.0 bar	16.5 min
Super Proline® (PVDF)	8" (200mm) SDR33	3.0 bar	0.6 mm	Almost Zero	102 seconds	4 seconds	3.0 bar	9.5 min
Super Proline® (PVDF)	10" (250mm) SDR33	5.0 bar	0.7 mm	Almost Zero	117 seconds	4 seconds	5.0 bar	11.0 min
Super Proline® (PVDF)	12" (315mm) SDR33	7.0 bar	1 mm	Almost Zero	137 seconds	4 seconds	7.0 bar	13.5 min
Watertec™ (PP-RCT)	8" (200mm) SDR11	8.0 bar	1 mm	Almost Zero	198 seconds	9 seconds	8.0 bar	17.3 min
Watertec™ (PP-RCT)	10" (250mm) SDR11	12.0 bar	1.5 mm	Almost Zero	240 seconds	10 seconds	12.0 bar	21.2 min



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 PVDF: 436°F - 446°F (225°C - 230°C)  
 ECTFE: 527°F - 536°F (275°C - 280°C)

A reduction in the cooling time of up to 50%, i.e. removal of the welded part from the welding machine, is permitted in the following circumstances:

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Watertec™ (PP-RCT)	12" (315mm) SDR11	19.0 bar	2 mm	Almost Zero	293 seconds	12 seconds	19.0 bar	26.4 min
Watertec™ (PP-RCT)	14" (355mm) SDR11	24.0 bar	2 mm	Almost Zero	322 seconds	13 seconds	24.0 bar	29.6 min
Watertec™ (PP-RCT)	16" (400mm) SDR11	20.0 bar	2 mm	Almost Zero	356 seconds	14 seconds	20.0 bar	33.4 min
Watertec™ (PP-RCT)	18" (450mm) SDR11	38.0 bar	2.5 mm	Almost Zero	388 seconds	15 seconds	38.0 bar	37.6 min
Chem Prolok® (PE)	8" X 12" (200mm X 315mm) SDR11X33	22.0 bar	1.5 mm	Almost Zero	182 seconds	10 seconds	22.0 bar	17.3 min
Chem Prolok® (PE)	10" X 14" (250mm X 355mm) SDR11X33	31.0 bar	1.5 mm	Almost Zero	227 seconds	11 seconds	31.0 bar	21.2 min
Chem Prolok® (PE)	12" X 16" (315mm X 400mm) SDR11X33	44.0 bar	2 mm	Almost Zero	286 seconds	13 seconds	44.0 bar	26.4 min
Duo-Pro® PRO150X150 (PP)	8" X 12" (200mm X 315mm) SDR11X11	27.0 bar	2 mm	Almost Zero	293 seconds	12 seconds	27.0 bar	26.4 min
Duo-Pro® PRO150X150 (PP)	10" X 14" (250mm X 355mm) SDR11X11	36.0 bar	2 mm	Almost Zero	322 seconds	13 seconds	36.0 bar	29.6 min
Duo-Pro® PRO150X45 (PP)	8" X 12" (200mm X 315mm) SDR11X33	15.0 bar	1 mm	Almost Zero	198 seconds	9 seconds	15.0 bar	17.3 min
Duo-Pro® PRO150X45 (PP)	10" X 14" (250mm X 355mm) SDR11X33	21.0 bar	1 mm	Almost Zero	240 seconds	10 seconds	21.0 bar	21.2 min
Duo-Pro® PRO150X45 (PP)	12" X 16" (315mm X 400mm) SDR11X33	30.0 bar	1 mm	Almost Zero	293 seconds	12 seconds	30.0 bar	26.4 min
Duo-Pro® PRO150X45 (PP)	14" X 18" (355mm X 450mm) SDR11X33	38.0 bar	1 mm	Almost Zero	322 seconds	13 seconds	38.0 bar	29.6 min



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Duo-Pro® PRO150X45 (PP)	16" X 20" (400mm X 500mm) SDR11X33	37.0 bar	1 mm	Almost Zero	356 seconds	14 seconds	37.0 bar	33.4 min
Duo-Pro® PRO45X45 (PP)	8" X 12" (200mm X 315mm) SDR33X33	10.0 bar	1 mm	Almost Zero	110 seconds	7 seconds	10.0 bar	9.9 min
Duo-Pro® PRO45X45 (PP)	10" X 14" (250mm X 355mm) SDR33X33	14.0 bar	1 mm	Almost Zero	123 seconds	7 seconds	14.0 bar	11.0 min
Duo-Pro® PRO45X45 (PP)	12" X 16" (315mm X 400mm) SDR33X33	18.0 bar	1 mm	Almost Zero	138 seconds	7 seconds	18.0 bar	12.3 min
Duo-Pro® PRO45X45 (PP)	14" X 18" (355mm X 450mm) SDR33X33	23.0 bar	1 mm	Almost Zero	153 seconds	8 seconds	23.0 bar	13.6 min
Duo-Pro® PRO45X45 (PP)	16" X 20" (400mm X 500mm) SDR33X33	28.0 bar	1 mm	Almost Zero	168 seconds	8 seconds	28.0 bar	14.8 min
Duo-Pro® PVDFXPVDF (PVDF)	8" X 12" (200mm X 315mm) SDR33X33	10.0 bar	1 mm	Almost Zero	137 seconds	4 seconds	10.0 bar	13.5 min



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- the joint connection was created under workshop conditions and
- the removal of the part from the welding machine and its temporary storage until the complete cooling time according to the Cooling Time column causes negligible loading of the joint