

Butt Fusion Cooling Times Information

Based on extensive researches, all fusion standards like DVS 2205-1 etc. have been revised by their butt fusion cooling times recommendations.
New cooling time recommendations are based on the ambient temperatures.

Ambient temperature

> 25°C (77°F) – remains with the standard cooling time

15-25°C (60-77°F) – reduction for PE by 25%, PP by 20%

< 15°C (60°F) – reduction for PE by 40%, PP by 30%

Nominal wall thickness s [mm]	Cooling time (minimum values) at joining pressure $p = 0.15 \pm 0.01 \text{ N/mm}^2$ as a function of ambient temperature		
	Up to 15°C [min]	15°C ... 25°C [min]	25°C ... 40°C Cooling time (minimum values) at joining pressure $p = 0.15 \pm 0.01 \text{ N/mm}^2$ under particular conditions*) [min]
bis 4.5	4.0	5.0	6.5
4.5 ... 7	4.0 ... 6.0	5.0 ... 7.5	6.5 ... 9.5
7 ... 12	6.0 ... 9.5	7.5 ... 12	9.5 ... 15.5
12 ... 19	9.5 ... 14	12 ... 18	15.5 ... 24
19 ... 26	14 ... 19	18 ... 24	24 ... 32
26 ... 37	19 ... 27	24 ... 34	32 ... 45
37 ... 50	27 ... 36	34 ... 46	45 ... 61
50 ... 70	36 ... 50	46 ... 64	61 ... 85
70 ... 90	50 ... 64	64 ... 82	85 ... 109
90 ... 110	64 ... 78	82 ... 100	109 ... 133
110 ... 130	78 ... 92	100 ... 118	133 ... 157

*) A reduction in the cooling time of up to 50%, i.e. reduction in joining pressure and 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 column 5 causes negligible loading of the joint connection.