

## I. Application

The HF-MSS-3/12 Optical Fibre Distribution Cabinet is used as a fibre distribution node in outside-plant fibre optic access networks. The cabinet incorporates entries for feeder cables and microducts dedicated for blown customer drop microcables.

Cabinet features:

- termination of 288 customer drop microcable fibres in one Splice Box (24 splice trays, 12 splices per each tray)
- 7 m slack of each cable to allow the splice box to be removed from the cabinet for splicing
- feeder cable loop management

## II. Technical Specification

	HF-MSS-3/12
Dimensions [mm] Width x Height x Depth	400x1500x250
Maximum number of splices	288
Fibre reserve length [m]	7
Maximum number of feeder cable entries	2
Maximum number of drop cables entries	31
StIngress Protection Rating	IP54

## III. Parts

HF-MSS-3/12 Optical Fibre Distribution Cabinet Basic Parts:

- |                                      |         |
|--------------------------------------|---------|
| a) cabinet housing with key lock     | 1 set   |
| b) splice tray (12 splices per tray) | 24 pcs  |
| c) TK-9/3 cable tie                  | 100 pcs |
| d) TK-20/5 cable tie                 | 70 pcs  |
| e) TKD-20/8 cable tie                | 2 pcs   |
| f) PU foam cable entry seal          | 1 pc    |

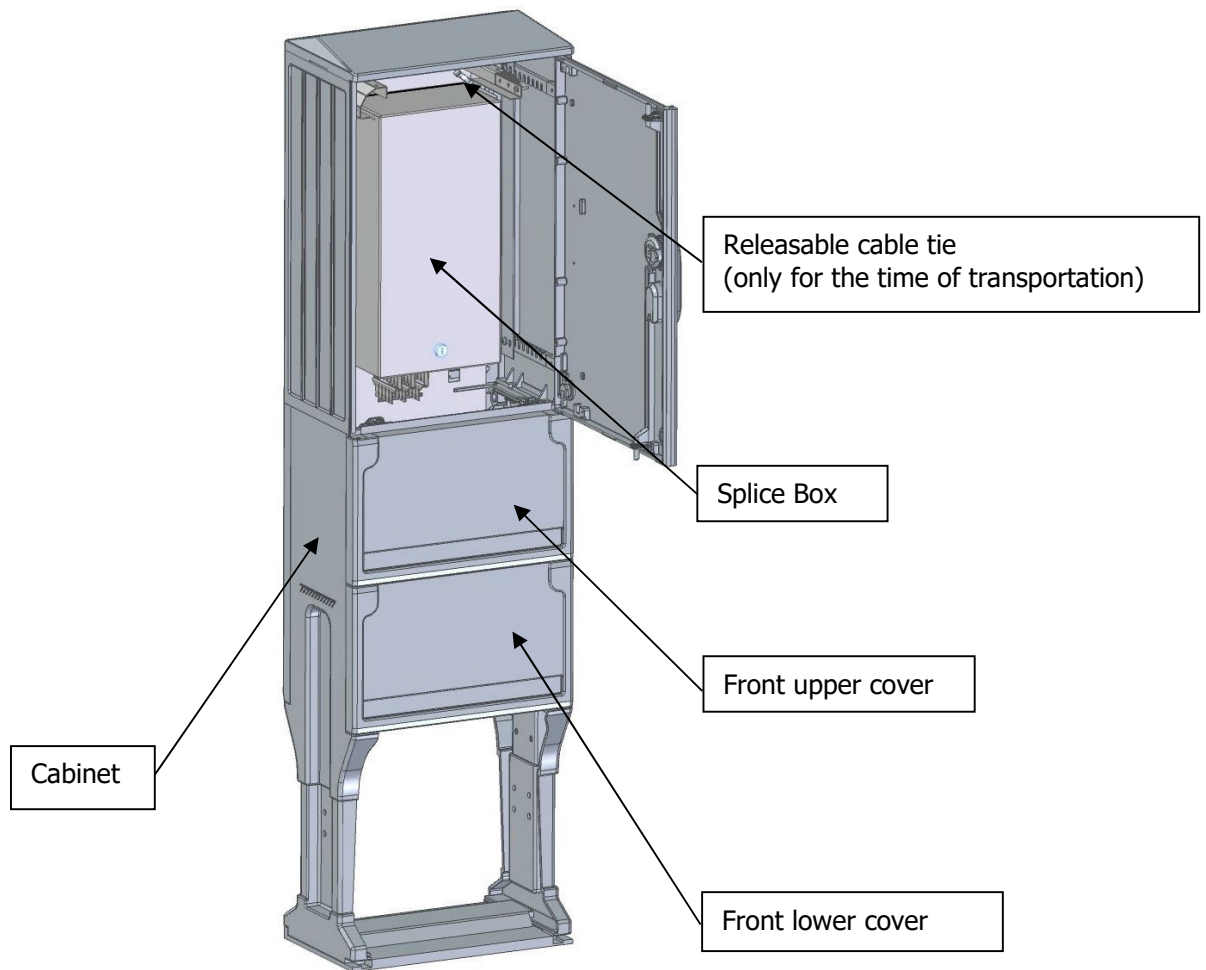


Fig.1. HF-MSS-3/12 Optical Fibre Distribution Cabinet

#### IV. HF-MSS-3/12 Cabling Instructions

1. Open the cabinet door.
2. To splice fibres in the splice box, remove two releasable cable ties located at the upper corners of the box, see Fig.1. These are put only for the time of transportation. Remove the splice box by lifting it and sliding forward. The splice box is shown in Fig.2.
3. To install microducts and feeder cable in the cabinet, remove the front upper cover (it has black side hooks that must be folded out) and the front lower cover (lift it gently and pull towards you).
4. The cabinet accepts uncut feeder cable loops and drop cable microducts Fig. 3.
5. 16/12 mm microducts for feeder cable and 7/4 mm microducts for customer drop microcables are led to the cabinet. They will be used to blow feeder cable and drop cables to the cabinet. The layer of microducts closer to the back wall of the cabinet are fastened with two cable ties to the lower mounting bracket as shown in Fig.3. The layer of microducts closer to the cabinet front are fastened with two cable ties to the lower mounting bracket as shown in Fig 4.

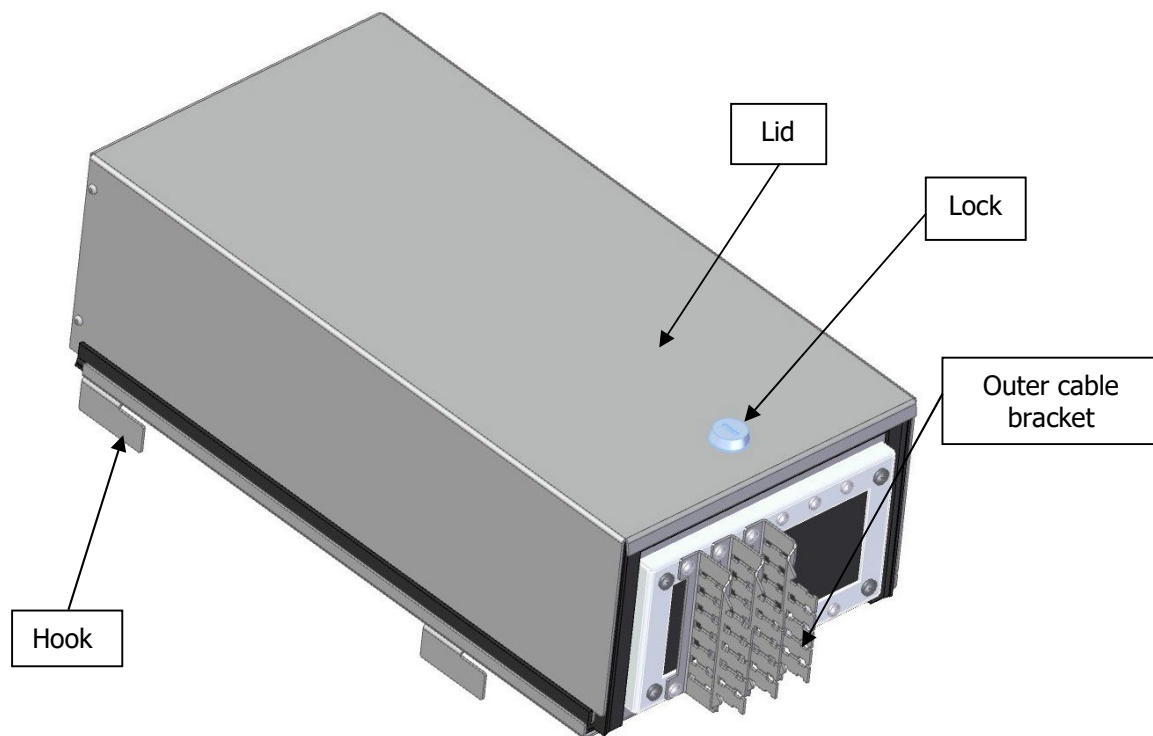


Fig.2. General view of the Splice Box

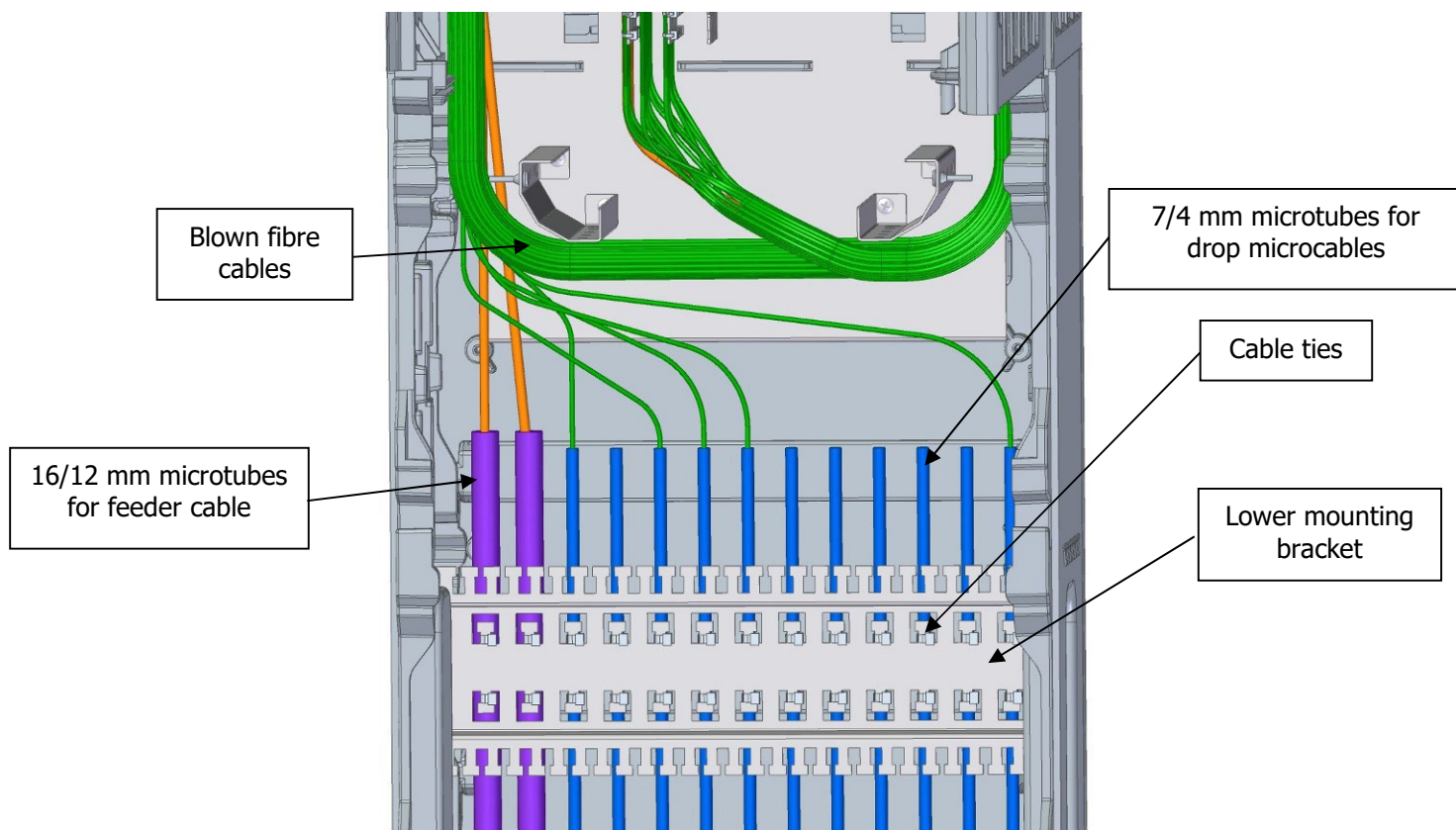


Fig.3. Installation of microduct layer closer to the cabinet back wall (front covers removed)

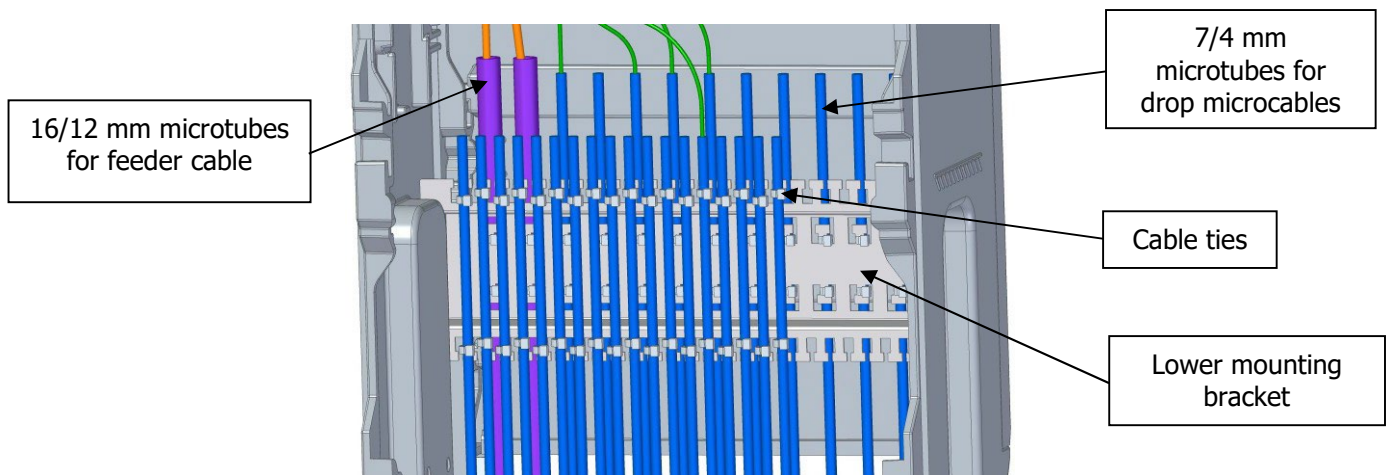


Fig.4. Installation of microduct layer closer to the cabinet front (front covers removed)

6. When installation of all microducts is completed put on the lower cover back as shown in Fig.5.

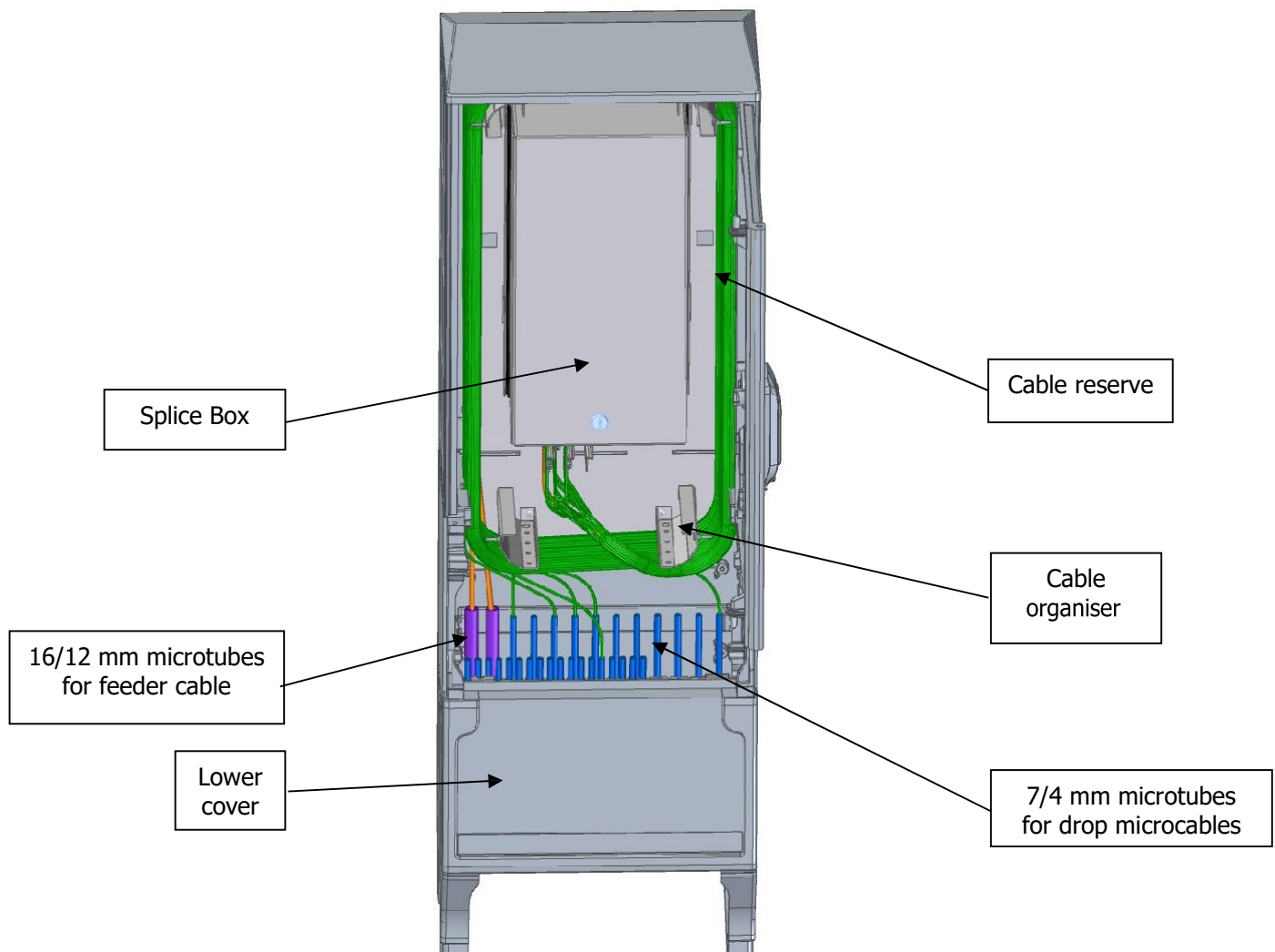


Fig.5. View of cabled HF-MSS-3/12 Optical Fibre Distribution Cabinet with front upper cover removed

7. When all microducts are installed cover the cabinet base with sand to make it stable.
8. Feeder cables and drop microcables can now be blown or pulled into the microducts. Blowing and splicing can be done from the service car parked next to the cabinet. To blow the customer drop microcable each 7/4 mm microduct in the cabinet should be extended, for the time of blowing, using 7/4 mm straight connector and the necessary length of 7/4 mm microduct. After the blowing is finished leave about 9 meters of microcable measured from the 7/4 mm microduct connector. Then remove the additional 7/4 mm microduct and straight connector. Arrange the microcable slack in the cabinet, then put about 1.5 m of microcable through the PU foam seal to the splice box.
9. The splice box is equipped with 3 outer cable brackets and 3 inner cable brackets. Each cable bracket accepts 11 cables fixed with cable ties. Before the cables are installed remove two outer and two inner cable brackets leaving only the ones closest to the left side of the splice box. After the first group of 11 cables are put to the splice box and fixed with two cable ties to the outer cable bracket and with one cable tie to the inner cable bracket screw the second cable bracket on the right side to put the next 11 cables to the splice box and the same with the third cable bracket, see Fig.6. and Fig.7.
10. It is recommended to insert the customer drop cables into the splice box one by one and fix each cable to the cable brackets with cable ties. It should also be noted that all cables between the cabinet and the splice box are of equal length so that there are no problems arranging them in the cabinet.

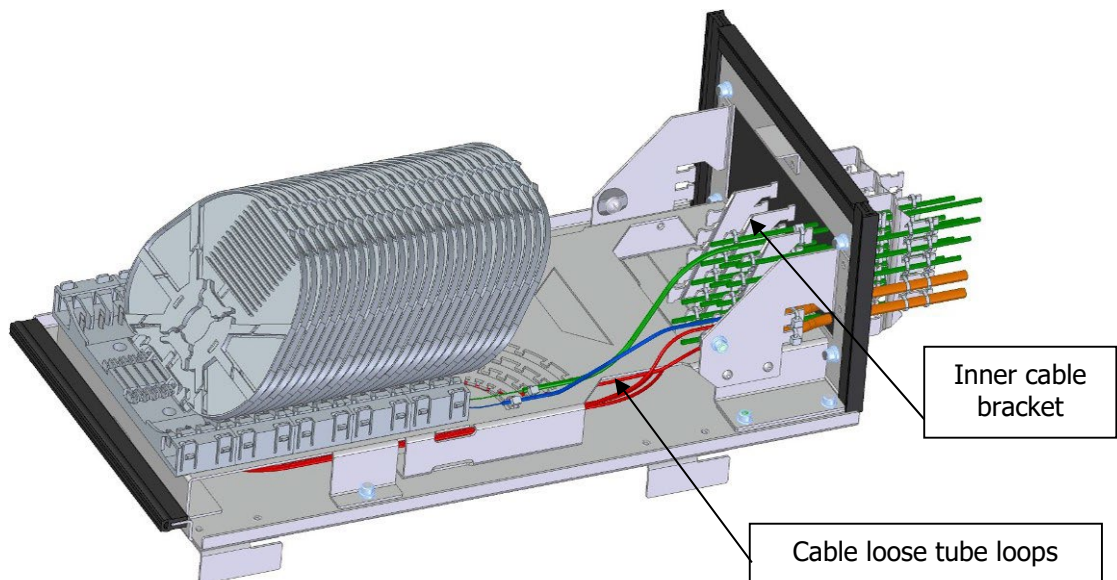


Fig.6. Splice Box view without lid



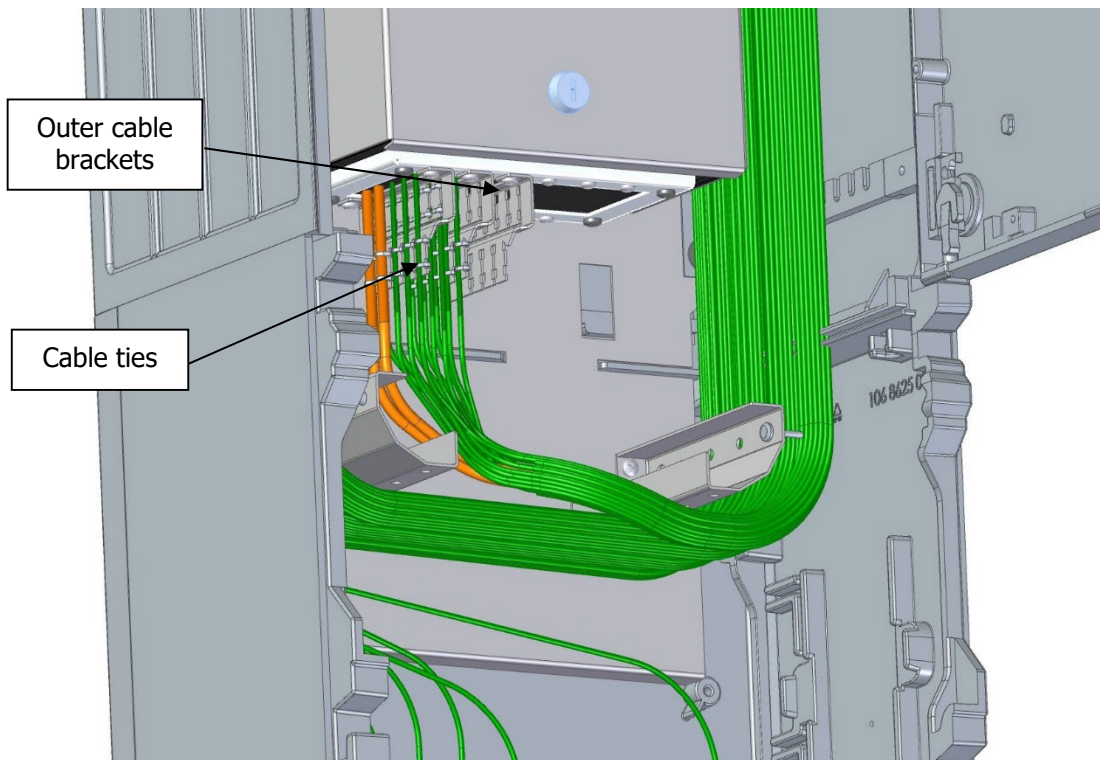


Fig.7. View of the bottom of the Splice Box inside HF-MSS-3/12

11. Inside the splice box, the feeder cable strength members are fixed with the dedicated clamping screws with washers and the cable is fastened with cable ties, see Fig.8.

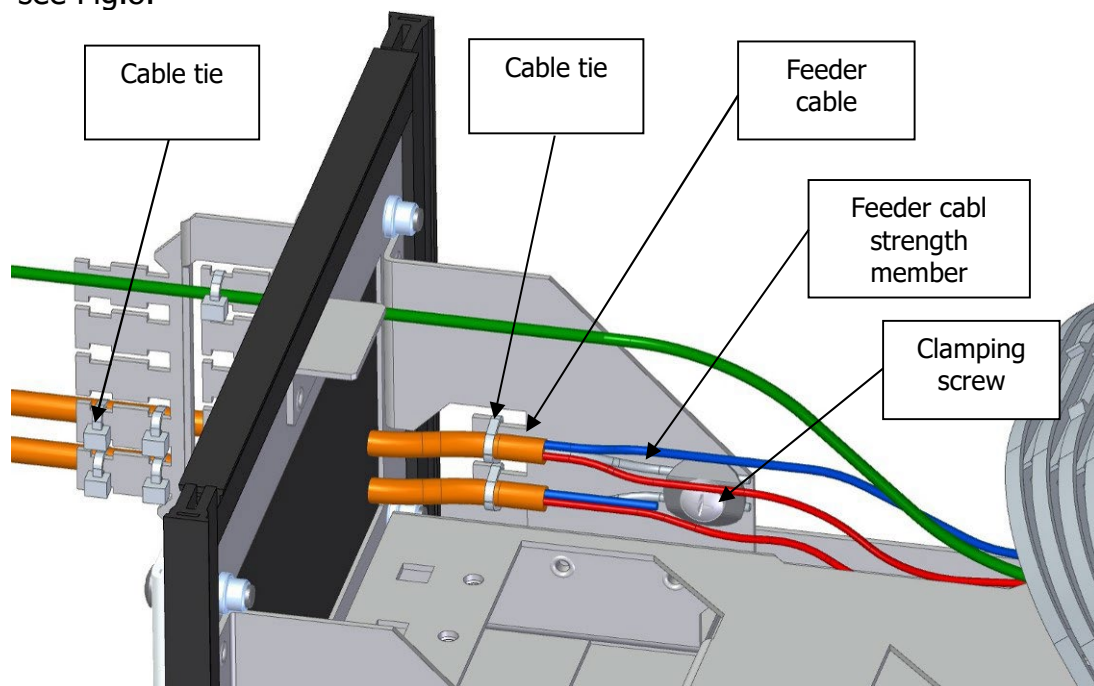


Fig.8. Feeder cable fixation

12. Customer drop cables are fixed to outer and inner cable brackets with cable ties, see Fig.9.

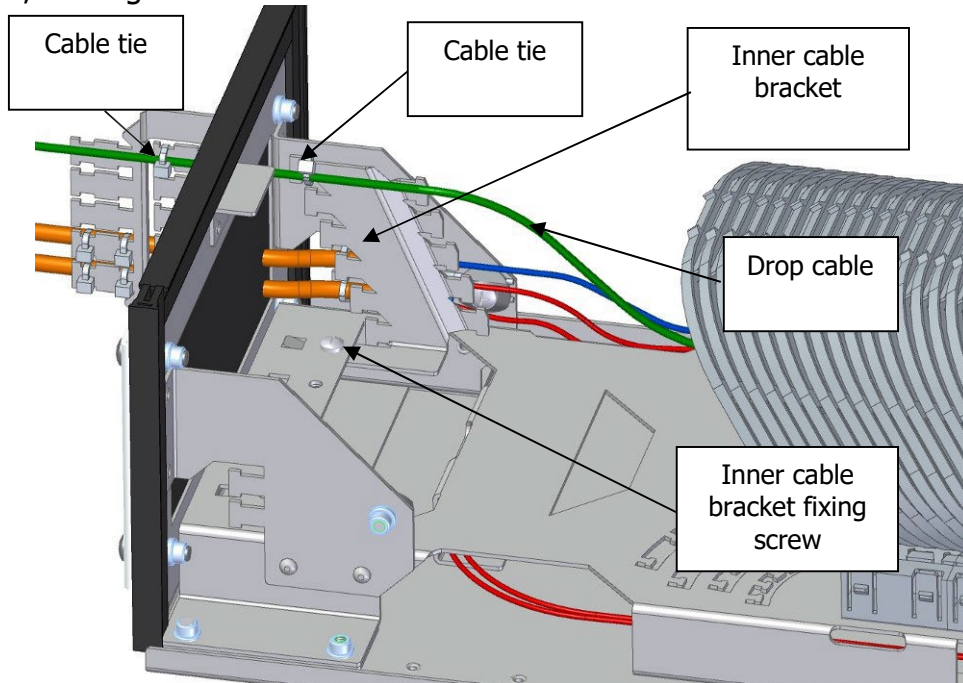


Fig.9. Drop cable fixing

13. The fibers of customer drop microcables and feeder cables are routed to the hinged splice trays. At the entry to the hinged splice tray retention block area the fibre protection layers are stripped off and further 250  $\mu\text{m}$  primary coated fibres are guided to the hinged splice trays, see Fig.10.

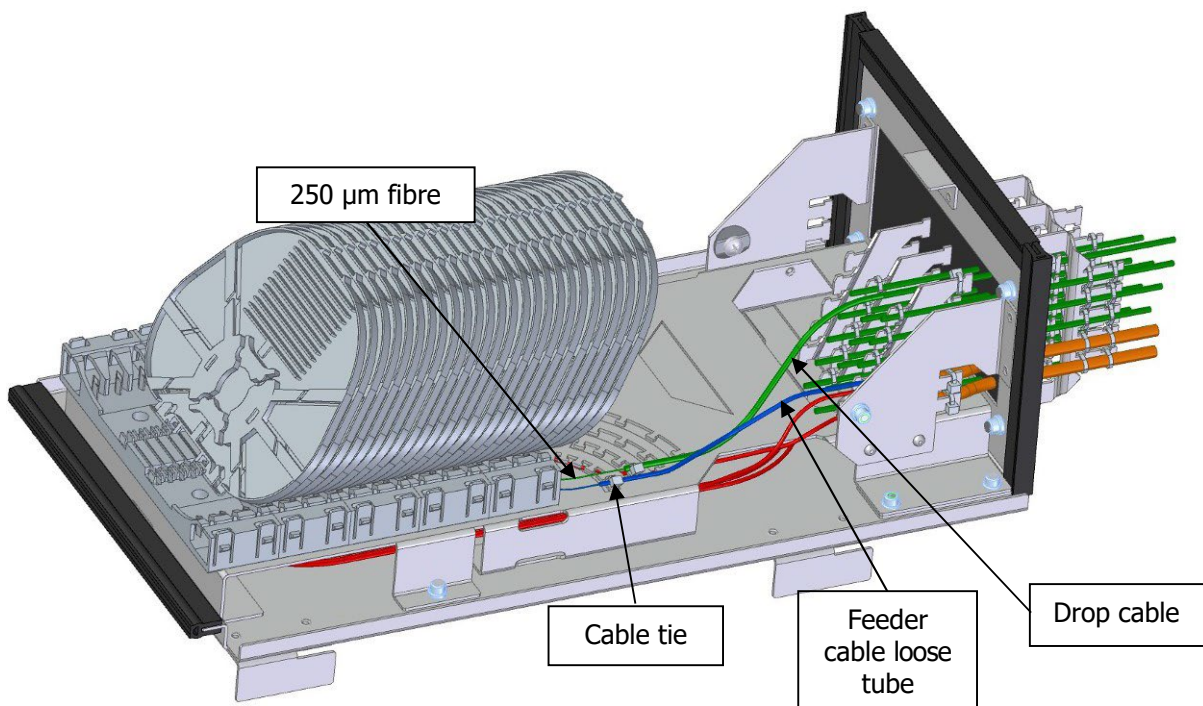


Fig.10. Fibre management splice tray retention blocks

14. The reserve length of customer drop fibre should be collected in splice trays.
15. Splice feeder cable fibres with customer drop fibres, protect the splices in splice trays.
16. Install the cabled splice box in the optical fibre distribution cabinet. Using the cable organisers arrange the microcables inside the cabinet in 4 loops using the cable organisers, see Fig.5.
17. When arranging the microcables should be clipped together approximately every 1 meter with cable tie to make cabling more convenient.
18. Put the front upper cover on and close the black side hook.
19. Close the cabinet door, make sure no microcables or microducts are squeezed or cut.

#### **Installation Of Uncut Feeder Cable Loop**

1. Open the cabinet door
2. Remove two releasable cable ties located at the upper corners of the box, see Fig.1. These are put only for the time of transportation. Remove the splice box by lifting it and sliding forward. The splice box is shown in Fig.2.
3. To install microducts and feeder cable in the cabinet, remove the front upper cover (it has black side hooks that must be folded out) and the front lower cover (lift it gently and pull towards you).

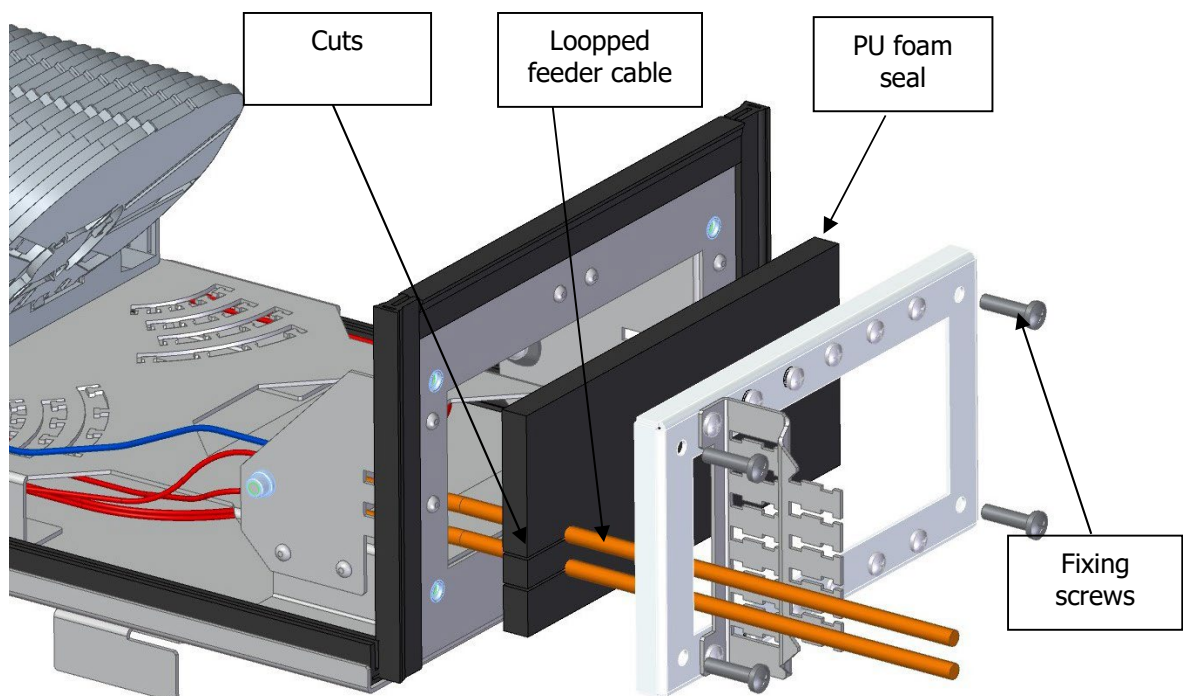


Fig.11. Fibre routing in hinged splice tray retention blocks



4. Insert the uncut feeder cable loop into the cabinet. The length of the looped cable should be about 18 m measured from the cable entry points in the cabinet. The feeder cable mid span access is to be made in the middle of the cable loop with the recommended distance of 3 m. The looped cable may be shorter and amount about 16 m, but then the cutting point of the fibre loose tube, which is to be guided to the splice tray needs to be carefully selected. With the 18 m cable loop the fibre loose tube is cut in the middle and the proper end is routed to the splice tray. In case the feeder cable loop is left next to the cabinet and led further to another one, to insert this cable into the splice box, unscrew 4 screws fastening the PU foam seal and cut it on the side as shown in Fig.11. Insert the cable in the cuts made in PU foam. Mount the frame fixing the PU foam, see Fig. 2.
5. Inside the splice box, the feeder cable strength members are fixed with the dedicated clamping screws with washers and the cable is fastened with cable ties, see Fig.8.
6. The proper ends of the cut feeder cable loose tubes are routed to the hinged splice trays. The uncut loose tube loops are collected in the space provided on the back of the splice box. Access to this space is obtained by unscrewing 4 mounting screws and removing the rear wall of the splice box, see Fig.12.

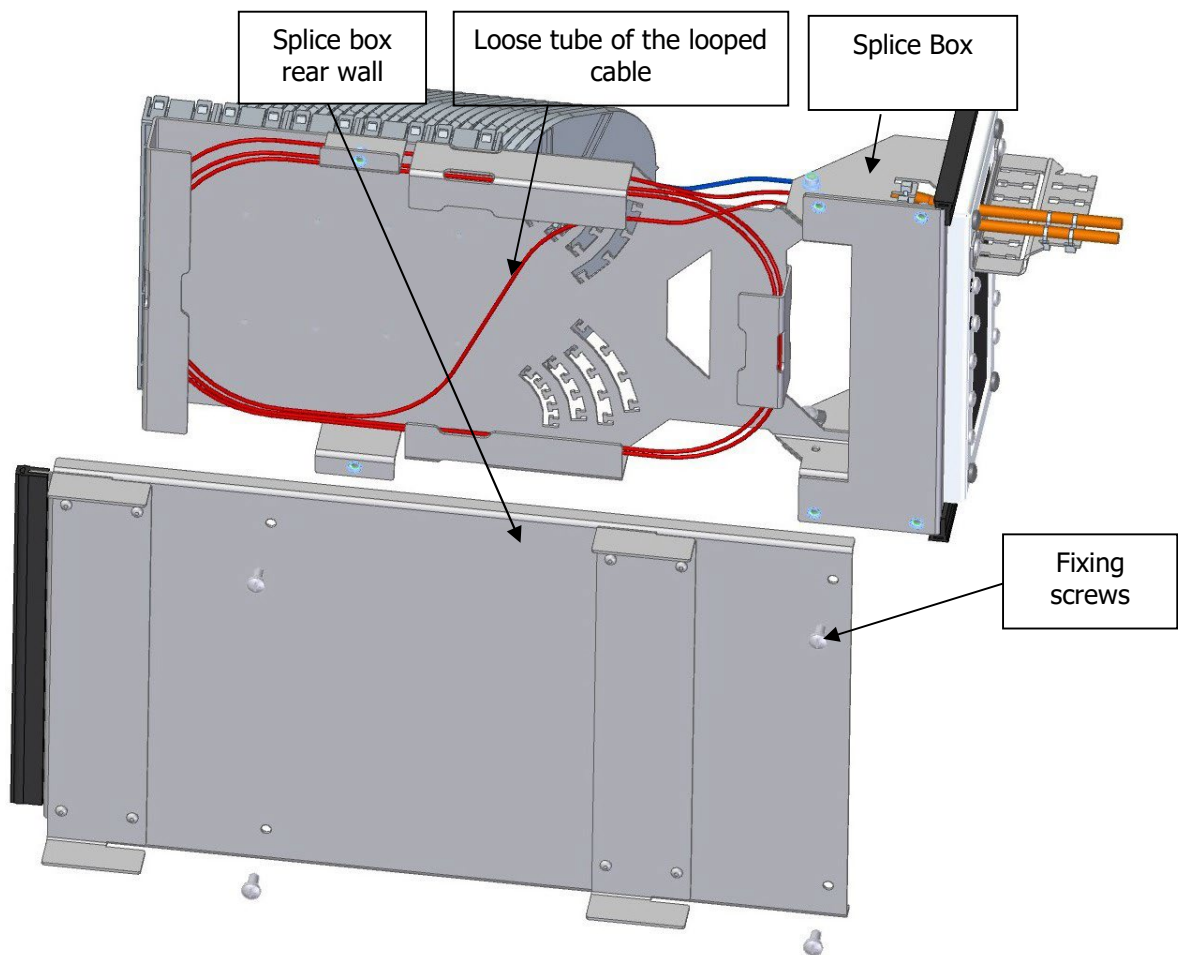


Fig.12. Feeder cable loose tube loop management

7. Further steps to be performed as for a standard fibre optic cable.