

### 1. Intended use:

The Hawle-Stop with welding ring is to be used for installation on BAIO® sockets and subsequently for welding PE pipes (d 90, d 110, d 125, d 160, d 225) in potable water and gas supply as well as sewage collection.

The maximum operating pressure depends on the application sector (water/gas) and the pipe wall thickness of the pipeline to be connected:

- Water, pipe wall thickness SDR 11: 16 bar
- Water, pipe wall thickness SDR 17: 10 bar
- Gas, pipe wall thickness SDR 11: 10 bar (Caution: support liner required)
- Gas, pipe wall thickness SDR 11: 5 bar (Caution: support liner required)

During assembly, it is necessary to comply with applicable standards and regulations, accident prevention regulations and regulations from trade associations.

### 2. Product description:

The Hawle-Stop consists of a welding ring made of polyethylene (PE 100) and a locking ring made of GJS-400 with Hawle epoxy powder coating.

The welding ring is melted and welded on the outside surface of the pipe with the aid of the integrated resistance wires (not visible).

The locking ring is used for fixing to the BAIO®-socket.

### 3. Assembly:

#### Basic points

The quality of the welding is decisively determined by the careful implementation of the preparatory work. Electrofusion welding joints may only be made by trained personnel.

Only similar materials can be welded. Here, the materials PE 80 and PE 100 can be regarded as identical and can therefore be welded together.

Please only use welding machines which has been approved for processing by the manufacturer in its function (see DVS 2207, part 1,5.2.).

#### Clean welding zone:

Using a hand scraper or rotary peeling tool, the oxide layer in the marked area of the welding zone must be completely and uniformly removed from the pipe surface immediately before assembly. Depending on the condition of the surface, this layer can be between 0.2 and 0.7 mm.

Caution! If the oxide layer is not completely removed, a leaky or defective welded joint may occur. At least 0.2 mm must be completely removed.

This should result in an even surface without any recesses or scratches on the pipe surface. Sanding, filing or cleaning with solvent is not sufficient and is not permitted.






The surface treated in this way must be protected from dirt and grease (such as hand cream, oily cloths, etc.), run-off water and rainwater or frost formation.






The pipe surfaces to be welded and the inner surfaces of the welding ring must be absolutely clean, dry and free of grease.

Immediately before assembly (after scraping) the welding surfaces are to be cleaned with 99.9% ethanol (or Tangit KS/Tangit KS cloths) and exclusively with absorbent, non-fibrous and undyed paper. It must be ensured that no dirt from the edge area gets onto the welding surface.

The cleaner must have completely evaporated before welding.

The sequence of working steps described below must be observed:

<ul style="list-style-type: none"><li>• Cut pipe end straight to length and chamfer it</li></ul>	
<ul style="list-style-type: none"><li>• Measure the insertion depth in the BAIO®-socket</li></ul>	
<ul style="list-style-type: none"><li>• and use this for the pipe</li></ul>	
<ul style="list-style-type: none"><li>• Peel the pipe in the welding area with a hand scraper or rotary peeling tool</li></ul>	
<ul style="list-style-type: none"><li>• Provide seal (GKS for water, gas-resistant GKS seal for gas) with suitable lubricant</li></ul>	

<ul style="list-style-type: none"> <li>• Clean the welding ring and welding zone on the pipe</li> </ul>	
<ul style="list-style-type: none"> <li>• Mount the locking ring with welding ring on the outer cams of the BAIO® socket</li> </ul>	
<ul style="list-style-type: none"> <li>• Insert tube and check insertion depth (Caution: When used in the gas sector, a support liner is required to match the external pipe diameter and pipe wall thickness!)</li> </ul>	
<ul style="list-style-type: none"> <li>• Connect the contacts of the welding ring with the welding machine</li> </ul>	
<ul style="list-style-type: none"> <li>• Read in welding parameters (bar code on locking ring) with stylus and carry out welding</li> </ul>	

### **Additional information on the welding process:**

Connect the contacts (version according to EN 1555-3 type B) to the welding machine. Make sure that the contacts are clean and dry, if necessary clean them beforehand.

The welding parameters are contained in a bar code attached to the locking ring. The parameters are read into the welding machine via the stylus. (Follow the operating instructions of the welding machine).

#### Start welding:

The data in the display of the welding machine must be compared with the data of the welding ring (see table). If the bar code is not readable, the parameters can also be entered manually.

Caution! For general safety reasons, keep a distance of 1 m from the welding point during the welding process. Welding while media is leaking is not permitted. The welding process must not be interrupted. Welding with pipe materials other than PE 80/100 is not possible. The welding may only be carried out at ambient temperatures between 0°C and +45°C.

Caution! The cooling time must be observed before further laying, as otherwise there may be a separation between the welding ring and the welding zone on the pipe.

Table Cooling times at 15-25°C outdoor temperature:

Pipe external diameter, mm	Minimum cooling time in min
90	15
110	15
125	15
160	20
225	20

**CAUTION: Before the pressure test, the conditioning time according to ISO 11413 must be observed!**

#### Review:

After completion of the welding process, check whether the welding has been carried out properly:

- No error indication on the display of the welding machine (observe operating instructions of the welding unit)

#### Indicator PIN:

The indicator PIN only indicates that welding has been carried out. A statement about the achieved quality is not given. Depending on the gap between welding ring and pipe, the outlet height may vary. The correct welding sequence is only indicated by the welding machine.

#### Labelling:

The welding point must be marked captively with a suitable marking (e.g. SNOWMAN SILVER MARKER) with the position from the installation plan. The welding must be documented with the protocol of the welding machine.

## **Additional information on the welding process:**

### Welding defect:

If a welding fault (winding short circuit) is indicated on the welding machine, the welding must be rejected.

In this case the contacts of the welding ring must be separated, the locking ring unlocked, and the pipe removed from the BAIO® socket.

For a new weld, repeat the assembly described above with a new welding ring and pipe section. The locking ring and the BAIO® component can usually be reused.

## **4. Maintenance:**

The Hawle-Stop with welding ring is maintenance-free.

## **5. Commissioning and pressure testing**

After installation work is completed, perform a proper pressure test in accordance with the applicable rules and regulations.

**If you have any other questions or if you need more information please contact:**

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