

# Butt Fusion Welding 110-315

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



## Required Tools

Cleaner

Tissues

Butt fusion welding equipment

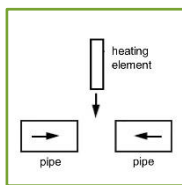
Tent (depending on weather conditions)

## Application Instruction

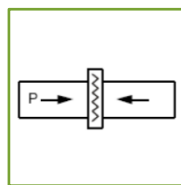
### Application conditions and pipe preparation

- Ambient temperature: +5 to +40°C
  - No rainy or windy ( $\geq 3$  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

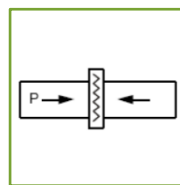
### Principle



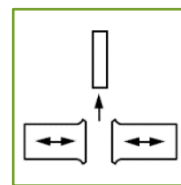
01. Position the service pipes or the fitting(s) in the hydraulic clamping set. Position the heating element between the parts to be welded.



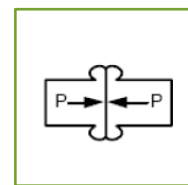
02. Build up the bead-up (levelling) pressure by pressing the tubes or the fitting against the heating element, until a bead of 1-2 mm (see table) occurs all around the pipe.



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



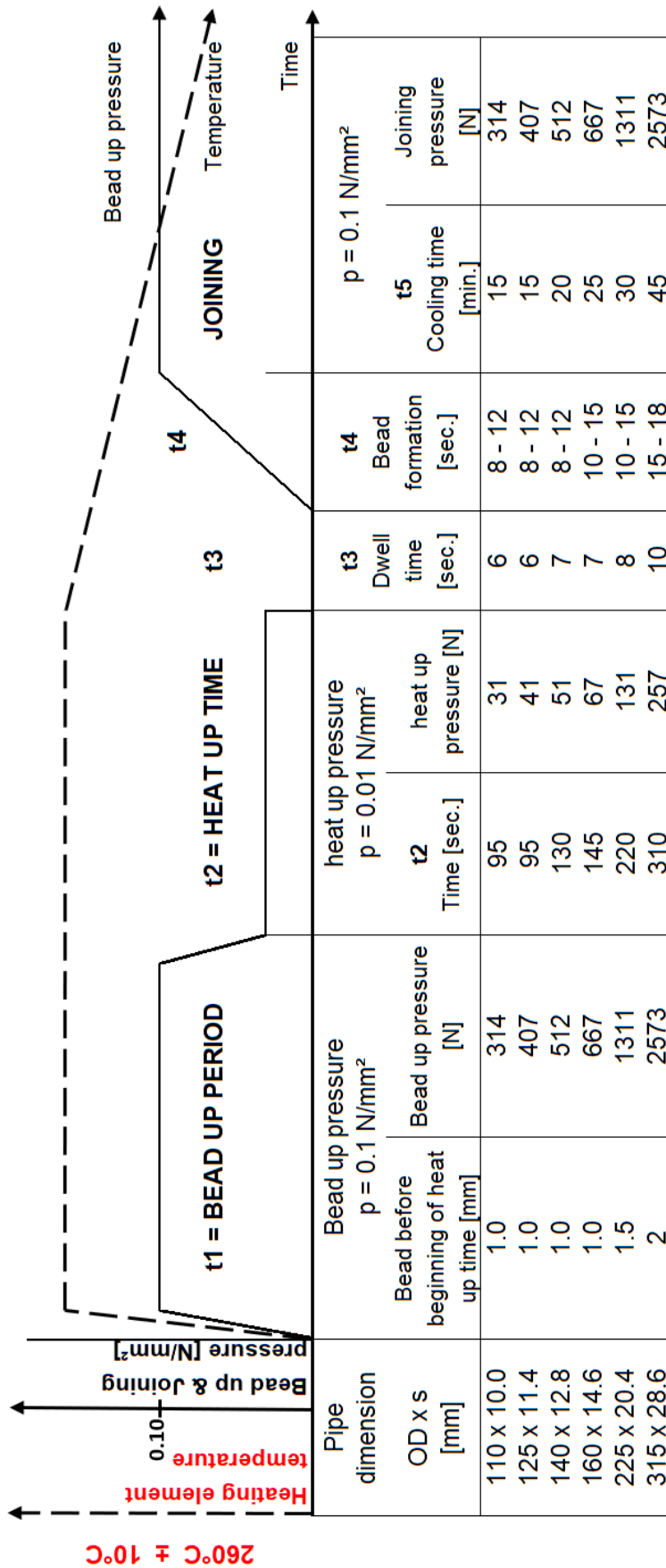
04. After the welding time, open the hydraulic clamps and remove the heating element.



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.**

Welding parameters



260°C ± 10°C

Heating element  
Temperature

Bead up & Joining  
pressure [N/mm<sup>2</sup>]

t1 = BEAD UP PERIOD

t2 = HEAT UP TIME

t3

t4

JOINING

Bead up pressure

Temperature

Time

- t1 = Bead formation, heating time under pressure
- t2 = Heat up time under reduced pressure
- t3 = Dwell time / removal of heating device
- t4 = Bead formation time under pressure
- t5 = Cooling time under a constant pressure

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