

**Rack Mounted Fibre Termination Cabinet
(Short Version)**

TELECOM OUTSIDE PLANT

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1 Introduction

The RTC1GS rack mounted fibre termination cabinet (short) is designed for splice/patch and field termination of optical fibre cables in 19", 21" and 23" rack systems where the depth of the cabinet is critical. Typical applications for the RTC1GS cabinets are for terminating optical fibre cables for carrier or customer access points. Cabinets include slide-out drawer termination and front access panel with multiple rear left or right adjustable cable entry U bracket plate.

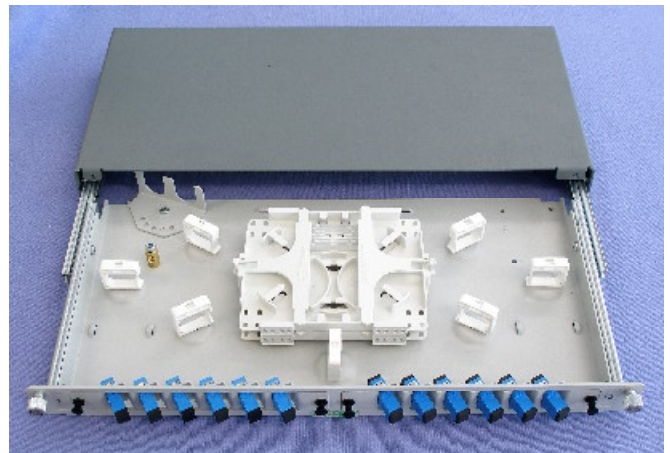


Figure 1. RTC1GS

2. Kit Contents

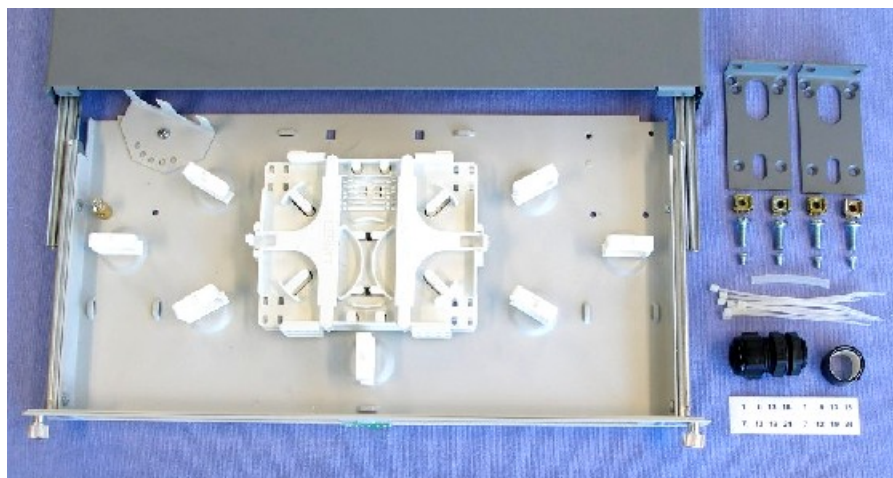


Figure 2. RTC1GS Kit Contents (24f capacity)

Item Description	Quantity
	24f
Pre-assembled Components	
Chassis and sliding drawer tray	1
Splice trays	2
Fibre management clips	7
Cable Central Strength Member post	1
Customer Installation Kit Components	
Cable ties	12
Cage nuts	4
Cage screws	4
Foam adhesive tape, 100 mm	1
PVC collar for pigtail connectors, 100 mm	1
Mounting bracket screws	4
Mounting brackets, 19"or 21" reversible	1 pair
Label: Fibres 1 to 24	1
Installation Instructions Manual	1

Table 1. RTC1GS 24f Components

Additional Accessories for RTC1GS (all items maybe ordered separately)

- Heat shrink fusion splice protectors (45 mm length recommended), description: SMOUV-1120-02, part no. 0-1190760-9.
- Snap-in adaptor plates (see table below and Section C)
- Optical Adaptors (couplers)
- Pigtails, 900um
- Perspex front cover (patchcord management)

3. Specifications for RTCG series cabinets

Cabinet	Dimensions WxHxD (mm)	Maximum Fibre Capacity	
		Standard	SFF (i.e. LC)
RTC1GS	444 x 44 x 215	24f	*48f

* Small Form Factor (SFF) Connectors - Field termination only

Adaptor Plates (Maximum)	RTC1GS = 2
Adaptor Plate Styles (SM or MM)	FC, ST, SC (to suit simplex adaptors) SCD, LCD (to suit duplex adaptors)
Max. Splices per Tray	24 fibres
For use with Cable Types (SM or MM)	Loose tube, 250um fibre cables Distribution Cables, 900um buffered fibre cables Pre-Terminated connector cables

Above adaptor plate styles are suitable for PC, UPC and APC style connectors. See Section C for profile illustrations of adaptor plate connector styles.

4. Installation Instructions for RTC1GS (24f capacity)

A. Installation Steps for Loose Tube Fibre Cables (250um)

Cable Installation process is relatively simple; the external cable is secured onto the sliding tray by utilising the cable gland and a CSM post attachment. From the cable gland the loose tube fibres (sheath removed) are transported directly onto the sliding drawer and subsequent splice tray.

Step 1. Prepare external cable for terminating loose tubes directly onto splice trays

- a) Remove the outer cable sheath to expose **2.2 meters** of loose tube and Central Strength Member (CSM). Cut the CSM to 70mm long, see Figure 3 below.

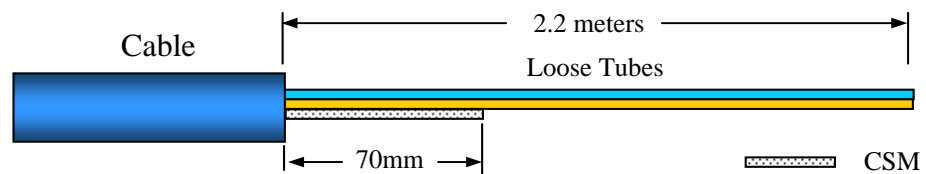


Figure 3. Cable sheath length for removal

- b) Clean the external gel from the loose tubes, using an appropriate cleaning practice.

Step 2. Secure the external cable onto the rear of cabinet

External cables (left or right entry) are secured onto the sliding tray using the cable entry U bracket plate and cable gland. In addition the cable CSM is attached and secured onto the sliding tray utilising the CSM post, See Figures 5a & 5b. The cable entry U bracket plate may be rotated at different angles to facilitate different rear cable entry approach.

- a) Attached the supplied cable gland onto the cable entry U bracket plate.
- b) Wrap approx 1-2 turns of supplied foam adhesive tape around the cable sheath, approx 10cm from the end, see Figure 4. This practice will prevent the cable slipping from within the cable gland.

(An alternative method is to scratch the outer sheath with some abrasive paper).

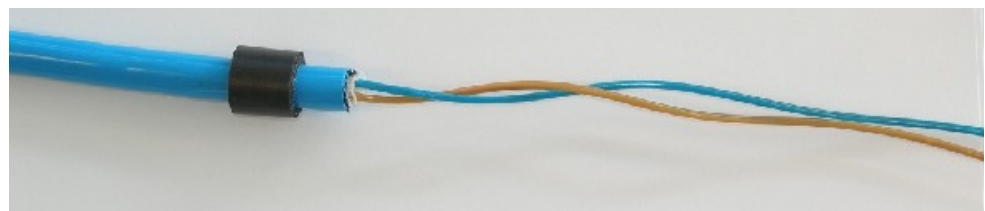
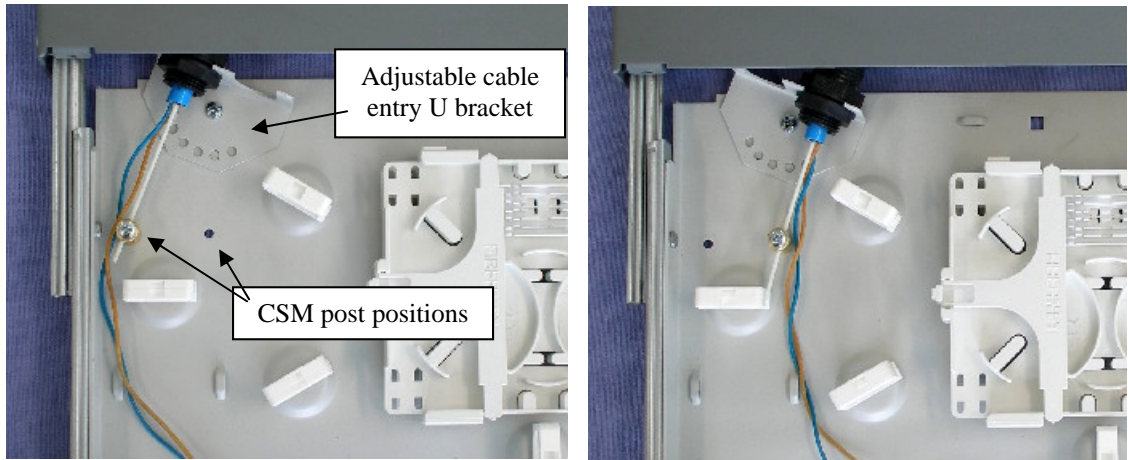


Figure 4. Foam Adhesive Tape Wrap

- c) Feed the loose tubes through the cable gland, secure and feed the cable CSM into the CSM post. Tighten the cable gland and CSM post screw.



Figures 5a & 5b. Cable secured using cable entry U bracket and CSM post

Note: Cable gland and CSM post may be relocated to accommodate various external cable entry approach positions.

Step 3. Securing loose tubes onto the sliding drawer

An important consideration when securing the loose tubes onto the sliding drawer and splice trays is that:-

Regardless of where the loose tubes appear onto the sliding drawer i.e. left (L), or right (R) location, see Figure 6. It is however, highly recommended that the lay-up of these loose tubes be secured onto the splice trays at furthest entry point from the front. This will enable the top splice tray to swing away from the front to allow the user easy access to the fibres on the bottom splice tray, see Figure 9.

- a) Position the loose tubes at the three allocated cable tie down locations as per Figure 6.

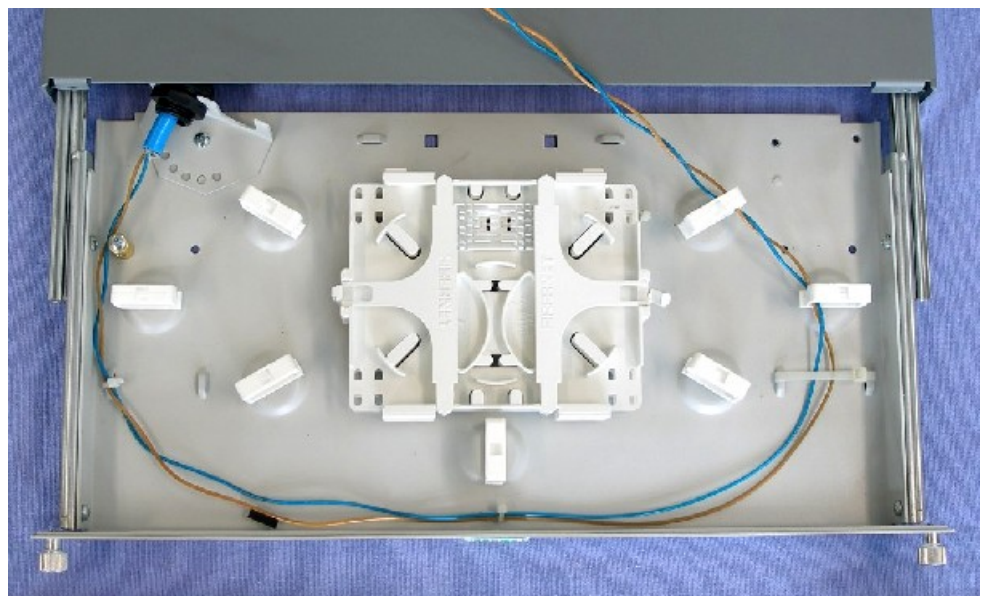


Figure 6. Loose tube lay-up and cable tie down locations

- b) Mark the cut off point for all loose tubes, as illustrated in Figure 7.

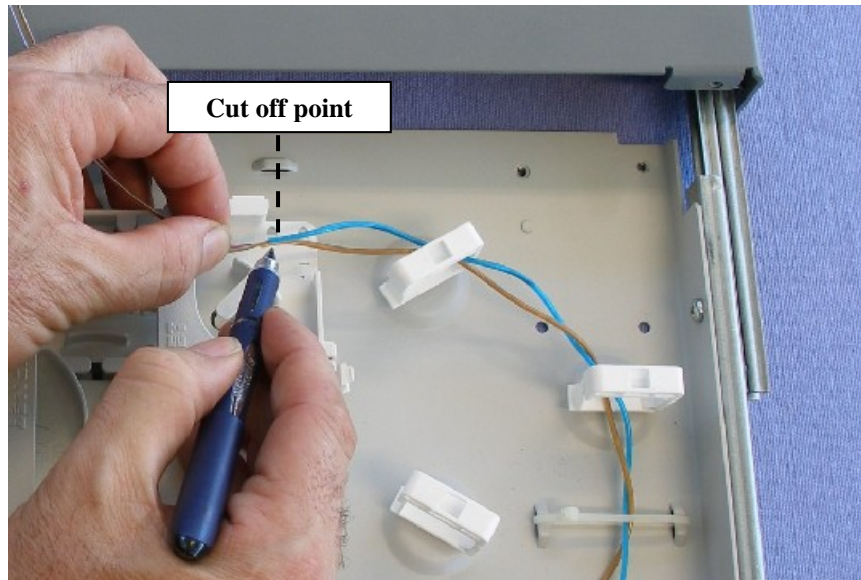


Figure 7. Loose tube cut off point

- c) Cut the loose tubes at the cut off point and remove the excess loose tubes.
 d) Clean the fibres using appropriate cleaning procedures.
 e) Using the cable ties supplied, secure the loose tubes at the three allocated cable tie down locations situated on the sliding drawer, see Figure 8.

Special note for cable tie down location 3 – at location 3 secure the loose tubes between two cable tie down positions. This ensures sufficient movement of the loose tube secured to the top splice tray to swing freely up and down (up to 90degrees), see Figure 9.

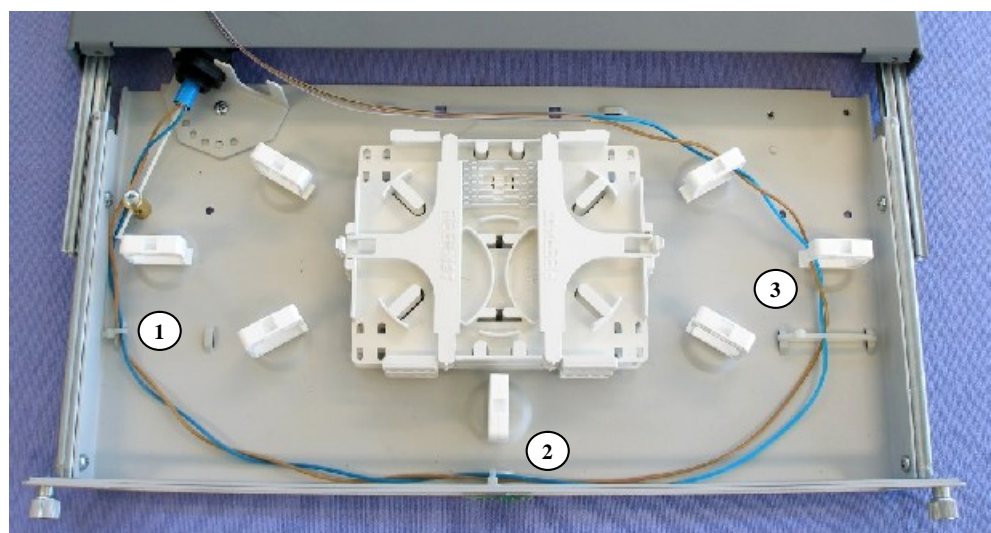


Figure 8. Loose tubes secured at the 3 allocated cable tie down locations

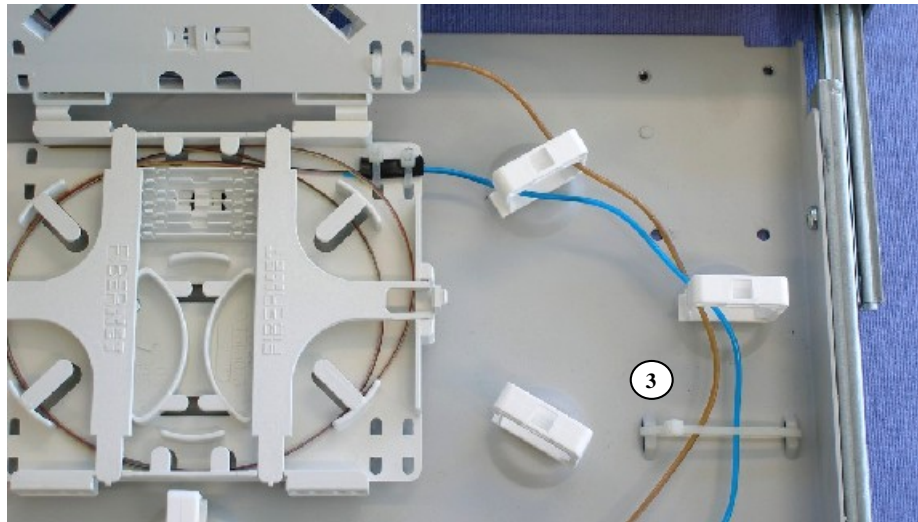


Figure 9.
Special cable tie down procedure at location 3.
Cable tie spread over two cable tie down positions

Step 4. Securing the loose tubes onto splice trays.

Fibres 1 to 12 are installed on the bottom splice tray.
 Fibres 13 to 24 are installed on the top splice tray.

- a) Wrap a 20mm length of foam adhesive tape (longitudinally) along the end of each the loose tube as illustrated in Figure 10. Repeat procedure for other loose tubes.

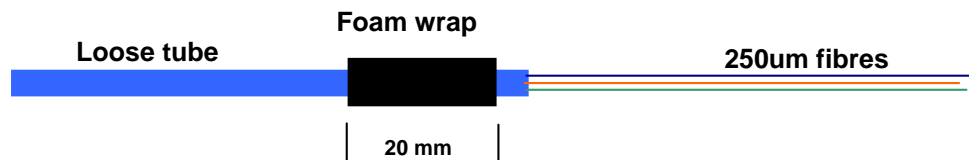


Figure 10. Foam adhesive tape wrap around loose tube

- b) Using two cable ties supplied, secure the loose tubes onto the splice trays, see Figure 11.

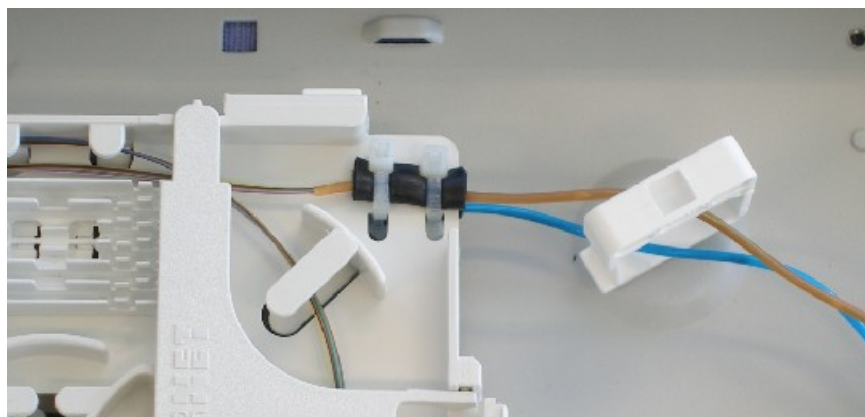


Figure 11. Loose tubes secured onto splice tray using two cable ties

Step 6. Lay-up of loose tube fibres onto the splice tray

- a) Lay-up the loose tube fibres onto the splice trays as illustrated in Figure 12.

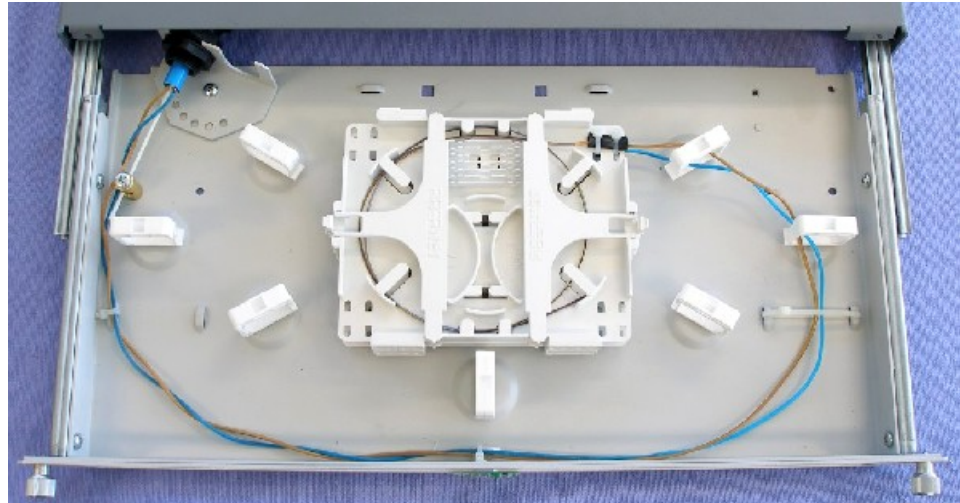


Figure 12. Loose tube fibres lay-up and secured onto the splice tray

Step 7. Lay-up of pigtail fibres onto the splice tray.

Special Note – Ensure the fibre pigtails enter the splice tray directly opposite the entry point to the loose tube fibres. This ensures correct orientation for fusion splicing of the fibre pigtails to the loose tube fibres.

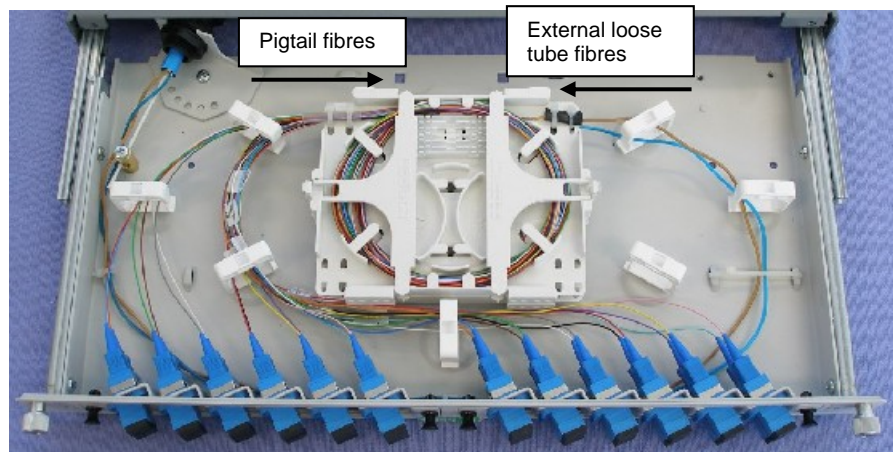


Figure 13. Fibre entry points directly opposite each other

- a) Install the through adaptors into each adaptor plate.
- b) Install the adaptor plates onto the front of the RTC1GS cabinet.
- c) Insert the pigtail connectors into the adaptors for the first 12 fibres (i.e. 1 - 12 fibres, bottom splice tray).
- d) Route the pigtails through the fibre management clips, as illustrated in Figure 13.
- e) Using the supplied 25mm pigtail collar soft tubing, collar the first 12 pigtails (900um) together.
- f) Using the two supplied cable ties, align and secure the pigtail collar onto the splice tray entry point position, see Figure 14.
- g) Lay-up the pigtails onto the splice tray.

- h) Repeat the above procedures for the top splice tray (i.e. 13 - 24 fibres).

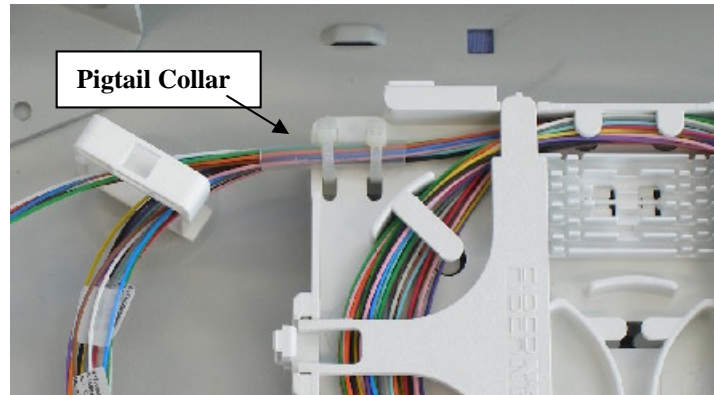


Figure 14. Pigtail collar secured with two cable ties

Step 8. Before splicing - Check the operation of the top splice tray.

- a) Lift the top splice tray to access fibres 1-12 on the bottom splice tray. The top splice tray with the attached loose tube should open to 90 degrees with little resistance, see Figure 9.

B. Installation Steps for Riser/Distribution Fibre Cables (900um)

The installation practices for Riser/Distribution cables are generally similar to Section 4A:- Installation Instructions for Loose Tube Fibre Cables (250um). The construction of Riser/Distribution cables generally all have tight buffered 900um fibres. They also have Kevlar strands for additional strength and may or may not have a Central Strength Member (CSM). In either case the following installation practices are recommended for transporting the buffered 900um fibres onto the sliding drawer and subsequent splice tray.

1. Riser/Distribution Cables with a CSM

For Riser/Distribution cables with a CSM, similar installation steps are used as outlined in section A:- *Installation Steps for Loose Tube Fibre Cables (250um)*. However, in addition to having Kevlar strands removed and attach the CSM to CSM post. It is highly recommended, that the buffered 900um fibres are grouped (for each splice tray) and *collared* using protective transport tubing. These are subsequently transport directly onto the splice tray. The protective transport tubing is secured to the sliding drawer and the splice tray entry port using the same installation instruction as per loose tube fibre cables, see Figure 15.

*Note: 1. The protective transport tubing for each group of fibres (i.e. 1 -12, 13 – 24) need only be partially inserted into the convoluted flex tube (length of tubing is approx. 800mm).
2. The lay-up length on the splice tray for 900um buffered fibres is restricted to 900mm.*

2. Riser/Distribution Cables without a CSM

For Riser/Distribution cables without a CSM, the outer cable sheath does not need to be removed at the rear cable gland entry port. In most cases the cable(s) with the outer sheath intact may be secured directly onto the splice tray using the two cable ties supplied, see Figure 16.

The installation practice where the buffered 900um fibres need to be separated and grouped together at the cable entry U bracket plate is as per Point 1 above. With the exception is that the Kevlar strands are secured utilising the CSM post.

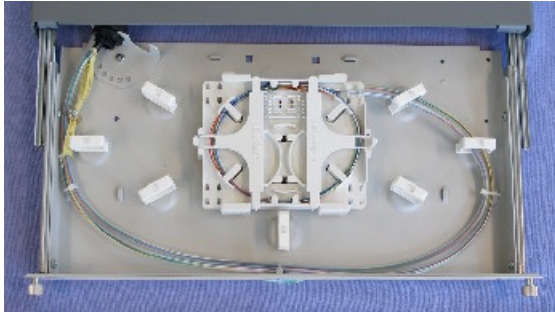


Figure 15. Riser cable with either the CSM or Kevlar secured to the CSM post, fibres (900um) are grouped and secured to splice tray using protective transport loose tubing.

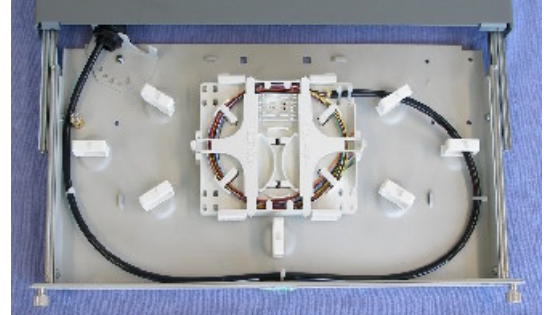


Figure 16. Riser cable (900um fibres) without a CSM can be secured directly onto the splice tray.

5. Patchcord Management

- The orientation/profile of the adaptor plate provides either left and/or right patchcord routing away from the front of the cabinet, see Figure 17.
- A perspex security front cover is also available (accessory) and offers additional fibre security and patchcord management, see Figure 18.



Figure 17. Patchcord routing from the front of cabinet



Figure 18. Perspex security front cover for patchcord routing

External Cable Capacity per RTC1GS

The RTC1GS can accommodate up to 4 external cables i.e. using one cable entry U bracket plate (accommodate two cable glands) on either side of the sliding tray, See Figures 5a & 5b..

SECTION C

Adaptor Plate Connector Styles

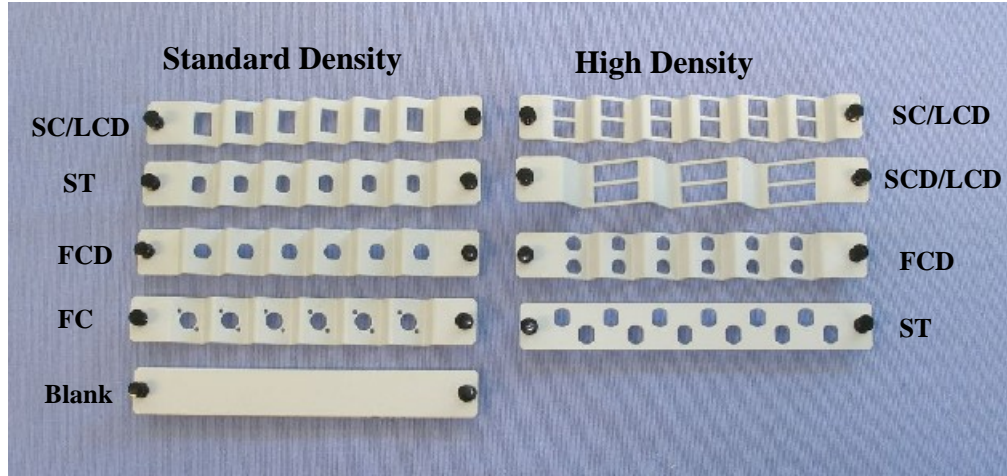


Figure 19. Adaptor Plate Connector Styles

RTC1GS Ordering Guide:- See RTC1GS Data Brochure

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