

NAF FTTH 96/192 brach joint Installation instruction



Introduction

NAF FTTH 96/192 branch joint is designed and developed as a universal joint closure for optical access networks. It's intended for extending and branching trunk or distribution cables into multiple FTTH cables. It can be placed directly in the ground, in a manhole or in a distribution cabinet.

Features of the joint closure

- The case is so called butt joint consisting of an inner part with splice tray and a protective cover.
- The capacity of the closure is for 96 splices, but it is possible to add another splice tray to the housing so that the capacity can be doubled. The upper splice tray is hinged.
- The height of the splice tray can be adjusted, depending on the needs of the installation situation.
- Underneath the splice tray are fixed guides for uncut tubes containing fibers
- Suitable for different types of fiber optic cable structures
- The closure can be buried in the ground.
- The flange has six round cable glands, each of which can bring 1 – 3 cables inside the closure, depending on the cable's outer diameter. In this way, the enclosure can be used, for example, for branching one trunk or distribution cable up to 15 FTTH cables.
- External dimensions 498 x 235 x 125 mm
- Material is acid-proof stainless steel.
- IP 68. Designed and manufactured in Finland.
- Product code 7269377

The materials included in the joint closure

- Protective cover and flange with round pass-throughs
- Screw-on splice tray including four 24-fiber splice holders.
- Cable shrinks 34/8 – 200 mm, 6 pcs
- Heat-shrink cap 40/15, 4 pc
- Equipment bag:
 - o Branch block, 6 pcs
 - o Grounding connectors, 8 pcs
 - o Fixing screws, 16 pcs
 - o Grounding connector M6-16 mm², 1 pc
 - o Grounding wire with connector, 3 pcs
 - o Corrugated arc clips, 3 pcs
 - o Cable ties 2x100 mm, 12 pcs
 - o Cleaning wipe, 1 pc
 - o Silica gel bag 25 g, 1 pc

Installation of the joint closure

Preparation of cables for joint closure installation

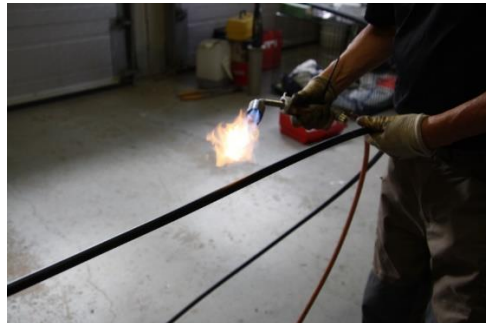
Clean the cables and mark the starting points for the peeling and peel the cables.
If you are installing cables with central tube structure like FYOVD2PMU, FYO2PMU, FYO2PMU Mini or FYO2RMU 3,5 kN, **DO NOT CUT THE CENTRAL TUBES at this point!**

The peeling lengths for different cable types are as follows:

- FTTH cables: The length to be peeled is 120 cm regardless of the cable type.
- Trunk and distribution cables : The length to be peeled is 200 cm regardless of the cable type.

Peel the cables.

Instructions for peeling different types of direct buried cables can be found on the cable manufacturers' websites, but here are a few points for stripping cables. In addition, a few instructions for joint closure installation are included.



In case of FZVD2PMU Flex direct buried cable.

Clean the cable from any dirt and heat the cable sheath over the entire length to be peeled. This makes peeling easier, as the cable sheath material is HDPE, which is harder material than the LDPE traditionally used in outdoor cables.



If cables with corrugated steel plates and steel wires are installed (FYOVD2PMU, FZVD2PMU Flex, FYMVD2PMU-FT), peel the cable sheath along the entire peeling length from the grooves on the steel wires, or for about 30 cm from the beginning of the peeling point.



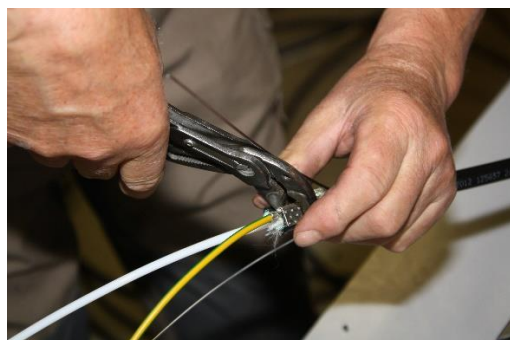
Dig out the steel wires. Cut the steel wires at a length of about 10 to 15 cm.



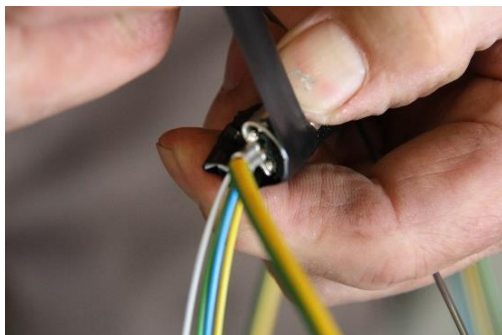
You can split the sheath and the corrugated steel plate underneath the sheath with ST-OCS splitting tool. In this case, with the blade of the splitting tool, the sheathing is split from the grooves of the steel wires. This should be done on each side.



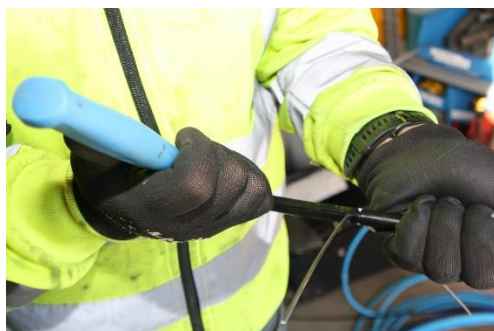
Bend the cable slightly to separate the halves of the cable at the peeling point. Pull the cable halves apart while taking care not to damage the fiber tubes. Cut off the halves of the sheath so that the remaining pieces are about 3 cm long. Cut off the reinforcements under the sheathing.



Scrape off the white ribbon under the armoring from one of the sheath halves and the plastic layer on the surface of the armoring. Flatten the end of the cable sheath with pliers and squeeze the connector of the grounding wire onto that half of the sheath.

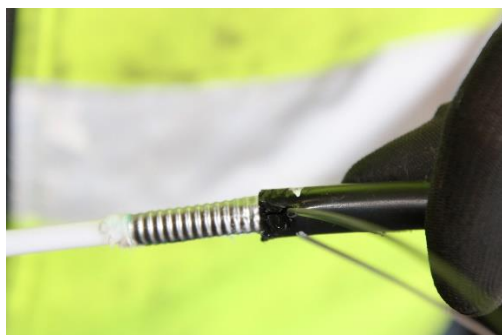


Protect the connector of the grounding wire with insulation tape. After that squeeze the sheath halves against each other and tape them together.



Another method of peeling is to split the sheathing with a knife from the grooves of the steel wires at a length of about 20 cm.

N.B. In this case, only the outer sheath of the cable is split, but the steel plate under the sheathing should remain intact.



Heat the sheath, starting from the point where the cable is peeled, at a length of about 10 cm, and remove the halves of the sheathing from the corrugated steel plate. Cut off the steel sheath and the reinforcements under it 3–5 cm from the starting point of peeling. Pull the sheath out from the end of the cable.

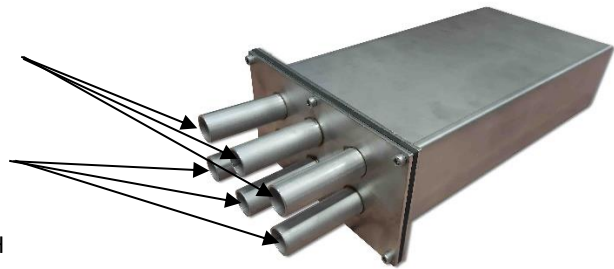
Before installing the cables, if necessary, change the position of the splice tray in height so that the position of the splice tray is optimal for the installation of fibers.

Carefully clean the cable sheaths from the starting points of the peelings backwards at a length of about 30 cm.

To guide the cables into the closure, follow these steps:

From the pass-throughs in the upper row, only FTTH cables are directed into the closure.

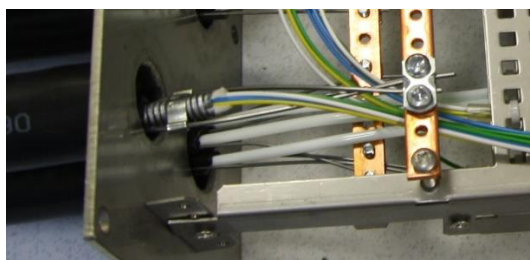
From the pass-throughs in the lower row, both trunk and distribution cables as well as FTTH cables can be directed into the closure. But in a way that FTTH cables use their own or share their own pass-through.



Thread the shrinks over the cables and guide the ends of the cables inside the closure.

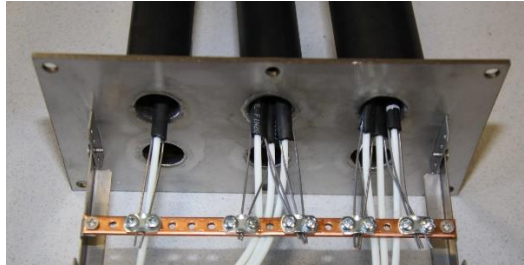
Push the branch blocks between the cables as far as they go.

Guide the fiber tubes of the trunk and distribution cables underneath the splice tray. Attach the steel wires, any center elements, and grounding wires of these cables to the lower grounding rail of the joint. You can connect the corrugated steel plate to the mounting rail using a grounding wire or a corrugated arc fastener. If there are steel wires in the cable, the grounding can be done with the help of an Oetiker hose clamp and the steel wires.



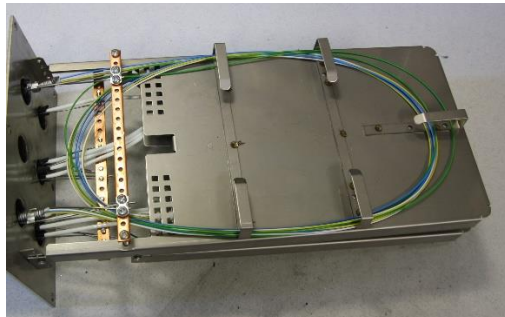
The corrugated steel sheath of the FZVD2PMU Flex cable is connected to the grounding rail with the help of an Oetiker hose clamp. It connects the steel sheath and the wires. The Wires are then connected to the grounding rail.

Direct the center tubes of FTTH cables (FYO2PMU, FYO2PMU Mini) directly to the splice tray. If the joint closure has two splice trays, direct the center tubes of the FTTH cables to the upper splice tray. Attach the steel wires of the FTTH cables to the grounding rail. If FTTH cables are brought into the closure from the lower pass-throughs, attach their steel wires to the lower grounding rail.



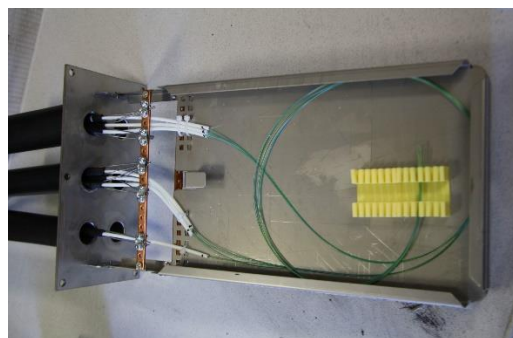
The steel wires of the FTTH cables are attached to the grounding rail of the closure, and the central tubes of the cables are directed to the upper splice tray.

N.B. Before attaching the central tubes of FTTH cables to the splice tray, it is important to mark them on the outside of the splice tray with the subscriber IDs.

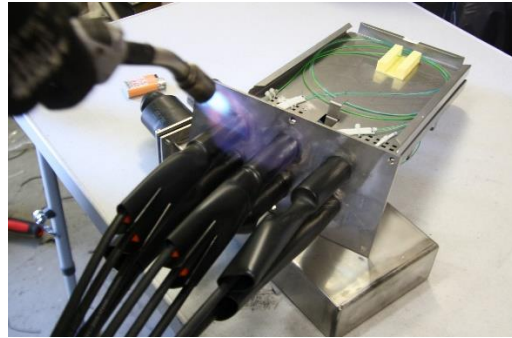


Loop the fiber tubes of the trunk or distribution cables under the splice tray and direct the ends of the tubes onto the splice tray or trays.

Peel the fiber tubes brought onto the splice tray or trays, clean the fibers thoroughly from gel and attach the fiber tubes to the splice tray or trays.

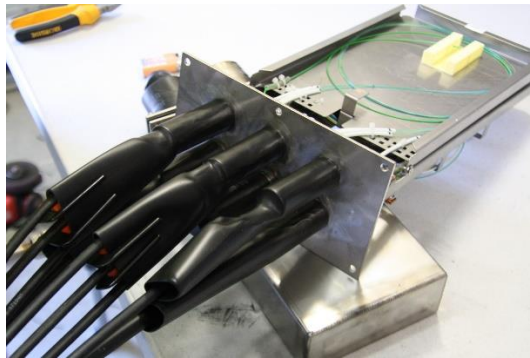


Lay out the fibers on the splice tray and cut off their excess lengths.



Heat the shrinks into place, starting the heating from the flange of the joint closure.

Heat shrinks as evenly as possible on different sides.



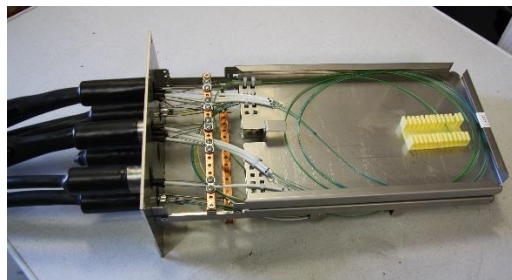
Once you have completed the shrinkage along the length of the pass-throughs, stop heating and wait for the shrinks to cool off.

If you shrink continuously, the shrinks will start to drain off the pass-throughs.



Complete the shrinking. Finally, check that glue is visible and evenly distributed from the ends of the shrinks and the branch block. If the glue is not evenly visible at the end of the shrink, the shrinkage is poorly done!

Tie the cables leaving the pass-throughs together on the outside of the shrinks with cable ties, and a little further away, tie all the cables into a single bundle to avoid any damage to the pass-throughs when handling the cables.



The shrinkage is done and the fibers are waiting to be spliced.

Splice the fibers.

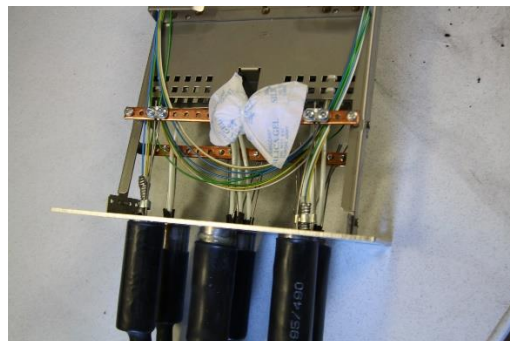
Add the necessary markings to the splice tray(s).



When there are two splice trays in the joint closure, you can rotate and lock the upper tray in an upright position when handling or splicing the fibers on the lower splice tray.



You can lock the upper splice tray in an upright position by tightening the screws.



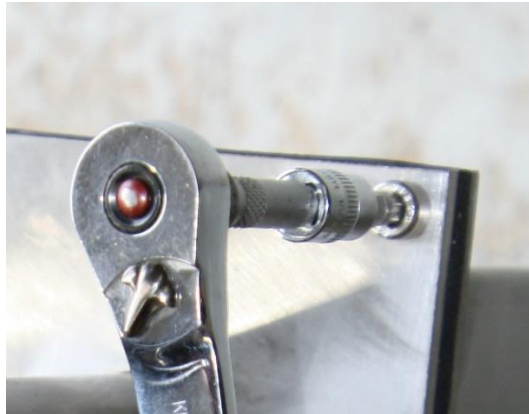
Before closing the joint closure, attach the silica gel to the ground rail of the closure.



Close the joint closure.



Attach the grounding connector under one of the screws in the case.



If you use a cordless drill or a cordless screwdriver to tighten the screws, then finally use a hand tool to make sure that the joint closure is properly closed.