

### NAF mini General Joint Closure



#### Introduction

NAF mini GJC 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:

- A butt joint type closure consisting of an inner part with splice tray and a protective cover.
- Capacity for 48 splices
- 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.
- The closure can be used for mid span access.
- The closure can be buried in the ground.
- The flange has one oval pass-through.
- 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.
- Mechanical cable glands are available separately:  
Max. cable count and max. outer diameter
  - o 2 x 20 mm (7263240)
  - o 4 x 15 mm (7263241)
  - o 2 x 15 mm + 4 x 10 mm (7263242)
  - o 6 x 10 mm (7263243)
- External dimensions 489 x 182 x 94 mm
- Material is acid-proof stainless steel.
- IP 68. Designed and manufactured in Finland.
- The identification code for NAF mini GJC with mechanical cable gland 7263227 and without the gland 7269419

### The materials included (7263227):

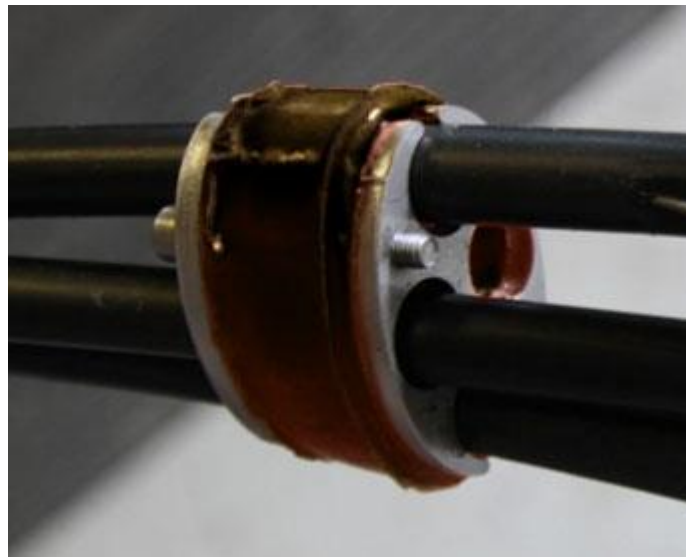
- Protective shell and splice tray with plexiglass cover
- Mechanical cable gland 2x15 + 4x10 mm, 1 pc
- Cable shrinks 56/16-250 mm, 1 pc
- Branch block, 1 pc
- Equipment bag:
  - o Splice holder 12-fibers, 4 pcs
  - o Cable tie 2,5 x 100 mm, 12 pcs
  - o Grounding connectors, 6 pcs
  - o Fixing screws, 12 pcs
  - o Plastic fasteners for uncut fiber tubes, 4 pcs
  - o Cleaning wipe, 1 pc
  - o Silica gel bag 25 g, 1 pc

### Preparation of cables for joint closure installation

Clean the cables and mark the starting points for the peeling and. The peeling lengths for all cable types are as follows:

- The length to be peeled is 120 cm in direct extensions, regardless of the type of cable.
- Multi Loose Tube cables (FZ...): The peeling length for mid-span access is 240 cm

Push the cables through the mechanical cable gland so that you can handle them individually.



Cables brought through a 4-hole mechanical cable gland.

Peel the cables, but at this stage still leave the fibers protected in their own tubes or in the center tube of the cable. The following are instructions for peeling the most common direct buried cables used in Finland.

### *FYOVD2PMU*



Cable structure



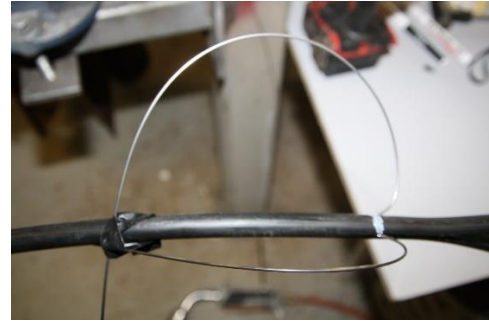
Peel the sheath off the steel wires along the entire length to be peeled.



Dig out the steel wires.



Cut the steel wires at each end to a length of about 20 cm.



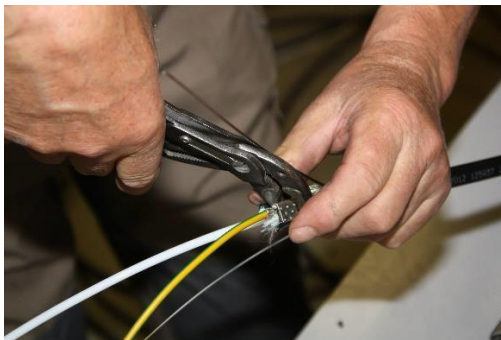
Bend the steel wires backwards and lock them with e.g. insulation tape to prevent damage from their sharp ends.



Split cable sheath using ST-OCS splitting tool



Separate the halves of the cable at the peeling point. 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.

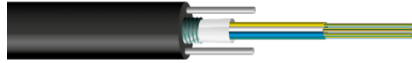
Flatten the end of the cable sheath with pliers and squeeze the connector of the grounding wire onto that half of the sheath.



Protect the connector of the grounding wire with insulation tape.



### FZVD2PMU Flex



Cable structure



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.



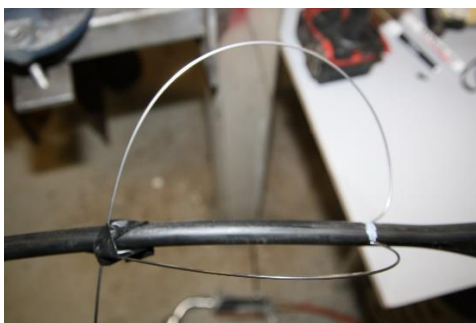
Peel the sheath off the steel wires for about 50 cm or along the entire length to be peeled.



Dig out the steel wires.



Cut the steel wires at each end to a length of about 20 cm..



Bend the steel wires backwards and lock them with e.g. insulation tape to prevent damage from their sharp ends.



Split cable sheath using ST-OCS splitting tool



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.

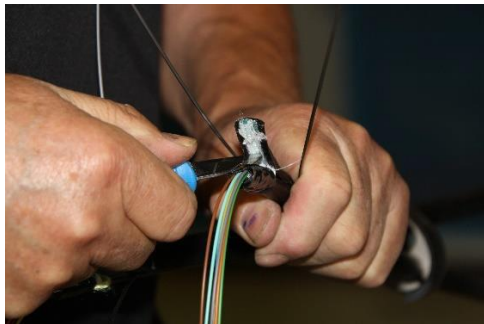


Cut off the halves of the sheath so that the remaining pieces are about 3 cm long..

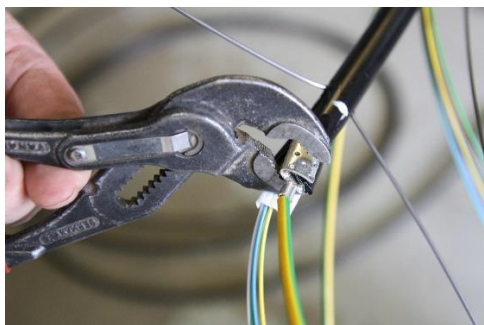


Bend one half of the cable sheath and press the Flex fiber tubes surrounded by a white band under the sheath against this.

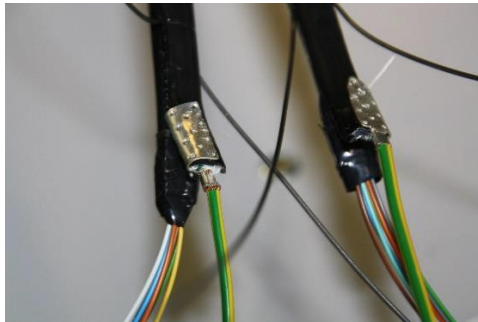
After this, protect the Flex fiber tubes with insulating tape by wrapping it around the fiber tubes and the half of the sheathing.



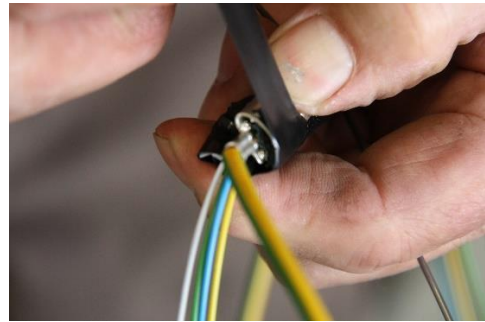
Scrape off the white ribbon under the armoring from one of the sheath halves and the plastic layer on the surface of the armoring.



Flatten the end of the cable sheath with pliers and squeeze the connector of the grounding wire onto that half of the sheath.



Ground wire connectors installed on FZVD2PMU Flex underground cables. Note the protection of the Flex fiber tubes against the other half of the jacket.



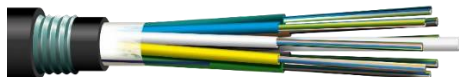
Protect the connections of the ground wires with insulating tape. After this, squeeze the sheath halves against each other and tape them together



FZVD2PMU Flex direct buried cables in mechanical cable gland.



### *The peeling of FZOMVDMU-SD direct buried cable*



Cable structure



Use a knife to make an incision around the cable sheath up to the steel strip at a distance of about 15 cm from the end of the cable.



Bend the cable in different directions at the incision to break the steel strip.

Do not bend the cable too sharply so as not to damage the fibers.



Pull the cut off part off the middle sheath to reveal the yellow tear threads.





Twist the tear thread around screwdriver, tip pliers or a special tip of a cordless drill and pull the thread to make the jacket crack.

Pull the wire straight out of the cable towards the point where the wire is placed so that the wire does not cause damage to the fibers.

Split the sheathing also from the other side in the same way, using the other tear thread.



Open up the sheathing to the peeling point.



Cut the halves of the sheath to a length of about 3 cm and remove the white swelling band and its binding threads from the intermediate sheath. Also cut off the tear threads at the base of their splitting grooves.



Carefully make a longitudinal incision 10–15 cm long in the intermediate sheath. Do not cut too deep to avoid damaging the fiber pipes.



Open the intermediate sheath at the end of the cable. At the incision, use help of a knife, enough to get a grip on the edges of the intermediate sheath.



Tear open the sheath by hand at the incision.



Fold the intermediate sheath away from the cable body and locate the blue-black tear thread on its inner surface. Remove the end of the tear thread from the intermediate sheath with the tip of the knife and pull the thread off the split part.



Cut off the split section of the intermediate sheath without damaging the tear thread and split the rest of the intermediate sheath with the help of the tear thread.

Always pull the tear thread directly from where the thread is placed.



Pull the split sheath away from the fiber tubes and cut it off under the halves of the outer sheaths.



Push the tying wires of the fiber tubes towards the cable so that they loosen and cut them off at the base of the sheath.

Be careful not to damage the fiber tubes when cutting the binding wires.

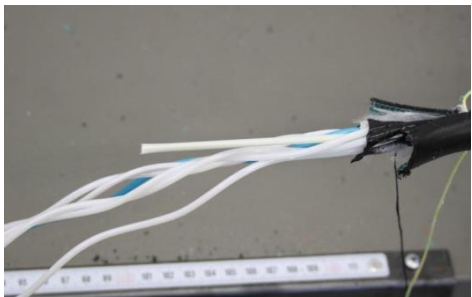


Pull the binding threads in a bundle away from the fiber tubes.



Open the repetition of the fiber tubes by rotating the tubes away from the center element.

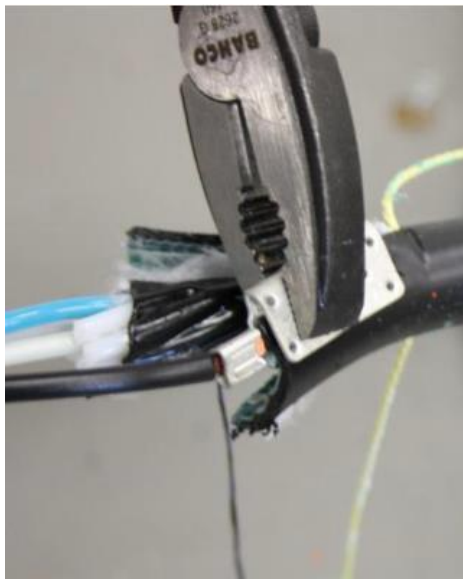
Best place to open is where the direction is changed.



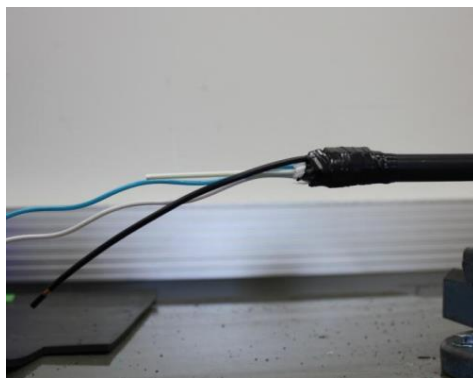
Cut off any filling elements at the base of the sheath and the central element to a length of about 10 cm.



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.

In the case of mid span access, straighten the fiber tubes with heat so that you can place the uncut fiber tubes neatly and clearly below the splice tray.



### *FYO2PMU, FYO2PMU Mini and FYO2RMU 3,5 kN -the peeling of FTTH cables*



Cable structures

FYO2PMU, FYO2PMU Mini



FYO2RMU 3,5 kN



Peel off the steel wires or fiberglass elements of the cables along the entire length to be peeled.



Bend the ends of the steel wires or fiberglass elements and pull them out of the sheath along the entire length to be peeled.



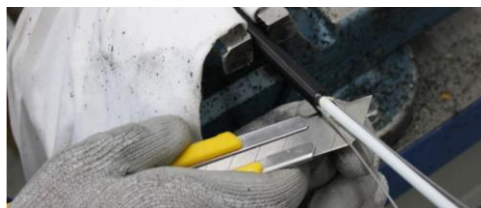
Cut steel wires or fiberglass elements to a length of about 10 cm.



Split the sheath at the end of the cable from the grooves for about 15 cm in length.



Grab both halves of the sheath and pull them apart until the starting point of peeling.



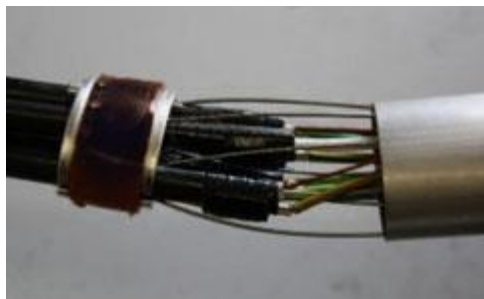
Cut off the halves of the sheathing, as well as the threads between the sheathing and the central tube, from the starting point of the peeling.



Peeled FYO2PMU Mini FTTH cables in mechanical cable gland.

### Installation of the cables to the joint closure

Pull the cables back from the mechanical glands so that the length of the sheaths on one side of the grommets is about 5 cm.

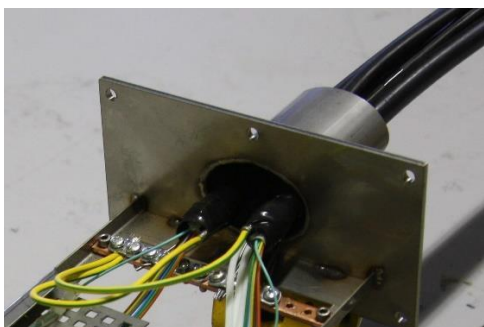


Route the cables with fibers, steel wires and ground wires as a bundle inside the joint closure.



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

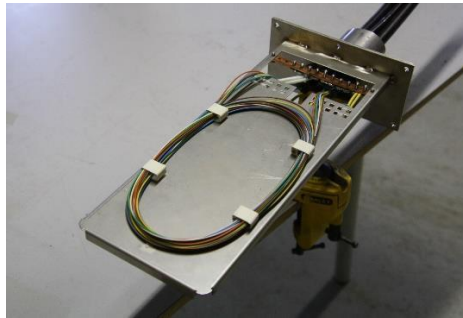
Always tighten by hand to prevent screws or their counterparts from breaking.



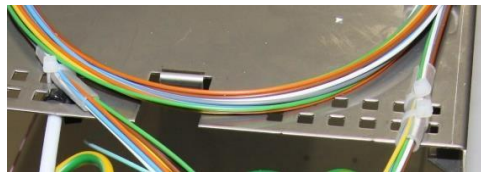
Connect the steel pull wires and ground wires of the cables to the grounding rail of the joint closure.

### Importing the fibers to the splice tray

In the case of a direct extension, bring the fibers of all cables directly onto the splice tray and attach the tubes protecting them to the splice tray. On the other hand, if it is mid span access, place the fibers in their tubes below the splice tray, pull straight and separate the fiber tubes to be cut from other tubes. Cut off these tubes from the midpoint. Place the fibers to be branched in their tube above the splice tray. Bundle and attach the uncut fiber tubes below the joint plate.



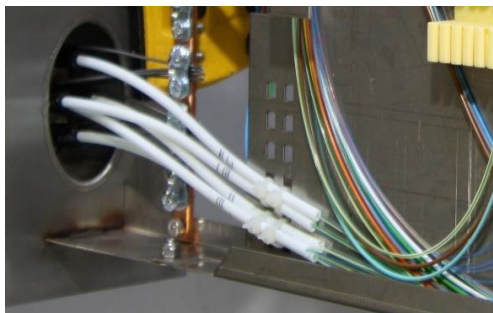
In mid span access, the uncut fiber tubes are attached to the underside of the splice tray with the plastic fasteners included in the package.



The uncut Flex fiber tubes attached to the underside of the splice tray using split silicone tubes.



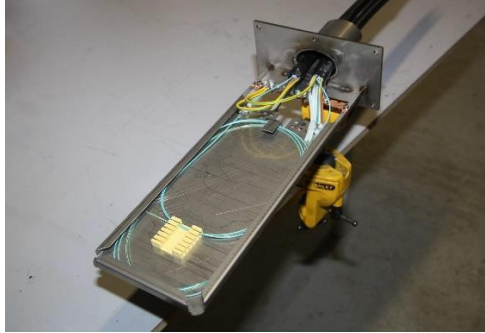
Mark the starting points of peeling on the fiber tubes, cut the fiber tubes without damaging the fibers, remove the gel on top of the fibers and attach the fiber tubes to the splice tray.



To save space, fiber tubes for FTTH cables should be attached in bundles to the splice tray, but at most 4 tubes/bundle.

Mark the fiber tube of each FTTH cable with its own identifier, e.g., address, number or similar.

Place the splice holders in place on the splice tray and measure the fibers. When measuring the fibers, loop them a full turn on the splice tray and then take them in groups to their own splice holders. Always try to ensure that the fibers come to their holders from the side they enter the splice tray.



The fibers are measured on the splice tray before splicing.

Splice the fibers by fiber groups and place them on to the splice tray.

Protect the spliced fibers with the plexiglass cover included with the joint closure.

### Closing of the joint closure

Add the necessary markings for the joint closure and cables



Close the joint closure

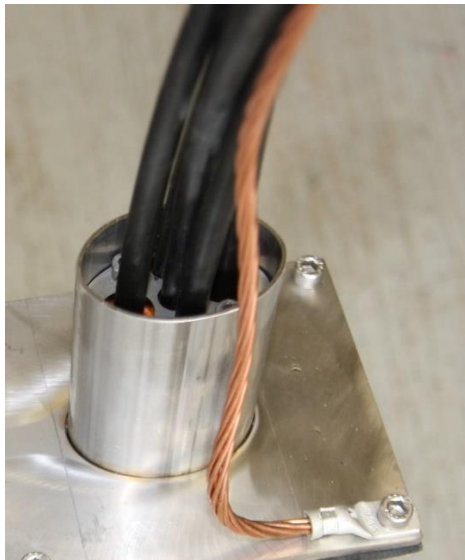


If you are using a battery-powered screwdriver to tighten the screws, finally use a hand tool to make sure that the joint closure is securely closed.



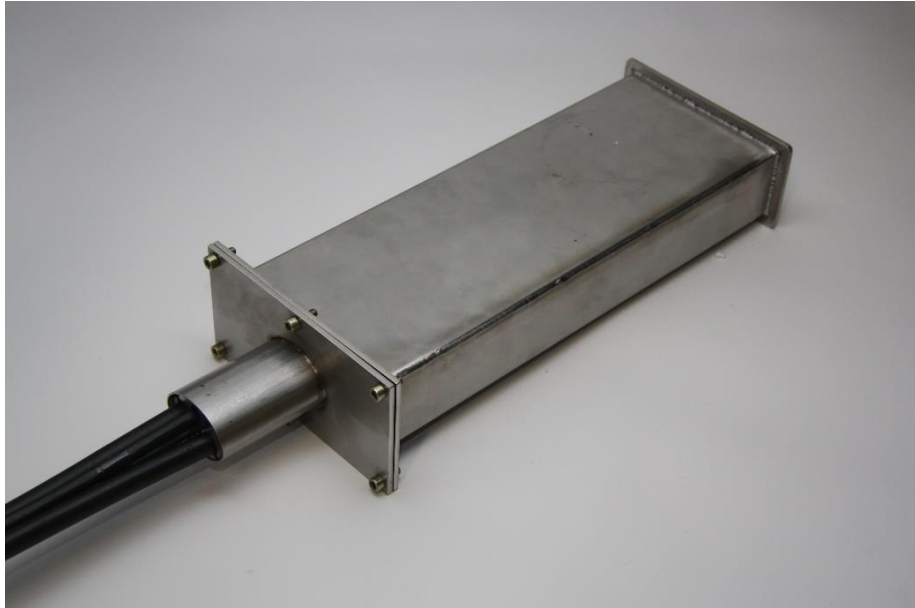


It is very important to note that the screws are not tightened too much, as then the properties of the seal will deteriorate! The sealing material should not penetrate through the grommets or the edges of the grommet.



If cables containing metal are included, the joint closure should always be grounded.

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



The joint closure is installed.