

## **ASSEMBLY INSTRUCTIONS FOR CPSA BIMETALLIC SLEEVES**

### **1. Entry control of the sleeve**

1.1. Check the accompanying documentation for the sleeve.

1.2. Check the integrity of the sleeve packaging:

- Integrity of the carton
- Integrity of the polyethylene sleeve wrap
- Integrity of sleeve detent
- Integrity of the thermoset material

### **2. Preparing the sleeve for installation**

2.1. Remove the protective wraps from the sleeve without damaging the thermoset cuffs immediately prior to installation.

2.2. Clean the inner cavity of the pipes in the area of the ends of dust and other contaminants. If there is an internal burr on electric-welded pipes, the burr should be removed to the border of the uncoated zone.

2.3. Degrease with acetone the inner cavity of the pipes in the area of the ends to a depth of 100 mm.

### **3. Installing the sleeve in the pipe**

3.1. Insert the sleeve into the pipe up to the thrust ring while simultaneously turning it around the axis, avoiding scuffing of the cuffs made of thermosetting materials. During installation, the use of a percussion instrument through a wooden gasket is allowed.

3.2. When installing the sleeve, a slight tightness is allowed.

3.3. Tack the detents to the end of the pipe at least 3 points.

3.4. Using a pipelayer, insert the second pipe onto the sleeve.

3.5. Using an external centralizer, align the axes of the pipes to be connected, providing the gap required by the pipe welding technology.

3.6. Tack the connected pipes and remove the centralizer.

3.7. Using an angle grinder, cut off the protruding parts of the sleeve's detents until the welded edges of the pipes are dulled and clean the tacks (see Fig. 1)

### **4. Pipe joint welding**

4.1. Pipe welding shall be carried out according to the current technology approved by the contractor.

4.2. Welding of pipes with a diameter of 426 mm and above. in order to avoid insufficient heating of the thermosetting material of the sleeve, carry out simultaneously by two welders. It is recommended to start welding from the bottom tack at 5 or 7 o'clock.

4.3. After welding the root of the joint, clean it and fill the joint. After filling the joint, clean it and weld the facing joint. The time for cleaning the joint before applying the next layer should be 1-2 minutes.

4.4. Do not stop welding work until at least the 3rd coat has been applied.

4.5. When performing welding and installation work on sleeves  $\text{Ø}89\text{-}219$  mm with wall thicknesses of 4-6 mm at negative air temperatures, additional heating of the welded joint is necessary to ensure the opening of the thermosetting material. Additional heating should be carried out immediately after welding of the joint with a gas burner (propane gas), continuously along the entire perimeter of the joint until the temperature of the metal surface reaches  $200\text{ }^{\circ}\text{C}$ . Recommended heating time for pipes with a diameter:  $\text{Ø}89$  mm - 1 minute,  $\text{Ø}114\text{-}2$  minutes,  $\text{Ø}159\text{-}3$  minutes and  $\text{Ø}219$  - 4 minutes. The heating time can be changed by instrumental temperature control.

4.6. After cooling of the welded joint, the pipeline is ready for operation. The exit of thermoactive material beyond the dimensions of the sleeve is allowed, but not required. Partial extrusion of the rubber cuff beyond the bushing dimensions is allowed.

4.7. If single defects in the weld are detected, it is allowed to repair the weld without dismantling the sleeve installed earlier.

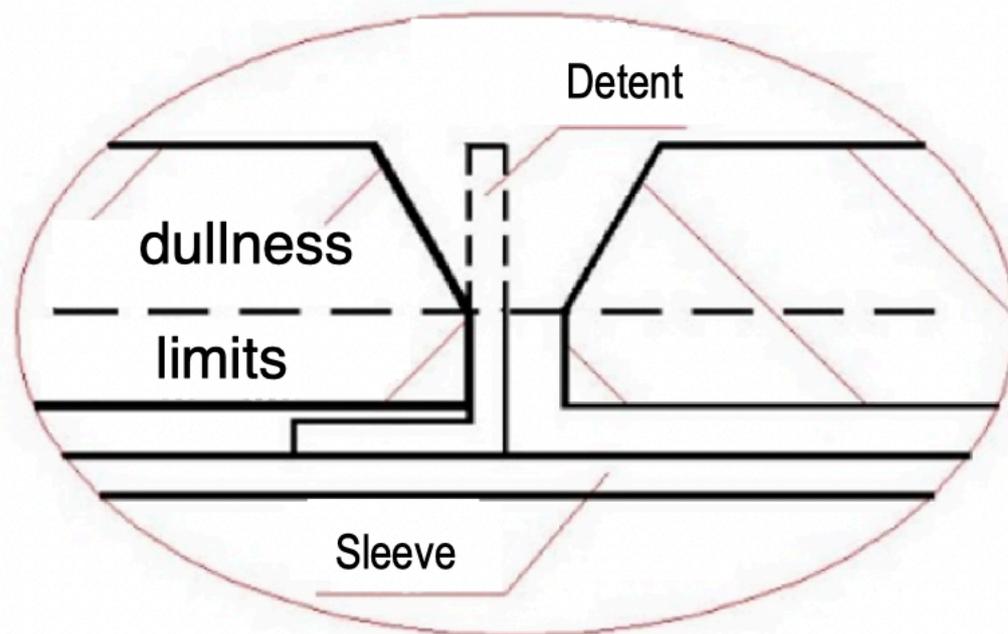


Fig.1