

# Socket fusion Fittings 20-63

Hand weldable fitting system for Flexalen<sup>®</sup> PB service pipes (PB-H) OD20-63mm



## Application Instruction

### Application conditions and pipe preparation

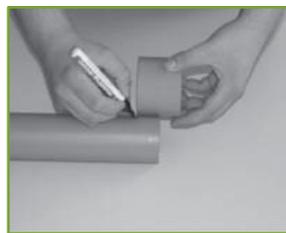
- Ambient temperature: +5 to +40°C
  - No rainy or windy ( $\geq 3$  bfr / 3.4-5.4 m/s) weather conditions
  - Service pipe and fitting are free from dirt and condensation
- } use a tent to create correct conditions if not already given

**IMPORTANT: FOR WELDING PROCESS ONLY FOLLOW THE INSTRUCTIONS BELOW:**



**01.**  
Cut the pipe squarely to length with a plastic pipe cutter only.

**Do not use handsaws!**



**02.**  
**For PB-pipes with EVOH oxygen barrier (red) only:**  
a) Mark insertion depth on the pipe, see marking on the fitting or welding parameters (page 2).  
**Do not use wax pencils!**

For pipes without oxygen barrier (grey) go directly to step 3.



b) Remove the oxygen barrier with our Flexalen PB EVOH Scraper up to the marked insertion depth (should remain visible).  
-> see instruction leaflet Flexalen PB EVOH Scraper



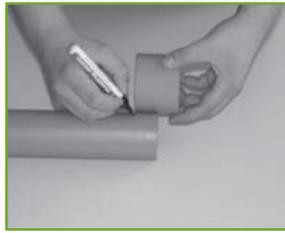
**03.**  
Chamfer pipe ends (d25-d63 mm): This ensures correct insertion of the pipe in the socket-shaped heating bush. The chamfering also reduces the force required to insert the cold pipe in the heating bush. Chamfer the pipe ends at a 15° angle to half of the wall thickness (tolerances on page 2).  
**Do not chamfer d20mm!**

#### Disclaimer

All recommendations and information provided on this data sheet 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.



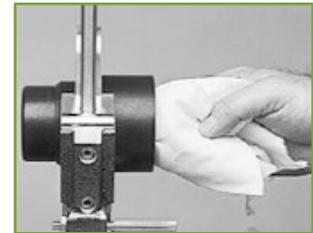
**04.** Clean the service pipes by using PB cleaner and tissues and make circular movements over the entire welding surface.  
Make sure that any printing on the service pipe is properly removed (valid for grey pipes only).



**05.** Mark the correct insertion depth for the socket welding fitting on the service pipes. Insertion depth is indicated on the fitting. For PB-pipes with EVOH oxygen barrier (red) check if marking (step 2) is still visible.



**06.** Clean the fitting by making circular movements over the entire internal welding surface of the fitting.



**08.** Clean the heating bush and heating spigot before and after each welding process with a dry tissue (without cleaner).

**Heating element temperature:**  
260°C +/- 10°C

**Do not use wax pencils!**



**09.** Bring the welding device, pipe and fitting into position.  
If possible work in pairs!



**10.** For warm up, the pipe and fitting are pushed onto the heating elements uninterrupted and without twisting. Push the pipe only up to the marked insertion depth and ensure that the marking remains visible during the warm-up time. The warm-up time starts after the welded parts have been pushed on completely.



**11.** After the warm-up time has elapsed, the pipe and fitting must be pulled off the heating elements uninterrupted, without twisting and then inserted into each other until the weld bead on the pipe reaches the edge of the fitting. Minimal alignment of pipe and fitting is possible in the first 5 seconds. After that, steady the pipe and fitting for 1 minute (holding time). It is essential to observe the holding and cooling time.

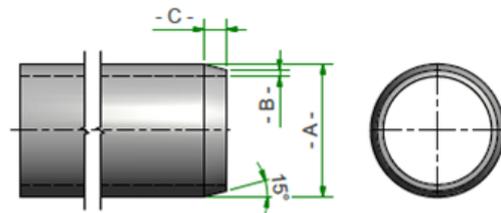


**12.** Visible check: Two beads (of pipe and fitting) are visible. Correct alignment of pipe and fitting. Marked insertion depth is visible.

**Note:** After the last welded connection is established and cooled down, wait at least 2 hours before starting the pressure testing procedure.

### Chamfer tolerances (Do not chamfer d20mm!)

| -A-<br>Pipe OD [mm] | -B-<br>[mm] | -C-<br>[mm] |
|---------------------|-------------|-------------|
| 25                  | Min. 1,1    | Max. 4,2    |
| 32                  | Min. 1,4    | Max. 5,4    |
| 40                  | Min. 1,8    | Max. 6,9    |
| 50                  | Min. 2,3    | Max. 8,5    |
| 63                  | Min. 2,9    | Max. 10,8   |



### Welding parameters (Heating element temperature 260°C +/- 10°C)

| Fitting dimension<br>OD [mm] | Insertion depth<br>l [mm] | Warm-up time<br>[sec] | Cooling time<br>[min] |
|------------------------------|---------------------------|-----------------------|-----------------------|
| 20                           | 15                        | 6                     | 2                     |
| 25                           | 18                        | 6                     | 2                     |
| 32                           | 20                        | 10                    | 4                     |
| 40                           | 22                        | 14                    | 4                     |
| 50                           | 25                        | 18                    | 4                     |
| 63                           | 28                        | 22                    | 6                     |

For OD75-OD110 it is essential to use a mechanical socket welding machine, e.g. BTM110 from Georg Fischer (photo on the right).

