

# Table for PE

Basis: DVS data sheets 2207, 2208 - State 2016

Field of application: **4000 / 4001 / 4002**

1 bar on pressure gauge: **23** N (Effective surface of cylinder: 236 mm<sup>2</sup> / 0,37 inch<sup>2</sup>)

The heating element temperature is 220° C ± 10° C / 428° F ± 18° F.

The change-over time should be kept as low as possible.

The joining pressure build-up time should be recognized as maximum value and may be underrun by up to 50%.

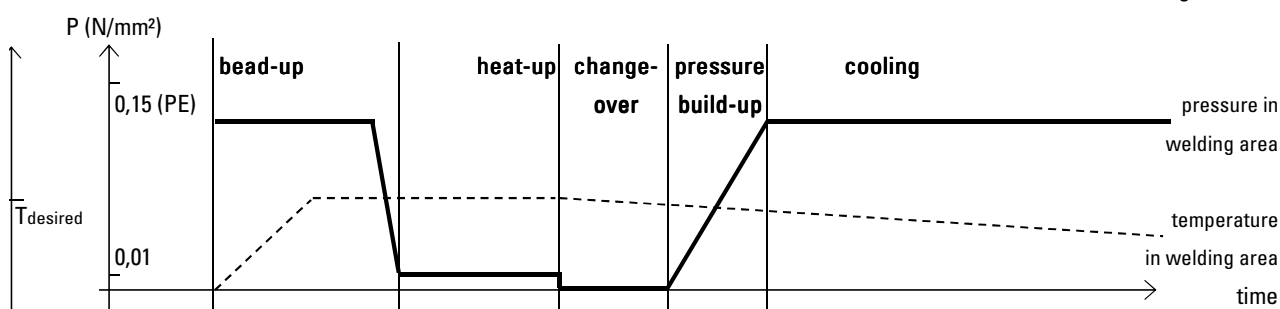
You must add the motion pressure of the welding machine to the indicated bead-up and cooling pressure in each case!

The maximum pressure of the welding machine is to be observed.

**1 These cooling times are only valid under the following conditions:**

- Welding connection is produced under workshop conditions
- Removal from the welding machine and temporary storage until complete cooling time elapses only cause minor strain for the welding connection

All information without guarantee



| pipe wall (s) | SDR degree | bead-up pressure [bar] | circular bead height min. [mm] | heat-up time [min:s] | max. change-over time [s] | pressure build-up time [s] | welding pressure [bar] | cooling time for ambient temperature |                         |                       | special cooling time 1 [min:s] |
|---------------|------------|------------------------|--------------------------------|----------------------|---------------------------|----------------------------|------------------------|--------------------------------------|-------------------------|-----------------------|--------------------------------|
|               |            |                        |                                |                      |                           |                            |                        | < 15°C < 59°F [min:s]                | 15-25°C 59-77°F [min:s] | > 25°C > 77°F [min:s] |                                |
| <b>DA 90</b>  |            |                        |                                |                      |                           |                            |                        |                                      |                         |                       |                                |
| 2,2           | 41         | 4                      | 0,5                            | 00:22                | 5                         | 5                          | 4                      | 04:00                                | 05:00                   | 06:30                 | 03:30                          |
| 2,8           | 33         | 6                      | 0,5                            | 00:28                | 5                         | 5                          | 6                      | 04:00                                | 05:00                   | 06:30                 | 03:30                          |
| 3,5           | 26         | 7                      | 0,5                            | 00:35                | 5                         | 5                          | 7                      | 04:00                                | 05:00                   | 06:30                 | 03:30                          |
| 4,3           | 21         | 8                      | 0,5                            | 00:43                | 5                         | 5                          | 8                      | 04:00                                | 05:00                   | 06:30                 | 03:30                          |
| 5,1           | 17,6       | 9                      | 1                              | 00:51                | 5                         | 5                          | 9                      | 04:29                                | 05:36                   | 07:13                 | 03:52                          |
| 5,4           | 17         | 10                     | 1                              | 00:54                | 5                         | 5                          | 10                     | 04:43                                | 05:54                   | 07:35                 | 04:02                          |
| 6,7           | 13,6       | 12                     | 1                              | 01:07                | 6                         | 6                          | 12                     | 05:46                                | 07:12                   | 09:08                 | 04:49                          |
| 8,2           | 11         | 14                     | 1,5                            | 01:22                | 6                         | 6                          | 14                     | 06:50                                | 08:35                   | 10:56                 | 05:43                          |
| 10,1          | 9          | 17                     | 1,5                            | 01:41                | 7                         | 7                          | 17                     | 08:10                                | 10:17                   | 13:13                 | 06:52                          |
| 12,3          | 7,4        | 20                     | 2                              | 02:03                | 8                         | 8                          | 20                     | 09:42                                | 12:15                   | 15:52                 | 08:10                          |
| <b>DA 110</b> |            |                        |                                |                      |                           |                            |                        |                                      |                         |                       |                                |
| 2,7           | 41         | 6                      | 0,5                            | 00:27                | 5                         | 5                          | 6                      | 04:00                                | 05:00                   | 06:30                 | 03:30                          |
| 3,4           | 33         | 8                      | 0,5                            | 00:34                | 5                         | 5                          | 8                      | 04:00                                | 05:00                   | 06:30                 | 03:30                          |
| 4,2           | 26         | 10                     | 0,5                            | 00:42                | 5                         | 5                          | 10                     | 04:00                                | 05:00                   | 06:30                 | 03:30                          |
| 5,3           | 21         | 12                     | 1                              | 00:53                | 5                         | 5                          | 12                     | 04:38                                | 05:48                   | 07:28                 | 03:59                          |
| 6,3           | 17,6       | 14                     | 1                              | 01:03                | 6                         | 6                          | 14                     | 05:26                                | 06:48                   | 08:40                 | 04:35                          |
| 6,6           | 17         | 14                     | 1                              | 01:06                | 6                         | 6                          | 14                     | 05:41                                | 07:06                   | 09:01                 | 04:46                          |
| 8,1           | 13,6       | 17                     | 1,5                            | 01:21                | 6                         | 6                          | 17                     | 06:46                                | 08:29                   | 10:49                 | 05:40                          |
| 10,0          | 11         | 21                     | 1,5                            | 01:40                | 7                         | 7                          | 21                     | 08:06                                | 10:12                   | 13:06                 | 06:48                          |
| 12,3          | 9          | 25                     | 2                              | 02:03                | 8                         | 8                          | 25                     | 09:42                                | 12:15                   | 15:52                 | 08:10                          |
| 15,1          | 7,4        | 30                     | 2                              | 02:31                | 9                         | 9                          | 30                     | 11:30                                | 14:39                   | 19:16                 | 09:46                          |

# Table for PE



Basis: DVS data sheets 2207, 2208 - State 2016

Field of application: **4000 / 4001 / 4002**

1 bar on pressure gauge: **23** N (Effective surface of cylinder: 236 mm<sup>2</sup> / 0,37 inch<sup>2</sup>)

The heating element temperature is 220° C ± 10° C / 428° F ± 18° F.

The change-over time should be kept as low as possible.

The joining pressure build-up time should be recognized as maximum value and may be underrun by up to 50%.

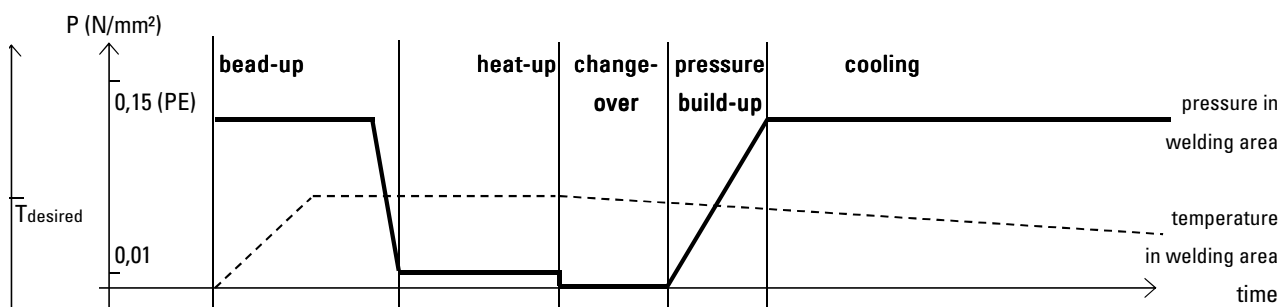
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- Removal from the welding machine and temporary storage until complete cooling time elapses only cause minor strain for the welding connection

All information without guarantee



| pipe wall (s) | SDR degree | bead-up pressure | circular bead height min. | heat-up time | max. change-over time | pressure build-up time | welding pressure | cooling time for ambient temperature |                    |                  | special cooling time 1 |
|---------------|------------|------------------|---------------------------|--------------|-----------------------|------------------------|------------------|--------------------------------------|--------------------|------------------|------------------------|
|               |            |                  |                           |              |                       |                        |                  | < 15°C<br>< 59°F                     | 15-25°C<br>59-77°F | > 25°C<br>> 77°F |                        |
| [mm]          |            | [bar]            | [mm]                      | [min:s]      | [s]                   | [s]                    | [bar]            | [min:s]                              | [min:s]            | [min:s]          | [min:s]                |
| <b>DA 125</b> |            |                  |                           |              |                       |                        |                  |                                      |                    |                  |                        |
| 3,1           | 41         | 8                | 0,5                       | 00:31        | 5                     | 5                      | 8                | 04:00                                | 05:00              | 06:30            | 03:30                  |
| 3,9           | 33         | 10               | 0,5                       | 00:39        | 5                     | 5                      | 10               | 04:00                                | 05:00              | 06:30            | 03:30                  |
| 4,8           | 26         | 12               | 1                         | 00:48        | 5                     | 5                      | 12               | 04:14                                | 05:18              | 06:52            | 03:41                  |
| 6,0           | 21         | 15               | 1                         | 01:00        | 6                     | 6                      | 15               | 05:12                                | 06:30              | 08:18            | 04:24                  |
| 7,1           | 17,6       | 18               | 1,5                       | 01:11        | 6                     | 6                      | 18               | 06:04                                | 07:35              | 09:37            | 05:04                  |
| 7,4           | 17         | 18               | 1,5                       | 01:14        | 6                     | 6                      | 18               | 06:17                                | 07:52              | 09:59            | 05:14                  |
| 9,2           | 13,6       | 22               | 1,5                       | 01:32        | 7                     | 7                      | 22               | 07:32                                | 09:29              | 12:08            | 06:19                  |
| 11,4          | 11         | 27               | 1,5                       | 01:54        | 8                     | 8                      | 27               | 09:05                                | 11:28              | 14:47            | 07:38                  |
| 14,0          | 9          | 32               | 2                         | 02:20        | 9                     | 9                      | 32               | 10:47                                | 13:43              | 17:56            | 09:09                  |
| 17,1          | 7,4        | 38               | 2                         | 02:51        | 9                     | 10                     | 38               | 12:47                                | 16:22              | 21:42            | 10:55                  |
| <b>DA 140</b> |            |                  |                           |              |                       |                        |                  |                                      |                    |                  |                        |
| 3,5           | 41         | 10               | 0,5                       | 00:35        | 5                     | 5                      | 10               | 04:00                                | 05:00              | 06:30            | 03:30                  |
| 4,3           | 33         | 12               | 0,5                       | 00:43        | 5                     | 5                      | 12               | 04:00                                | 05:00              | 06:30            | 03:30                  |
| 5,4           | 26         | 15               | 1                         | 00:54        | 5                     | 5                      | 15               | 04:43                                | 05:54              | 07:35            | 04:02                  |
| 6,7           | 21         | 19               | 1                         | 01:07        | 6                     | 6                      | 19               | 05:46                                | 07:12              | 09:08            | 04:49                  |
| 8,0           | 17,6       | 22               | 1,5                       | 01:20        | 6                     | 6                      | 22               | 06:42                                | 08:24              | 10:42            | 05:36                  |
| 8,3           | 17         | 23               | 1,5                       | 01:23        | 7                     | 7                      | 23               | 06:55                                | 08:40              | 11:04            | 05:47                  |
| 10,3          | 13,6       | 28               | 1,5                       | 01:43        | 7                     | 7                      | 28               | 08:19                                | 10:28              | 13:28            | 06:59                  |
| 12,7          | 11         | 34               | 2                         | 02:07        | 8                     | 8                      | 34               | 09:57                                | 12:36              | 16:21            | 08:24                  |
| 15,7          | 9          | 40               | 2                         | 02:37        | 9                     | 10                     | 40               | 11:53                                | 15:10              | 20:00            | 10:07                  |
| 19,2          | 7,4        | 48               | 2,5                       | 03:12        | 10                    | 11                     | 48               | 14:09                                | 18:10              | 24:14            | 12:07                  |

# Table for PE



Basis: DVS data sheets 2207, 2208 - State 2016

Field of application: **4000 / 4001 / 4002**

1 bar on pressure gauge: **23** N (Effective surface of cylinder: 236 mm<sup>2</sup> / 0,37 inch<sup>2</sup>)

The heating element temperature is 220° C ± 10° C / 428° F ± 18° F.

The change-over time should be kept as low as possible.

The joining pressure build-up time should be recognized as maximum value and may be underrun by up to 50%.

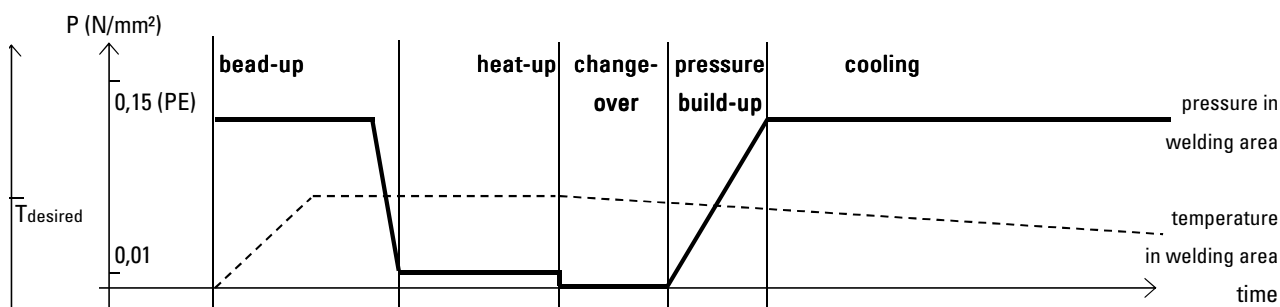
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All information without guarantee



| pipe wall (s) | SDR degree | bead-up pressure | circular bead height min. | heat-up time | max. change-over time | pressure build-up time | welding pressure | cooling time for ambient temperature |                    |                  | special cooling time 1 |
|---------------|------------|------------------|---------------------------|--------------|-----------------------|------------------------|------------------|--------------------------------------|--------------------|------------------|------------------------|
|               |            |                  |                           |              |                       |                        |                  | < 15°C<br>< 59°F                     | 15-25°C<br>59-77°F | > 25°C<br>> 77°F |                        |
| [mm]          |            | [bar]            | [mm]                      | [min:s]      | [s]                   | [s]                    | [bar]            | [min:s]                              | [min:s]            | [min:s]          | [min:s]                |
| <b>DA 160</b> |            |                  |                           |              |                       |                        |                  |                                      |                    |                  |                        |
| 4,0           | 41         | 13               | 0,5                       | 00:40        | 5                     | 5                      | 13               | 04:00                                | 05:00              | 06:30            | 03:30                  |
| 4,9           | 33         | 16               | 1                         | 00:49        | 5                     | 5                      | 16               | 04:19                                | 05:24              | 06:59            | 03:44                  |
| 6,2           | 26         | 20               | 1                         | 01:02        | 6                     | 6                      | 20               | 05:22                                | 06:42              | 08:32            | 04:31                  |
| 7,7           | 21         | 25               | 1,5                       | 01:17        | 6                     | 6                      | 25               | 06:29                                | 08:08              | 10:20            | 05:25                  |
| 9,1           | 17,6       | 29               | 1,5                       | 01:31        | 7                     | 7                      | 29               | 07:28                                | 09:23              | 12:01            | 06:16                  |
| 9,5           | 17         | 30               | 1,5                       | 01:35        | 7                     | 7                      | 30               | 07:45                                | 09:45              | 12:30            | 06:30                  |
| 11,8          | 13,6       | 36               | 1,5                       | 01:58        | 8                     | 8                      | 36               | 09:22                                | 11:49              | 15:16            | 07:53                  |
| 14,6          | 11         | 44               | 2                         | 02:26        | 9                     | 9                      | 44               | 11:10                                | 14:14              | 18:39            | 09:29                  |
| 17,9          | 9          | 53               | 2                         | 02:59        | 10                    | 11                     | 53               | 13:18                                | 17:03              | 22:40            | 11:22                  |
| 21,9          | 7,4        | 62               | 2,5                       | 03:39        | 11                    | 12                     | 62               | 16:04                                | 20:29              | 27:19            | 13:39                  |
| <b>DA 180</b> |            |                  |                           |              |                       |                        |                  |                                      |                    |                  |                        |
| 4,4           | 41         | 16               | 0,5                       | 00:44        | 5                     | 5                      | 16               | 04:00                                | 05:00              | 06:30            | 03:30                  |
| 5,5           | 33         | 20               | 1                         | 00:55        | 5                     | 5                      | 20               | 04:48                                | 06:00              | 07:42            | 04:06                  |
| 6,9           | 26         | 25               | 1                         | 01:09        | 6                     | 6                      | 25               | 05:55                                | 07:24              | 09:23            | 04:56                  |
| 8,6           | 21         | 31               | 1,5                       | 01:26        | 7                     | 7                      | 31               | 07:07                                | 08:56              | 11:25            | 05:58                  |
| 10,2          | 17,6       | 36               | 1,5                       | 01:42        | 7                     | 7                      | 36               | 08:14                                | 10:23              | 13:20            | 06:55                  |
| 10,7          | 17         | 38               | 1,5                       | 01:47        | 7                     | 7                      | 38               | 08:35                                | 10:50              | 13:56            | 07:13                  |
| 13,3          | 13,6       | 46               | 2                         | 02:13        | 8                     | 9                      | 46               | 10:20                                | 13:07              | 17:05            | 08:45                  |
| 16,4          | 11         | 55               | 2                         | 02:44        | 9                     | 10                     | 55               | 12:20                                | 15:46              | 20:51            | 10:31                  |
| 20,1          | 9          | 66               | 2,5                       | 03:21        | 10                    | 11                     | 66               | 14:47                                | 18:57              | 25:15            | 12:38                  |
| 24,6          | 7,4        | 79               | 2,5                       | 04:06        | 12                    | 13                     | 79               | 18:00                                | 22:48              | 30:24            | 15:12                  |

# Table for PE



Basis: DVS data sheets 2207, 2208 - State 2016

Field of application: **4000 / 4001 / 4002**

1 bar on pressure gauge: **23** N (Effective surface of cylinder: 236 mm<sup>2</sup> / 0,37 inch<sup>2</sup>)

The heating element temperature is 220° C ± 10° C / 428° F ± 18° F.

The change-over time should be kept as low as possible.

The joining pressure build-up time should be recognized as maximum value and may be underrun by up to 50%.

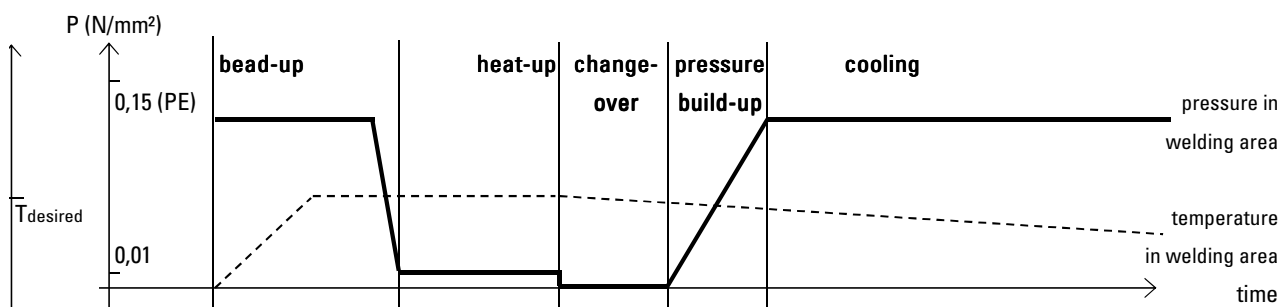
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All information without guarantee



| pipe wall (s) | SDR degree | bead-up pressure | circular bead height min. | heat-up time | max. change-over time | pressure build-up time | welding pressure | cooling time for ambient temperature |                    |                  | special cooling time 1 |
|---------------|------------|------------------|---------------------------|--------------|-----------------------|------------------------|------------------|--------------------------------------|--------------------|------------------|------------------------|
|               |            |                  |                           |              |                       |                        |                  | < 15°C<br>< 59°F                     | 15-25°C<br>59-77°F | > 25°C<br>> 77°F |                        |
| [mm]          |            | [bar]            | [mm]                      | [min:s]      | [s]                   | [s]                    | [bar]            | [min:s]                              | [min:s]            | [min:s]          | [min:s]                |
| <b>DA 200</b> |            |                  |                           |              |                       |                        |                  |                                      |                    |                  |                        |
| 4,9           | 41         | 20               | 1                         | 00:49        | 5                     | 5                      | 20               | 04:19                                | 05:24              | 06:59            | 03:44                  |
| 6,2           | 33         | 25               | 1                         | 01:02        | 6                     | 6                      | 25               | 05:22                                | 06:42              | 08:32            | 04:31                  |
| 7,7           | 26         | 31               | 1,5                       | 01:17        | 6                     | 6                      | 31               | 06:29                                | 08:08              | 10:20            | 05:25                  |
| 9,6           | 21         | 38               | 1,5                       | 01:36        | 7                     | 7                      | 38               | 07:49                                | 09:50              | 12:37            | 06:34                  |
| 11,4          | 17,6       | 45               | 1,5                       | 01:54        | 8                     | 8                      | 45               | 09:05                                | 11:28              | 14:47            | 07:38                  |
| 11,9          | 17         | 46               | 1,5                       | 01:59        | 8                     | 8                      | 46               | 09:26                                | 11:55              | 15:23            | 07:56                  |
| 14,7          | 13,6       | 56               | 2                         | 02:27        | 9                     | 9                      | 56               | 11:14                                | 14:19              | 18:47            | 09:33                  |
| 18,2          | 11         | 68               | 2                         | 03:02        | 10                    | 11                     | 68               | 13:29                                | 17:19              | 23:02            | 11:33                  |
| 22,4          | 9          | 82               | 2,5                       | 03:44        | 11                    | 12                     | 82               | 16:26                                | 20:55              | 27:53            | 13:57                  |
| 27,4          | 7,4        | 97               | 3                         | 04:34        | 13                    | 15                     | 97               | 20:01                                | 25:16              | 33:39            | 16:53                  |
| <b>DA 225</b> |            |                  |                           |              |                       |                        |                  |                                      |                    |                  |                        |
| 5,5           | 41         | 25               | 1                         | 00:55        | 5                     | 5                      | 25               | 04:48                                | 06:00              | 07:42            | 04:06                  |
| 6,9           | 33         | 31               | 1                         | 01:09        | 6                     | 6                      | 31               | 05:55                                | 07:24              | 09:23            | 04:56                  |
| 8,6           | 26         | 39               | 1,5                       | 01:26        | 7                     | 7                      | 39               | 07:07                                | 08:56              | 11:25            | 05:58                  |
| 10,8          | 21         | 48               | 1,5                       | 01:48        | 8                     | 8                      | 48               | 08:40                                | 10:55              | 14:04            | 07:17                  |
| 12,8          | 17,6       | 56               | 2                         | 02:08        | 8                     | 8                      | 56               | 10:01                                | 12:41              | 16:28            | 08:27                  |
| 13,4          | 17         | 59               | 2                         | 02:14        | 8                     | 9                      | 59               | 10:24                                | 13:12              | 17:12            | 08:48                  |
| 16,6          | 13,6       | 71               | 2                         | 02:46        | 9                     | 10                     | 71               | 12:27                                | 15:57              | 21:05            | 10:38                  |
| 20,5          | 11         | 86               | 2,5                       | 03:25        | 10                    | 12                     | 86               | 15:04                                | 19:17              | 25:43            | 12:51                  |
| 25,2          | 9          | 104              | 2,5                       | 04:12        | 12                    | 14                     | 104              | 18:26                                | 23:19              | 31:05            | 15:33                  |
| 30,8          | 7,4        | 123              | 3                         | 05:08        | 14                    | 16                     | 123              | 22:29                                | 28:22              | 37:40            | 19:03                  |

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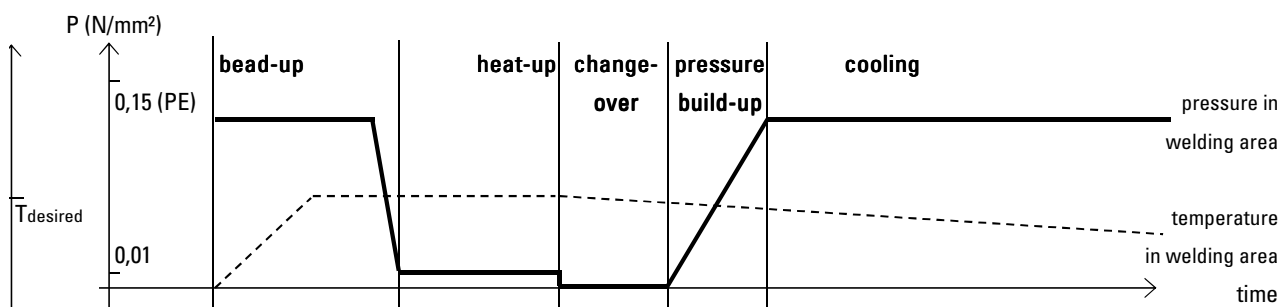
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|---------------|------------|------------------|---------------------------|--------------|-----------------------|------------------------|------------------|--------------------------------------|--------------------|------------------|------------------------|
|               |            |                  |                           |              |                       |                        |                  | < 15°C<br>< 59°F                     | 15-25°C<br>59-77°F | > 25°C<br>> 77°F |                        |
| [mm]          |            | [bar]            | [mm]                      | [min:s]      | [s]                   | [s]                    | [bar]            | [min:s]                              | [min:s]            | [min:s]          | [min:s]                |
| <b>DA 250</b> |            |                  |                           |              |                       |                        |                  |                                      |                    |                  |                        |
| 6,2           | 41         | 31               | 1                         | 01:02        | 6                     | 6                      | 31               | 05:22                                | 06:42              | 08:32            | 04:31                  |
| 7,7           | 33         | 39               | 1,5                       | 01:17        | 6                     | 6                      | 39               | 06:29                                | 08:08              | 10:20            | 05:25                  |
| 9,6           | 26         | 48               | 1,5                       | 01:36        | 7                     | 7                      | 48               | 07:49                                | 09:50              | 12:37            | 06:34                  |
| 11,9          | 21         | 59               | 1,5                       | 01:59        | 8                     | 8                      | 59               | 09:26                                | 11:55              | 15:23            | 07:56                  |
| 14,2          | 17,6       | 69               | 2                         | 02:22        | 9                     | 9                      | 69               | 10:55                                | 13:53              | 18:10            | 09:15                  |
| 14,8          | 17         | 72               | 2                         | 02:28        | 9                     | 9                      | 72               | 11:18                                | 14:24              | 18:54            | 09:36                  |
| 18,4          | 13,6       | 88               | 2                         | 03:04        | 10                    | 11                     | 88               | 13:37                                | 17:29              | 23:16            | 11:39                  |
| 22,7          | 11         | 106              | 2,5                       | 03:47        | 11                    | 13                     | 106              | 16:39                                | 21:10              | 28:14            | 14:07                  |
| 27,9          | 9          | 127              | 3                         | 04:39        | 13                    | 15                     | 127              | 20:23                                | 25:44              | 34:15            | 17:13                  |
| 34,2          | 7,4        | 152              | 3                         | 05:42        | 15                    | 18                     | 152              | 24:58                                | 31:27              | 41:41            | 21:13                  |
| <b>DA 280</b> |            |                  |                           |              |                       |                        |                  |                                      |                    |                  |                        |
| 6,9           | 41         | 39               | 1                         | 01:09        | 6                     | 6                      | 39               | 05:55                                | 07:24              | 09:23            | 04:56                  |
| 8,6           | 33         | 48               | 1,5                       | 01:26        | 7                     | 7                      | 48               | 07:07                                | 08:56              | 11:25            | 05:58                  |
| 10,7          | 26         | 60               | 1,5                       | 01:47        | 7                     | 7                      | 60               | 08:35                                | 10:50              | 13:56            | 07:13                  |
| 13,4          | 21         | 74               | 2                         | 02:14        | 8                     | 9                      | 74               | 10:24                                | 13:12              | 17:12            | 08:48                  |
| 15,9          | 17,6       | 87               | 2                         | 02:39        | 9                     | 10                     | 87               | 12:00                                | 15:21              | 20:14            | 10:14                  |
| 16,6          | 17         | 90               | 2                         | 02:46        | 9                     | 10                     | 90               | 12:27                                | 15:57              | 21:05            | 10:38                  |
| 20,6          | 13,6       | 110              | 2,5                       | 03:26        | 10                    | 12                     | 110              | 15:09                                | 19:22              | 25:50            | 12:55                  |
| 25,4          | 11         | 133              | 2,5                       | 04:14        | 12                    | 14                     | 133              | 18:34                                | 23:29              | 31:19            | 15:39                  |
| 31,3          | 9          | 160              | 3                         | 05:13        | 14                    | 16                     | 160              | 22:51                                | 28:49              | 38:16            | 19:22                  |
| 38,3          | 7,4        | 190              | 3,5                       | 06:23        | 16                    | 20                     | 190              | 27:54                                | 35:12              | 46:36            | 23:48                  |

# Table for PE



Basis: DVS data sheets 2207, 2208 - State 2016

Field of application: **4000 / 4001 / 4002**

1 bar on pressure gauge: **23** N (Effective surface of cylinder: 236 mm<sup>2</sup> / 0,37 inch<sup>2</sup>)

The heating element temperature is 220° C ± 10° C / 428° F ± 18° F.

The change-over time should be kept as low as possible.

The joining pressure build-up time should be recognized as maximum value and may be underrun by up to 50%.

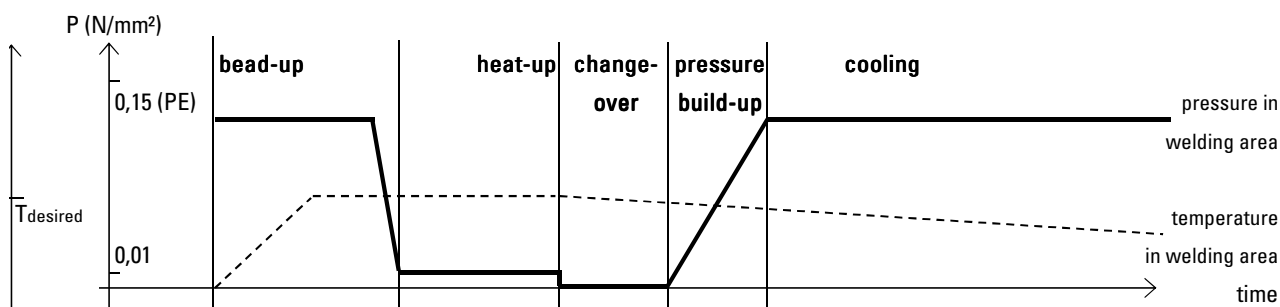
You must add the motion pressure of the welding machine to the indicated bead-up and cooling pressure in each case!

The maximum pressure of the welding machine is to be observed.

**1 These cooling times are only valid under the following conditions:**

- Welding connection is produced under workshop conditions
- Removal from the welding machine and temporary storage until complete cooling time elapses only cause minor strain for the welding connection

All information without guarantee



| pipe wall (s) | SDR degree | bead-up pressure | circular bead height min. | heat-up time | max. change-over time | pressure build-up time | welding pressure | cooling time for ambient temperature |                    |                  | special cooling time 1 |
|---------------|------------|------------------|---------------------------|--------------|-----------------------|------------------------|------------------|--------------------------------------|--------------------|------------------|------------------------|
|               |            |                  |                           |              |                       |                        |                  | < 15°C<br>< 59°F                     | 15-25°C<br>59-77°F | > 25°C<br>> 77°F |                        |
| [mm]          |            | [bar]            | [mm]                      | [min:s]      | [s]                   | [s]                    | [bar]            | [min:s]                              | [min:s]            | [min:s]          | [min:s]                |
| <b>DA 315</b> |            |                  |                           |              |                       |                        |                  |                                      |                    |                  |                        |
| 7,7           | 41         | 49               | 1,5                       | 01:17        | 6                     | 6                      | 49               | 06:29                                | 08:08              | 10:20            | 05:25                  |
| 9,7           | 33         | 61               | 1,5                       | 01:37        | 7                     | 7                      | 61               | 07:53                                | 09:56              | 12:44            | 06:37                  |
| 12,1          | 26         | 76               | 2                         | 02:01        | 8                     | 8                      | 76               | 09:34                                | 12:05              | 15:37            | 08:03                  |
| 15,0          | 21         | 93               | 2                         | 02:30        | 9                     | 9                      | 93               | 11:26                                | 14:34              | 19:09            | 09:43                  |
| 17,9          | 17,6       | 109              | 2                         | 02:59        | 10                    | 11                     | 109              | 13:18                                | 17:03              | 22:40            | 11:22                  |
| 18,7          | 17         | 114              | 2                         | 03:07        | 10                    | 11                     | 114              | 13:48                                | 17:45              | 23:38            | 11:50                  |
| 23,2          | 13,6       | 139              | 2,5                       | 03:52        | 11                    | 13                     | 139              | 17:00                                | 21:36              | 28:48            | 14:24                  |
| 28,6          | 11         | 168              | 3                         | 04:46        | 13                    | 15                     | 168              | 20:53                                | 26:22              | 35:04            | 17:39                  |
| 35,2          | 9          | 202              | 3                         | 05:52        | 15                    | 18                     | 202              | 25:41                                | 32:22              | 42:52            | 21:51                  |
| 43,1          | 7,4        | 241              | 3,5                       | 07:11        | 18                    | 22                     | 241              | 31:13                                | 39:38              | 52:30            | 26:45                  |
| <b>DA 355</b> |            |                  |                           |              |                       |                        |                  |                                      |                    |                  |                        |
| 8,7           | 41         | 62               | 1,5                       | 01:27        | 7                     | 7                      | 62               | 07:11                                | 09:02              | 11:32            | 06:01                  |
| 10,9          | 33         | 77               | 1,5                       | 01:49        | 8                     | 8                      | 77               | 08:44                                | 11:01              | 14:11            | 07:20                  |
| 13,6          | 26         | 96               | 2                         | 02:16        | 8                     | 9                      | 96               | 10:32                                | 13:22              | 17:27            | 08:55                  |
| 16,9          | 21         | 118              | 2                         | 02:49        | 9                     | 10                     | 118              | 12:39                                | 16:12              | 21:27            | 10:48                  |
| 20,1          | 17,6       | 138              | 2,5                       | 03:21        | 10                    | 11                     | 138              | 14:47                                | 18:57              | 25:15            | 12:38                  |
| 21,1          | 17         | 145              | 2,5                       | 03:31        | 11                    | 12                     | 145              | 15:30                                | 19:48              | 26:24            | 13:12                  |
| 26,1          | 13,6       | 176              | 3                         | 04:21        | 12                    | 14                     | 176              | 19:04                                | 24:05              | 32:07            | 16:04                  |
| 32,2          | 11         | 213              | 3                         | 05:22        | 14                    | 17                     | 213              | 23:31                                | 29:38              | 39:20            | 19:57                  |
| 39,7          | 9          | 257              | 3,5                       | 06:37        | 17                    | 20                     | 257              | 28:52                                | 36:30              | 48:19            | 24:40                  |
| 48,5          | 7,4        | 305              | 3,5                       | 08:05        | 20                    | 24                     | 305              | 34:58                                | 44:37              | 59:09            | 30:05                  |

# Table for PE



Basis: DVS data sheets 2207, 2208 - State 2016

Field of application: **4000 / 4001 / 4002**

1 bar on pressure gauge: **23** N (Effective surface of cylinder: 236 mm<sup>2</sup> / 0,37 inch<sup>2</sup>)

The heating element temperature is 220° C ± 10° C / 428° F ± 18° F.

The change-over time should be kept as low as possible.

The joining pressure build-up time should be recognized as maximum value and may be underrun by up to 50%.

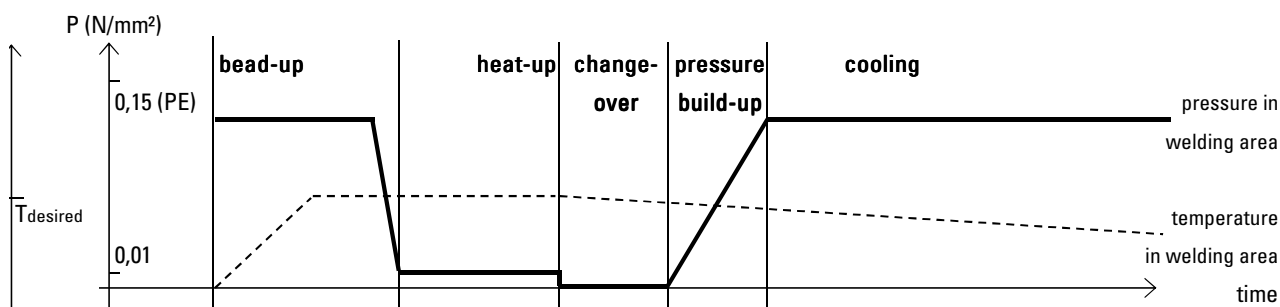
You must add the motion pressure of the welding machine to the indicated bead-up and cooling pressure in each case!

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- Removal from the welding machine and temporary storage until complete cooling time elapses only cause minor strain for the welding connection

All information without guarantee



| pipe wall (s) | SDR degree | bead-up pressure | circular bead height min. | heat-up time | max. change-over time | pressure build-up time | welding pressure | cooling time for ambient temperature |                    |                  | special cooling time 1 |
|---------------|------------|------------------|---------------------------|--------------|-----------------------|------------------------|------------------|--------------------------------------|--------------------|------------------|------------------------|
|               |            |                  |                           |              |                       |                        |                  | < 15°C<br>< 59°F                     | 15-25°C<br>59-77°F | > 25°C<br>> 77°F |                        |
| [mm]          |            | [bar]            | [mm]                      | [min:s]      | [s]                   | [s]                    | [bar]            | [min:s]                              | [min:s]            | [min:s]          | [min:s]                |
| <b>DA 400</b> |            |                  |                           |              |                       |                        |                  |                                      |                    |                  |                        |
| 9,8           | 41         | 79               | 1,5                       | 01:38        | 7                     | 7                      | 79               | 07:58                                | 10:01              | 12:52            | 06:41                  |
| 12,3          | 33         | 98               | 2                         | 02:03        | 8                     | 8                      | 98               | 09:42                                | 12:15              | 15:52            | 08:10                  |
| 15,3          | 26         | 121              | 2                         | 02:33        | 9                     | 9                      | 121              | 11:37                                | 14:50              | 19:30            | 09:53                  |
| 19,1          | 21         | 150              | 2,5                       | 03:11        | 10                    | 11                     | 150              | 14:04                                | 18:05              | 24:07            | 12:03                  |
| 22,7          | 17,6       | 176              | 2,5                       | 03:47        | 11                    | 13                     | 176              | 16:39                                | 21:10              | 28:14            | 14:07                  |
| 23,7          | 17         | 183              | 2,5                       | 03:57        | 11                    | 13                     | 183              | 17:21                                | 22:02              | 29:22            | 14:41                  |
| 29,4          | 13,6       | 224              | 3                         | 04:54        | 13                    | 16                     | 224              | 21:28                                | 27:05              | 36:01            | 18:10                  |
| 36,3          | 11         | 271              | 3                         | 06:03        | 16                    | 19                     | 271              | 26:29                                | 33:22              | 44:10            | 22:33                  |
| 44,7          | 9          | 326              | 3,5                       | 07:27        | 18                    | 23                     | 326              | 32:20                                | 41:06              | 54:29            | 27:44                  |
| 54,7          | 7,4        | 387              | 4                         | 09:07        | 21                    | 27                     | 387              | 39:17                                | 50:14              | 66:38            | 33:49                  |
| <b>DA 450</b> |            |                  |                           |              |                       |                        |                  |                                      |                    |                  |                        |
| 11,0          | 41         | 99               | 1,5                       | 01:50        | 8                     | 8                      | 99               | 08:48                                | 11:06              | 14:18            | 07:24                  |
| 13,8          | 33         | 124              | 2                         | 02:18        | 9                     | 9                      | 124              | 10:39                                | 13:33              | 17:41            | 09:02                  |
| 17,2          | 26         | 153              | 2                         | 02:52        | 9                     | 10                     | 153              | 12:51                                | 16:27              | 21:49            | 10:58                  |
| 21,5          | 21         | 189              | 2,5                       | 03:35        | 11                    | 12                     | 189              | 15:47                                | 20:09              | 26:51            | 13:26                  |
| 25,5          | 17,6       | 222              | 2,5                       | 04:15        | 12                    | 14                     | 222              | 18:39                                | 23:34              | 31:26            | 15:43                  |
| 26,7          | 17         | 232              | 3                         | 04:27        | 12                    | 14                     | 232              | 19:31                                | 24:38              | 32:50            | 16:27                  |
| 33,1          | 13,6       | 283              | 3                         | 05:31        | 15                    | 17                     | 283              | 24:10                                | 30:27              | 40:23            | 20:31                  |
| 40,9          | 11         | 343              | 3,5                       | 06:49        | 17                    | 21                     | 343              | 29:42                                | 37:36              | 49:48            | 25:24                  |
| 50,3          | 9          | 412              | 4                         | 08:23        | 20                    | 25                     | 412              | 36:13                                | 46:16              | 61:22            | 31:11                  |
| 61,5          | 7,4        | 490              | 4                         | 10:15        | 23                    | 31                     | 490              | 44:03                                | 56:21              | 74:48            | 37:54                  |