

NAF general joint closure 192 3xOval Installation instructions for direct buried cables



Introduction

NAF GJC 192 3xOval is a joint closure which can be directly buried, placed in a manhole or a cabinet. It is used for jointing and branching fiber optic cables.

Features of the joint closure

- The case is so called butt joint consisting of an inner part with splice tray and a protective cover.
- Includes two splice trays. The upper splice tray is hinged.
- The capacity of the closure is for 192 splices.
- The height of the splice trays can be adjusted, depending on the needs of the installation situation.
- Underneath the lower splice tray are fixed guides for uncut tubes containing fibers
- Suitable for different types of fiber optic cable structures, as well as for microduct projects, where, in addition to small microduct cables, microducts are also brought into the joint closure.
- In microduct projects, there is room for gas-tight gaskets inside the joint closure.
- The closure can be used for mid span access.
- The closure can be buried in the ground.
- The flange has three oval pass-throughs. Those on the side are vertical and the one in the middle is horizontal.
- When direct buried cables are used, the sealing is done with shrinks or with mechanical cable glands. When microducts are used, the sealing is done with mechanical cable glands.
- External dimensions 498 x 235 x 125 mm
- Material is acid-proof stainless steel.
- IP 68. Designed and manufactured in Finland.
- Product code with cable shrinks 7269420 and without shrinks 7269483.

The materials included in the joint closure with cable shrinks (7269420):

- Protective cover and flange with oval pass-throughs
- Screw-on splice tray including four 24-fiber splice holders and plexiglass covers, 2 pcs.
- Cable shrinks 56/16 – 250 mm, 2 pcs
- Heat-shrink cap 56/26 – 125 mm, 2 pc
- Equipment bag:
 - o Branch block, 2 pcs
 - o Extra 24-fiber splice holder, 1 pc
 - 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, 24 pcs
 - o Cleaning wipe, 1 pc
 - o Silica gel bag 25 g, 1 pc

The materials included in the joint closure without cable shrinks (7269483):

- Protective cover and flange with oval pass-throughs
- Screw-on splice tray including four 24-fiber splice holders and plexiglass covers, 2 pcs.
- Equipment bag:
 - o Extra 24-fiber splice holder, 1 pc
 - 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, 24 pcs
 - o Cleaning wipe, 1 pc
 - o Silica gel bag 25 g, 1 pc

The installation of the joint closure when extending direct buried cables

When direct buried cables are installed into the joint closure, both mechanical cable glands and heat shrinks can be used. If the outer diameter of the cable is more than 20 mm, only heat shrinks can be used. Mechanical cable glands are used in this installation instruction.

Preparation of the mechanical cable glands

Take out a suitable cable gland.



Loosen the screws on the gland and remove the plugs from the openings where the cables will come.



Spray silicone spray on the screws of the mechanical cable gland and on the screw holes on the back, so that the acid-steel fixing screws do not get stuck.



In the case of mid span access, split the sealing piece with a sharp knife, as shown in the picture.

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:

- Cables with a central loose tube structure (FY...):

The length to be peeled is either 120 cm or 200 cm. If the cable's splices are placed on to the upper splice tray, the length to be peeled must be 200 cm.

An example of a central loose tube cable

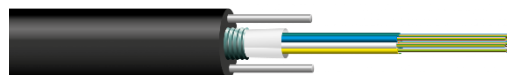


- Multi Loose Tube cables (FZ...): The peeling length is 200 cm for direct extensions.
- Multi Loose Tube cables (FZ...): The peeling length is 400 cm for mid span access.

Examples of multi loose tube cables



FZVD2PMU Flex



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

Examples of FTTH cable structures



FYO2PMU and
FYO2PMU Mini

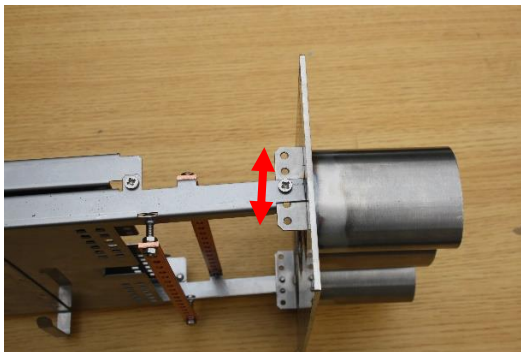


FYO2RMU 3,5 kN

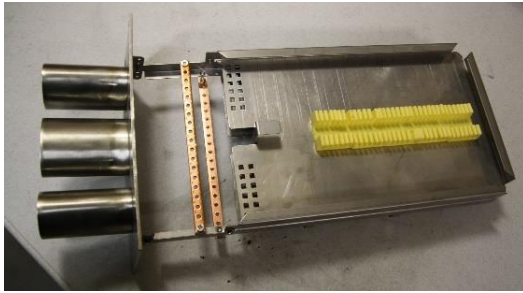
Peel the cables.

Instructions for peeling different types of direct buried cables can be found on the cable manufacturers' websites.

Preparing the joint closure



Before installing the cables in the closure, change the position of the splice trays vertically, if necessary, to make them as optimal as possible for cable insertion.



If necessary, you can add the extra splice holder to either one of the splice trays at this stage. Usually it is placed on the lower splice tray, where splices of trunk cables are placed.

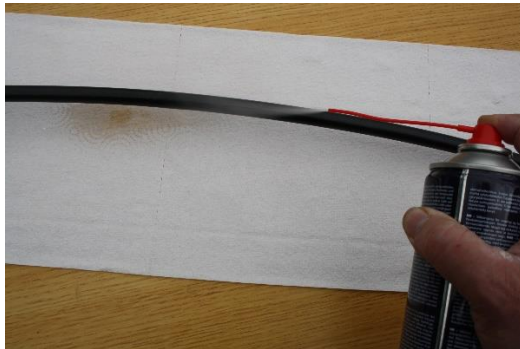


At this point, remove the upper splice tray from the closure, as this would otherwise hinder installations. You can also rotate and lock the upper splice tray to the top position, but removing the tray is an easier solution for installation.

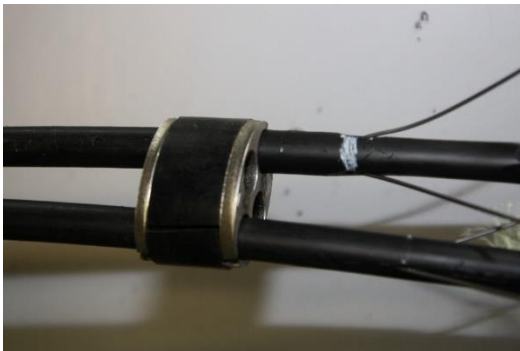


If one of the oval pass-throughs is left unused, close it with a mechanical cable gland.

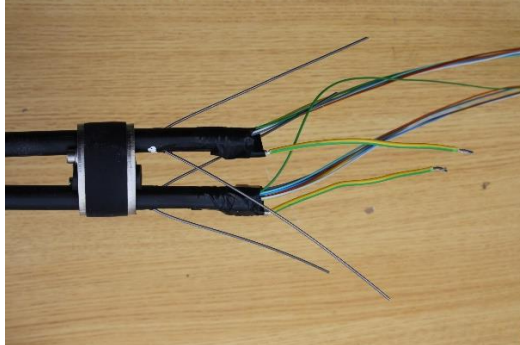
The installation of the cables to the joint closure



Spray a little silicone on to the cable sheaths to better slide the cables far enough.



Guide the fiber tubes and cables through the openings in the cable gland. The ends of the cable sheath should be within 5-10 cm of the cable gland. Steel wires should emerge after the cable gland.

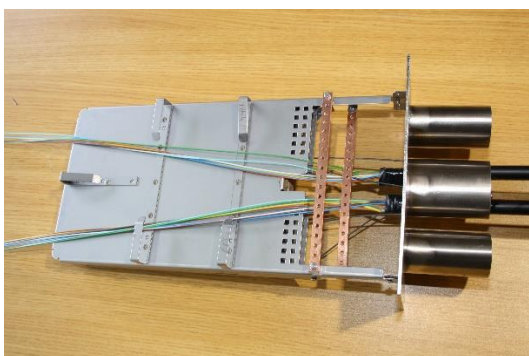


If you are installing direct buried multi loose tube cables, connect the connectors of the grounding wire to the corrugated steel sheet of the cables. Protect the connection points and cable ends with insulating tape.

Route the cables with fibers, steel wires and grounding wires as a bundle inside the closure.



Install the trunk cables with most fibers through the middle and the other cables from the outer pass-throughs.

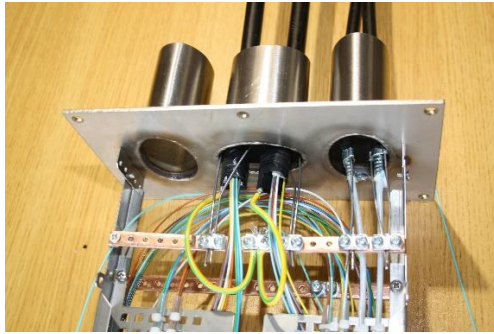


Guide the fiber tubes inside the closure. Route the fiber tubes of the multi loose tube cables below the splice tray. If you are installing cables with a central loose tube structure, center tubes can be directed directly to the lower splice tray unless some of the fibers need to be spliced on the upper splice tray. Then the central tubes are directed under the splice trays, from which the fibers are to the upper splice tray using SPA-U installation kit. SPA-U installation kit is not included with the closure.

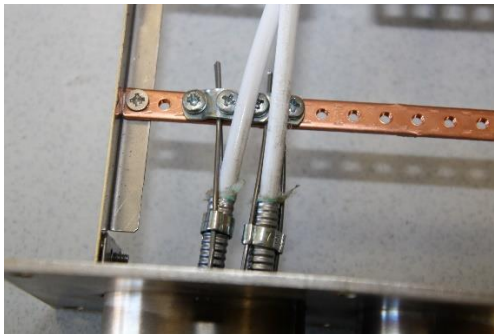


Push the mechanical cable gland with cables inside the oval grommet of the joint closure to a depth of 5–15 mm and tighten the screws enough to hold the mechanical cable gland in place.

N.B. Always tighten the screws by hand to prevent the screws or their counterparts from breaking.



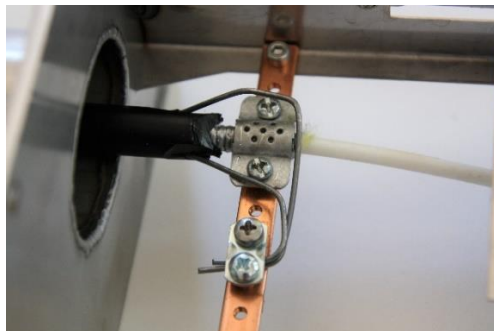
Attach the steel wires or central elements of the cables and grounding wires to the grounding rail of the case.



Connect all metal parts of the cables to the mounting rail on the case.

You can connect the corrugated steel plate to the mounting rail with the help of steel wires using an Oetiker hose tensioner or by using an grounding wire.

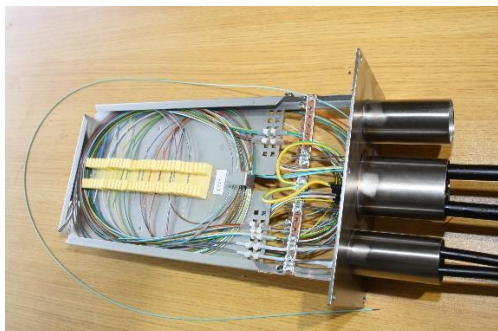
Oetiker hose tensioners are not included in the package.



You can connect the corrugated steel plate to the mounting rail with the help of a corrugated arc fastener, which is included in the package.

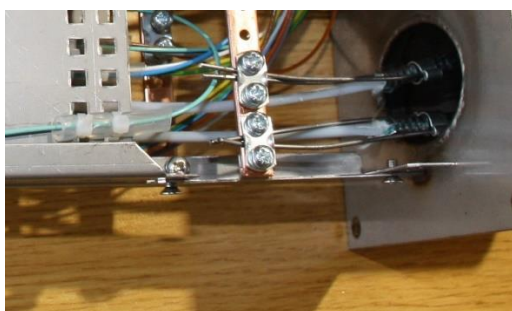
Bring the fibers underneath the splice tray onto the splicetray. The length of the fibers on the splice tray should be about 100 cm.

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



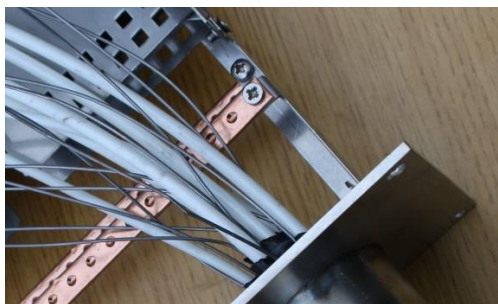
Lay out the fibers on the splice tray and cut off their excess lengths.

Attach or turn the upper splice tray into place.

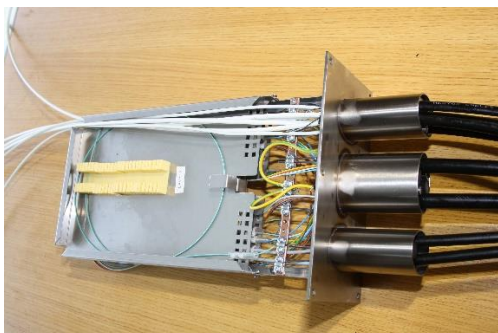


Bring the desired fiber tubes from the trunk cable or cables to the upper splice tray and attach them to the tray. Peel the fiber tubes brought onto the splice tray, clean the fibers thoroughly from gel and lay out the fibers on the splice tray and cut off their excess lengths.

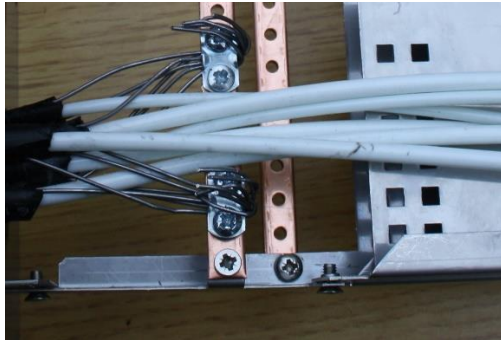
Guide the FTTH cables through the openings in the cable gland. The ends of the cable sheath should be within 5 cm of the cable gland. Steel wires should emerge after the cable gland.



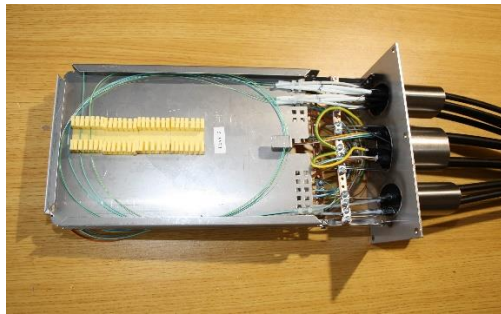
Direct the fiber tubes of the FTTH cables to the upper splice tray and so that their central tubes and any steel wires go above the upper grounding rail of the closure.



The central tubes of the FTTH cables directed to the upper splice tray.



Attach any steel wires that may be present in the FTTH cables to the grounding rail.



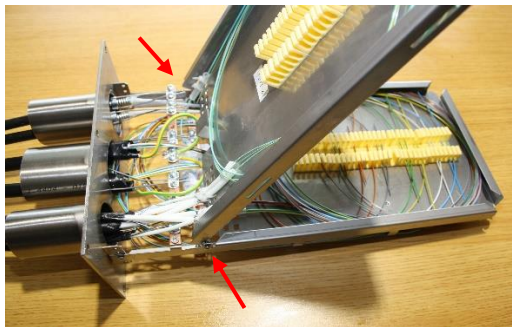
Remove the central tubes from the FTTH cables, clean the fibers from gel and attach the central tubes to the splice tray.

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

Splice the fibers by fiber groups and lay out the spliced fibers on the splice tray.

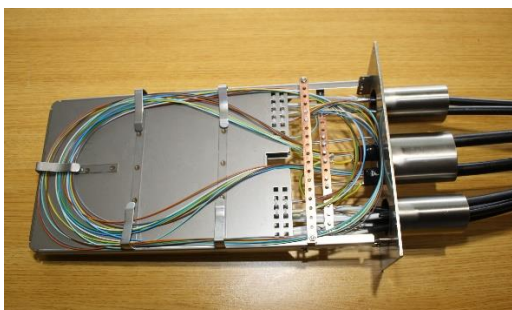
Place splice protectors in accordance to fiber order in to the splice holders.

Add the necessary marking to the splice trays.

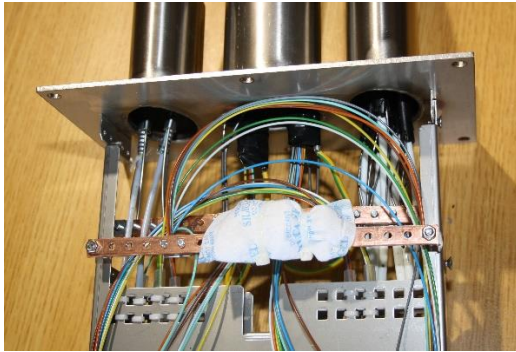


When there are two splice trays in the joint closure, you can rotate and lock the upper tray in an upright position when handling or splicing the fibers on the lower splice tray.

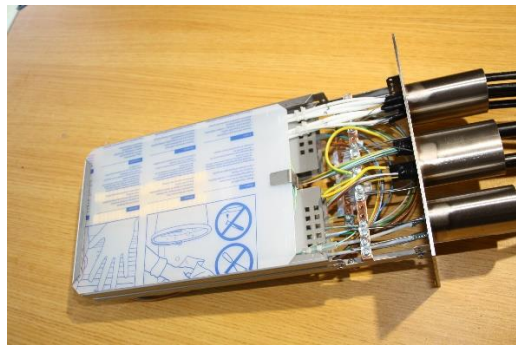
You can lock the upper splice tray by tightening the screws



Double-check that the fiber tubes below the splice tray are well in place.



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



Protect the fibers on the splice trays with plexiglass covers included in the package.



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.



Tighten the screws of the mechanical cable gland evenly, i.e., first each one until they tighten a little. Also check that the grommet is straight.

After this, do the final tightening but avoid over-tightening the screws.

Suitable tightening is when a little sealing material appears around the microducts and at the edges of the oval shaped pass-trough.



Joint closure installed