

# **Butt Fusion Welding 110-315**

Welding technique (principle) for Flexalen® polybutene service pipes (PB-H) OD110-315mm





## **Required Tools**

Cleaner

Tissues

Butt fusion welding equipment

Tent (depending on weather conditions)

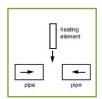


### Application conditions and pipe preparation

- Ambient temperature: +5 to +40°C
- No rainy or windy (≥3 bfr / 3.4-5.4 m/s) weather conditions
- Service pipe is cut straight and without damage
- Service pipe is free from dirt and condensation

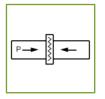
use a tent to create correct conditions if not already given

#### Principle



01.

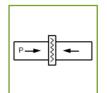
Position the service pipes or the fitting(s) in the hydraulic clamping set. Position the heating element between the parts to be welded.



02.

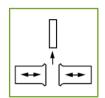
Build up the bead-up (levelling) pressure by pressing the tubes or the fitting against the heating element, until a bead of

1-2 mm (see table) occurs all around the pipe.



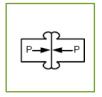
03.

Reduce the bead-up pressure to the values of the warm-up pressure and start welding time (warm-up time).



04.

After the welding time, open the hydraulic clamps and remove the heating element.



05.

Press the tubes or fitting(s) against each other during the bead formation time and maintain it for the cooling time (joining pressure).

IMPORTANT: FOR WELDING PROCESS ALWAYS FOLLOW THE INSTRUCTIONS OF YOUR SPECIFIC BUTT FUSION WELDING MACHINE.

#### Disclaimer

All recommendations and information provided on this instruction leaflet are based on our knowledge and experience. Product specifications are intended as guidelines. Since conditions of service are beyond our control, users must satisfy themselves that products are suitable for the intended use. No guarantee or warranty is given or implied or that any use of products will not infringe rights belonging to other parties. We reserve the right to change product design and properties without notification.





, † <i>†</i> ,	υ 4									
Bead up pressure	Time	p = 0.1 N/mm²	Joining pressure [N]	314	407	512	299	1311	2573	
JOINING		p = 0.1	t5 Cooling time [min.]	15	15	20	25	30	45	
, <del>4</del>		<b>14</b> Bead	formation [sec.]	8 - 12	8 - 12	8 - 12	10 - 15	10 - 15	15 - 18	
\ \ \		t3 Dwell	time [sec.]	9	9	7	7	<b>∞</b>	10	
 		heat up pressure p = 0.01 N/mm²	heat up pressure [N]	31	41	51	29	131	257	
		Bead up pressure heat up p p = 0.1 N/mm² p = 0.01	<b>t2</b> Time [sec.]	95	92	130	145	220	310	
			Bead up pressure [N]	314	407	512	299	1311	2573	0
	/		Bead before beginning of heat up time [mm]	1.0	1.0	1.0	1.0	1.5	2	
Heating element  temperature o  Dead up & Joining  Tressure [N/mm²]		Pipe dimension	OD x s [mm]	0.0	4.1	2.8	4.6	0.4	9.8	r neating c nder press
				110 x 10.0	125 x 11.4	140 x 12.8	160 x 14.6	$225 \times 20.4$	315 x 2	t3 = Dwell time / removal or neating device t4 = Bead formation time under pressure t5 = Cooling time under a constant pressure
260°C ± 10°C	- —			1				7	12 22	t3 = Dwell ti t4 = Bead fc t5 = Cooling

IMPORTANT: PLEASE CONTACT YOUR LOCAL THERMAFLEX PARTNER FOR CALCULATING THE PRESSURE SETTINGS FOR YOUR SPECIFIC BUTT FUSION WELDING EQUIPMENT.