

**Solution to avoid black butt welding ring visible on NOCX HDPE pipes**

During butt welding of our NOCX HDPE pipes a black ring of molten material of the inner pipe layer is visible on the welding bead outside.

There is no way to modify the welding time or pressure to avoid this ring during welding.

From our experience the black ring is visible from the bridge deck up to approximately 20 m height only. This is equivalent to the first 2-3 butt weldings. Butt weldings above this height will not be recognized anyway.

**Option 1**

For pipe wall thickness > 8 mm, removing the outer butt welding bead directly after welding during the Cooling Time will reduce the black ring width to about 60% of weld bead width. Best tool for outer weld bead removal, is a sharp knife. Removing the outer welding bead on pipes with wall thickness > 8 mm is not sensitive regarding welding quality.

**Option 2**

For all pipe wall thickness a double welding rod of 3 mm of the same stay pipe color and material can be circular weld around the pipe using a small hot air equipment to cover the black ring. For this, the outer welding bead should get removed first.

For pipe wall thickness 5-8 mm the uniformness of the outer butt welding bead needs to be checked first. In case of non perfect uniformness, it should be considered to remove just 50% of the outer welding bead height and so keep part of the welding bead as an additional stiffener part of the butt welding and to weld the 3 mm welding rod on top of this.

The final appearance is similar to a fully colored butt welding bead.

Additional colored welding rod needs to be purchased separately.

Hot air welding equipment is available on rental base.



Double welding rod weld on part of removed NOCX pipe outer weld bead

**Option 3**

Use full colored single layer NOFX HDPE pipes.