

광속의 정보전달로 아름다운 세상을 열어가는 기업

Optical Networks Solutions

SPECIFICATION

Fiber Optic Connector & SPLICE CLOSURE

VSOF-CS605A

Spec No : VSS-1411-CS605A



1. INTRODUCTION

1.1. General

This specification covers the design requirements and characteristics required of connecting and splicing closures to be used on fiber optic cables for branch joint in various installation conditions such as aerial applications. It is specially designed for FTTx network environment. It provides easy and reliable installation and high mechanical strength against any environmental conditions. Also, you can reduce the working time and the safety by using one-touch catch clips. With VSOFC-CS605A, you can improve your network system to the higher level.

1.2. Description

Connecting and Splitting closure for fiber optic cable may be exposed to severe environment conditions. The splice closure for fiber optic cable shall provide excellent durability and long-term reliability in those severe conditions.

1.3 Reliability

The quality of a Connecting and Splitting closure is critical to reliable optical transmission performance. The product shall be produced with ISO-9001, TL-9000, ISO-14001 certified production facilities and quality control system is applied the process from product design to packaging.

1.4 Reference

- SK Networks Generic Requirements SKN 09. 02
- Korea industrial standard KS A 0101 Mathematical Symbols
- Korea industrial standard KS A 0102 Quantity Symbols, Unit Symbols and chemical Symbols
- Korea industrial standard KS A 0105 SI units and recommendations for the use of their multiples and of certain other units
- Korea industrial standard KS A 0108 Pictorial Marking for Handling of Goods

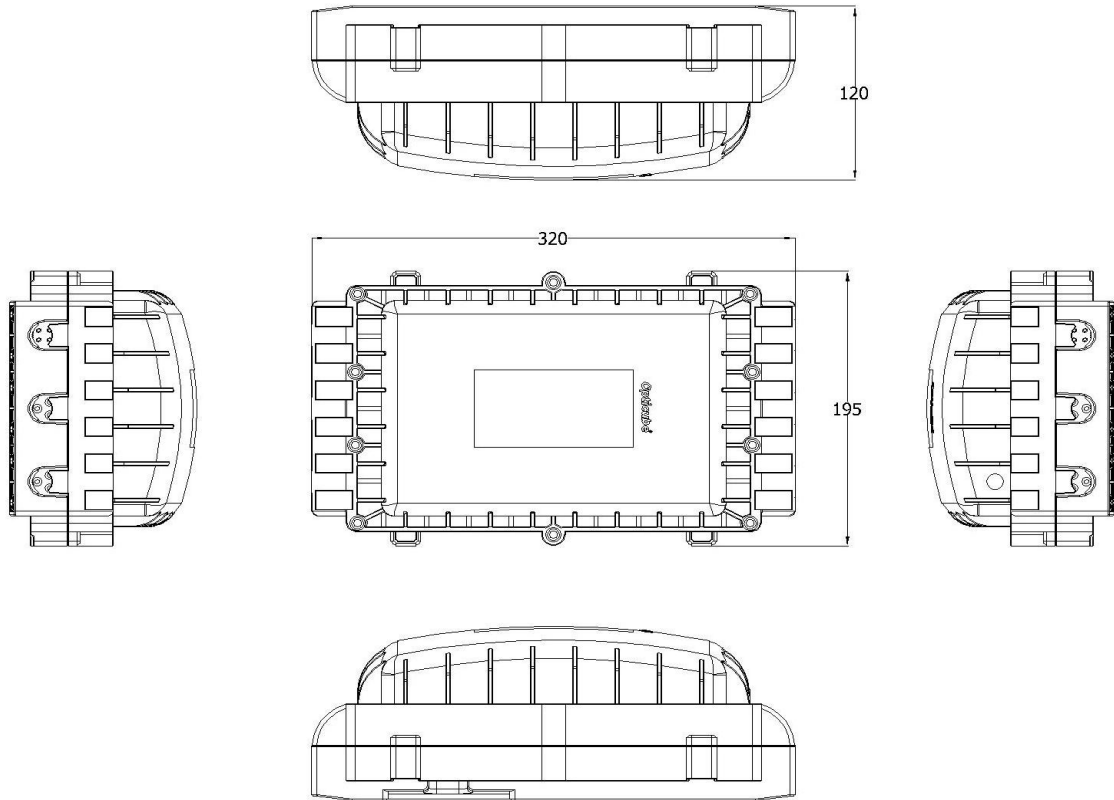
2. FIBER OPTIC CONNECTORIZED & SPLICE CLOSURE

2.1. General

The closure consists of outer cases, OSB box, trays and inner kits. The closures have three main entry ports on each end. The outer case consists of the upper and lower body and constructed of highly chemical resistant material. The trays are able to accommodate 12 individual fiber fusion splices

2.2. Configuration

- 2.2.1. The ribbed body has high mechanical strength against impact and compression.
- 2.2.2. Fix the cable firmly for work efficiency by sheath holder.
- 2.2.3. The closure can accommodate pigtail splicing, Field-installed connector and pre-connected drop cable
- 2.2.4. Reduction of the working time and the safety by using just catch clips.
- 2.2.5. Capability of multi-core management.
- 2.2.6. Use of various cable diameter, Various branching and multi environments

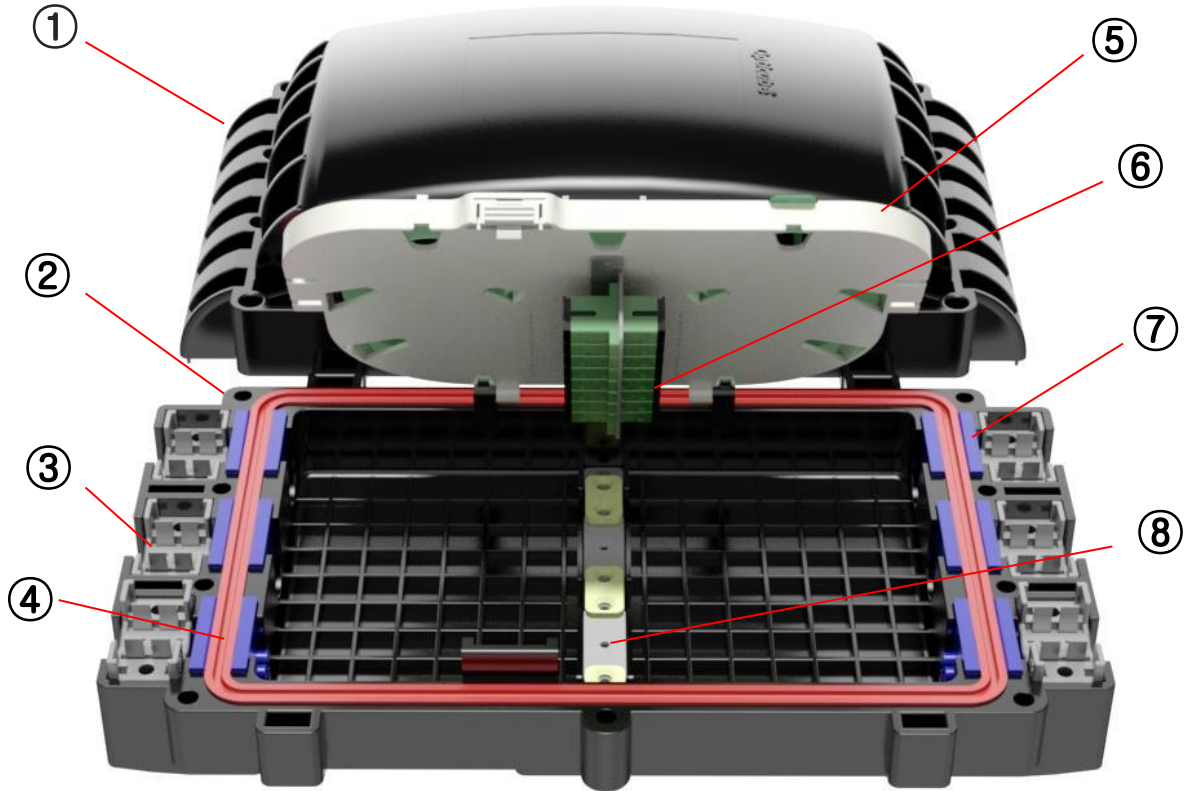


2.3. Specifications.

ITEM.	K605A		CS605A
Size (L*W*H)	320 X 195 X 120		
Weight (kg)	2.5 kg		
Inlet Ports	Main - 3ports , Dis.(3P)- 3ports	Main - 2ports , Dis.(2P)- 4ports	Main - 4ports , Drop- 2ports
Cable Dia.	Main Ø8 ~ Ø12 [Dis Ø5~Ø6.5],	Main Ø8 ~ Ø12 [Dis Ø5~Ø6.5],	Main Ø8 ~ Ø12, Drop Ø3.5
No. of Splice Tray	MAX. 5EA	MAX. 5EA	2EA
Tray Capacity	12C (MAX. 24C)		
Splitter Capacity	-	-	1X4, 1X8
Adapter Type	-	-	SC, LC
Splice Protector	Heat shrinkable sleeve		
Tension Member	Galvanized steel wire, FRP		

2.4. Feature

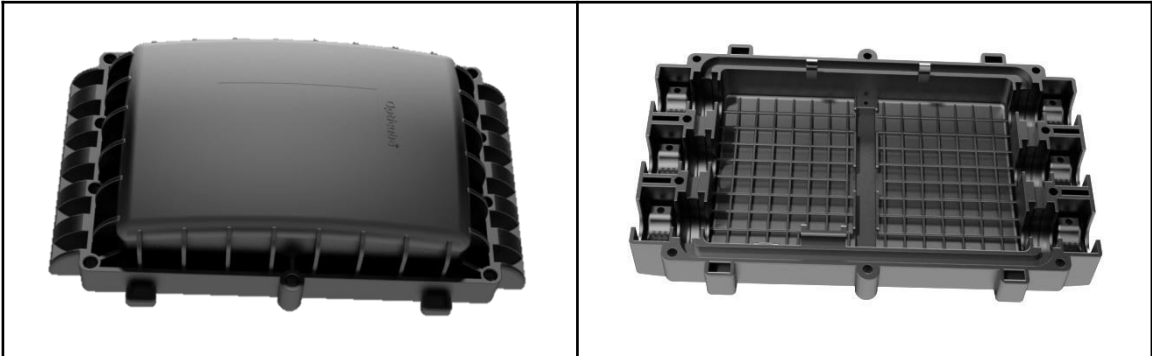
2.4.1 Main Constructions



No.	Feature	No.	Feature
1	Upper Cover	5	Splice Tray
2	Lower Cover	6	Adapter Bracket Ass'y
3	Sheath Holder	7	Sheath Gasket
4	Main Gasket		

2.4.2 Main Body & Cover

- (1) Enhanced durability through high mechanical strength against impact and compression
- (2) Ribbed cover for greater impact and compressive strength
- (3) Hanger connecting part for easy installation.

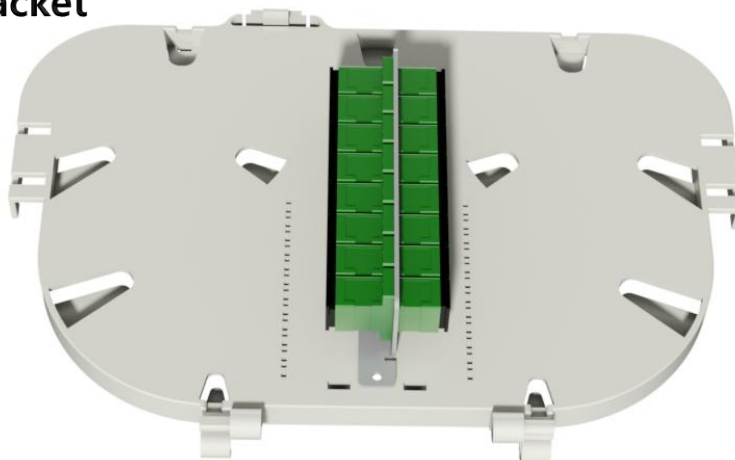


2.4.3 Splice Tray & Adapter Bracket

- (1) 4 inlet parts in the tray
- (2) Double layered storage (Maximum 24 fiber by inserting two sleeves in one slit)
- (3) use of various splitter such as 1X4, 1X8

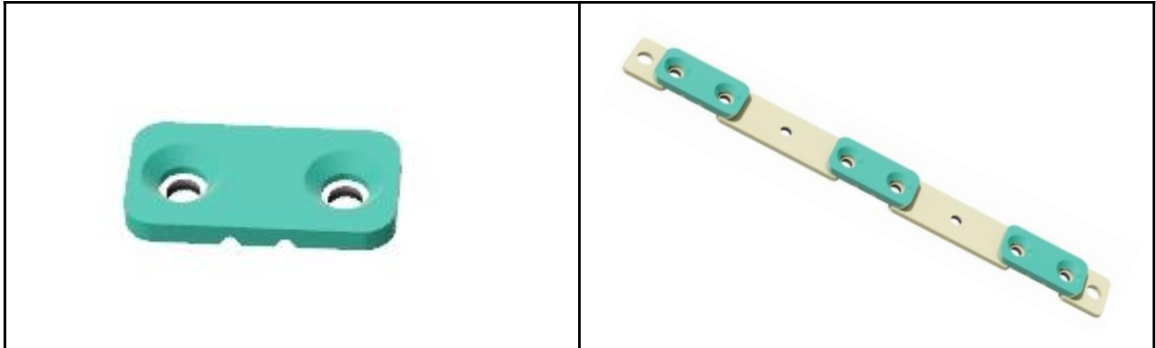


Adapter Bracket Assembly



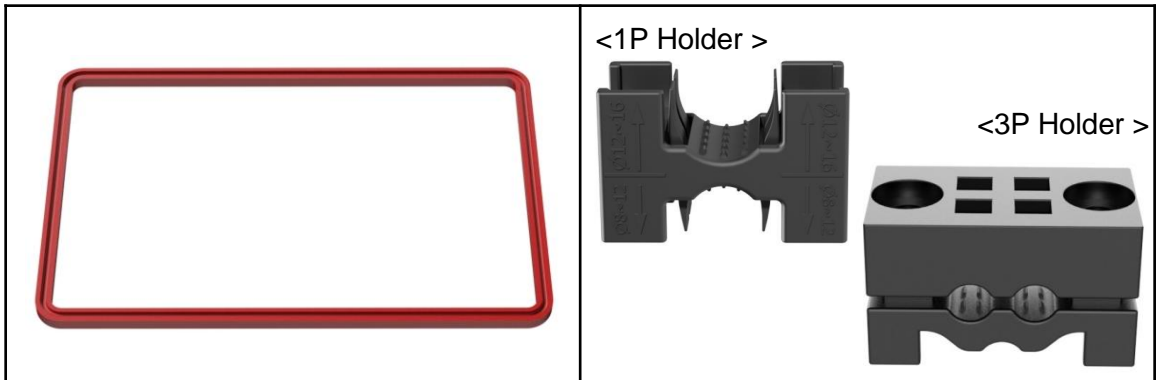
2.4.4 Tension Member assembly

(1) Safe grasping structure for Tension member without any damage.



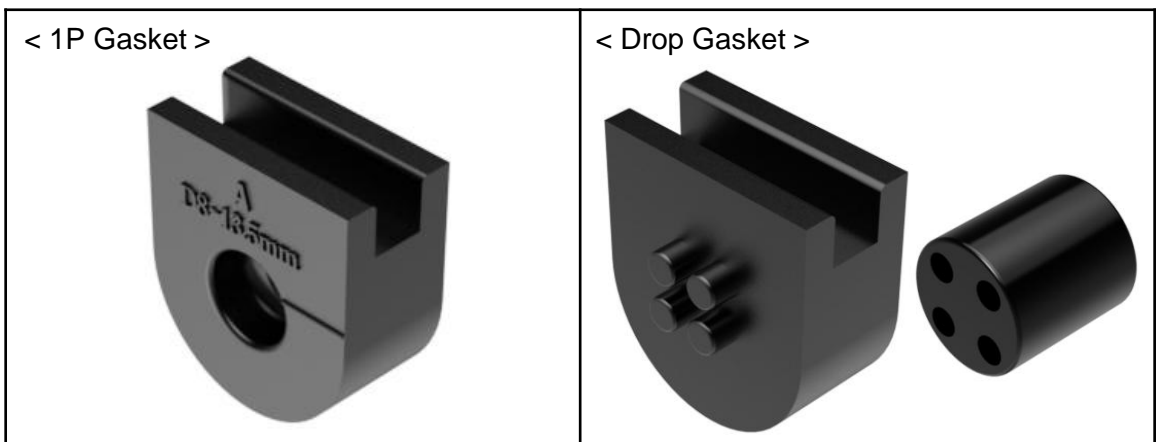
2.4.5 Main Gasket & Sheath Holder

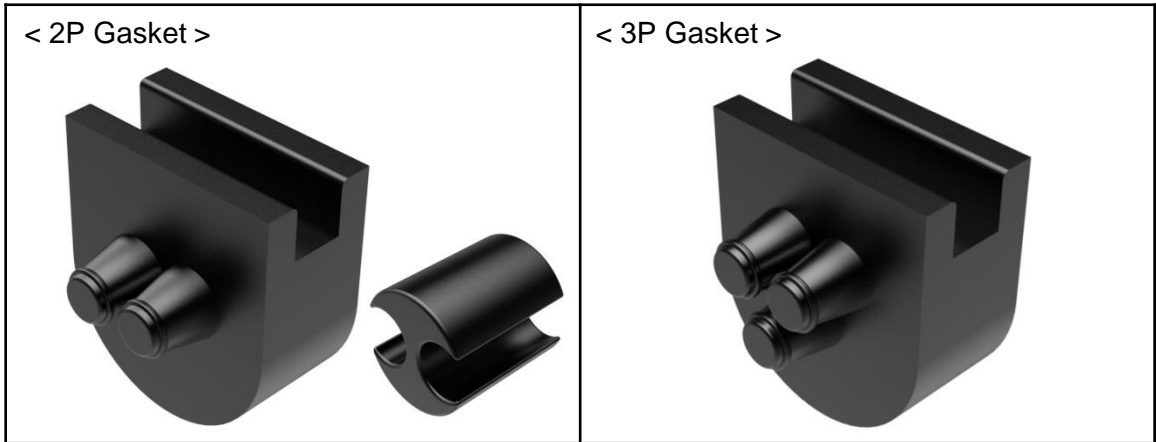
(1) Main gasket & Sheath Holder made of silicone for proven water tightness.
 (2) Mechanical cable clamping.



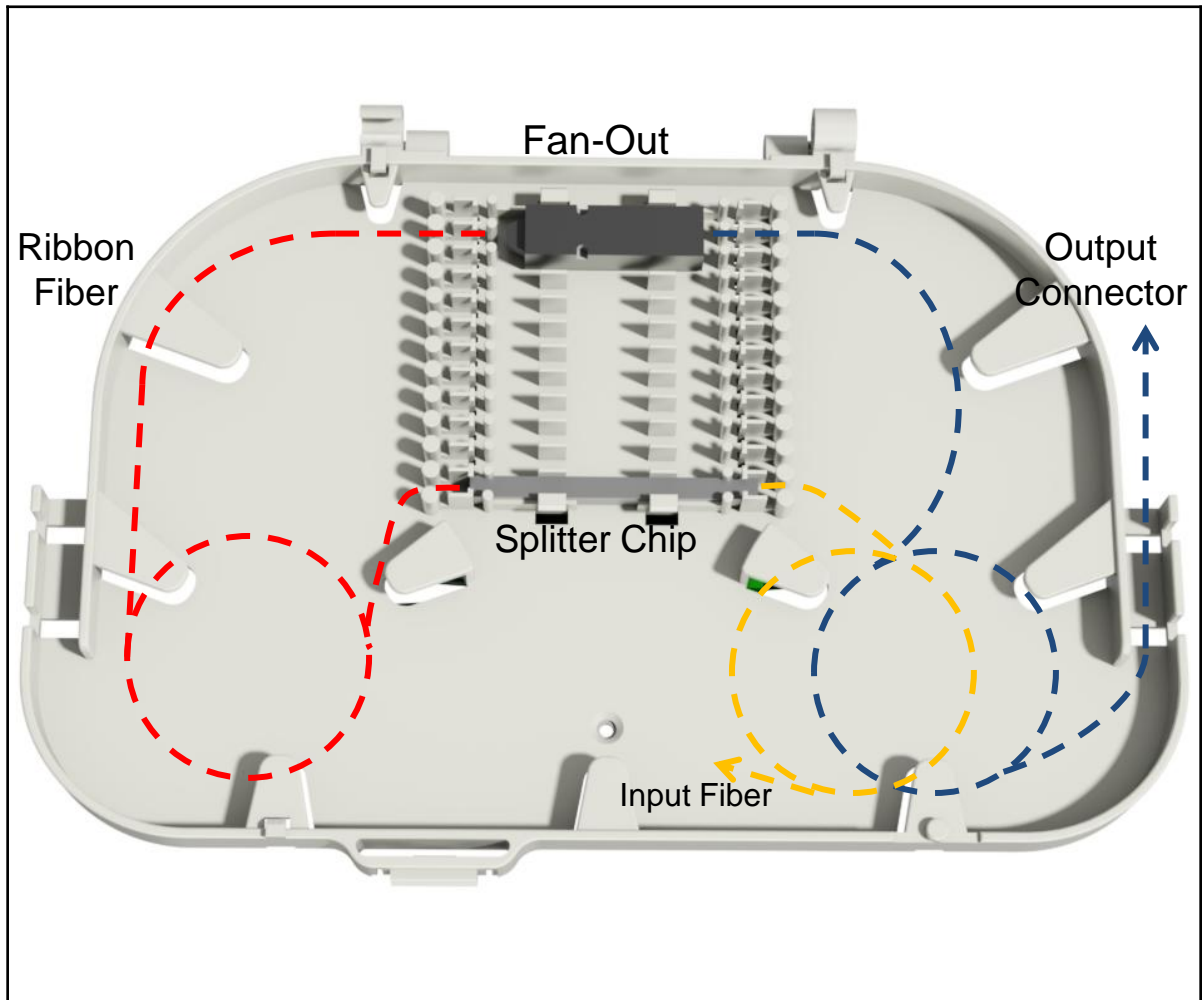
2.4.6 Sheath Gasket & Sheath Holder Gasket

(1) Made of silicone for proven water tightness, fitting and cable dia
 (2) Drop Gasket type gasket are able to use round type

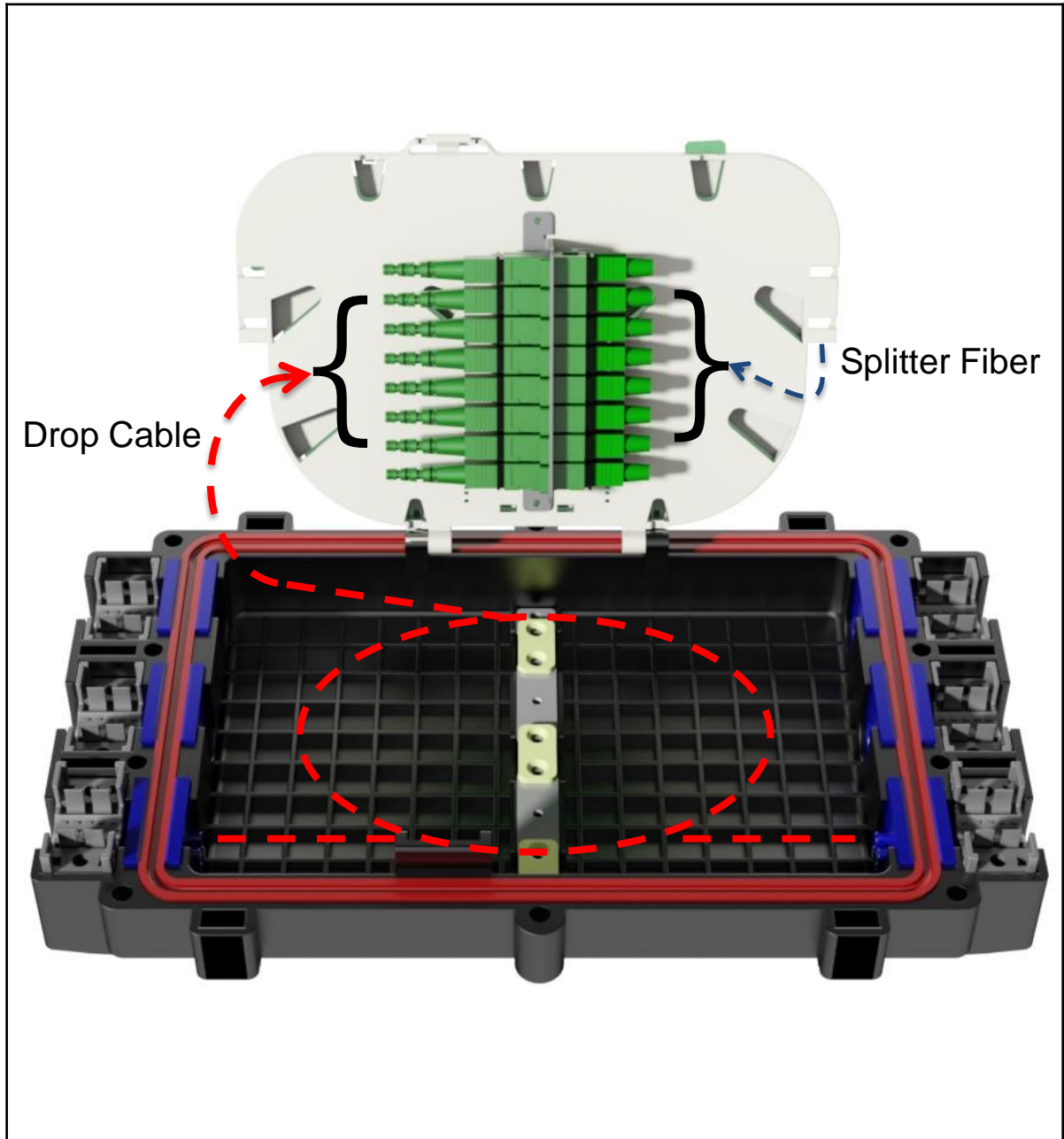




2.5. Splitter Routing



2.5. Drop Cable Routing



3. TEST PROCEDURE

3.1. General

- 3.1.1. This section specifies the aerial fiber optic closure and its material physical, chemical environmental and mechanical requirements and the tests to be applied for the determination of compliance to these requirements.
- 3.1.2. Sample means all completed assembling closure that finished bonding, grounding and connecting equipments.
- 3.1.3. For all measures of optical attenuation need to splice and for the measures of just a mechanical performance test (no need for optical attenuation test), insert the cable into the Splice closure.
- 3.1.4. Optical fiber shall be fusion spliced to minimize effect from test environment and shall be protected by heat shrinkable protection sleeve at the splice point
- 3.1.5. The samples of cable for a performance test shall be prepared with middle size of diameter which is available
- 3.1.6. The wavelength for measurement of optical attenuation shall be 1550±30nm or 1310 ±20nm and stability shall be under ±0.01dB
- 3.1.7. Test will be completed with temperature 20±5°C if there is no and special regulation

3.2. Mechanical characteristics

ITEM	Test Conditions	Requirements
Sheath Retention	<ul style="list-style-type: none"> • Condition the closure at -20±2°C for 2 hrs • Mount the closure in a fixture and measure the initial loss • Apply an axial load of D/45*100kg • After 8hours compare the loss. • Repeat the above procedure at 40±2°C. 	No mechanical damage
Cable Flexing	<ul style="list-style-type: none"> • Condition the closure at -20±2°C for 2 hrs • Attach a 10kg weight to the cable 1m f • Lower the cable 90°for 15min. • Repeat the procedure while rotating the closure 90°® 720° • Repeat the above procedure at 40±2°C. 	No mechanical damage Air Tightness test
Cable Torsion	<ul style="list-style-type: none"> • The sample completed Cable Flexing Test • Condition the closure at -20±2°C for 2 hrs • Twist the cable at 25cm point • Cycle; CW90°-> CCW180°->CW90° • Repeat 10cycles. • Repeat the above procedure at 40±2°C. 	No mechanical damage
Vertical Drop	<ul style="list-style-type: none"> • Condition the closure at normal temperature. • Raise the closure to a height of 75cm 	No mechanical damage

ITEM	Test Conditions	Requirements
Compression	<ul style="list-style-type: none"> • Condition the closure at $-20\pm 2^{\circ}\text{C}$ for 2 hr. • Measure the diameter or vertical dimension. • Apply a weight of 90kg on 50mm^2 area for 15min utes. • Unload a weight and measure the dim. • Repeat the above procedure at $40\pm 2^{\circ}\text{C}$. 	No mechanical damage
Impact	<ul style="list-style-type: none"> • Condition the closure at $-20\pm 2^{\circ}\text{C}$ for 2 hr. • Impact a closure using a drop-tube from 1m • Impact level: 2kg • Repeat the above procedure at $40\pm 2^{\circ}\text{C}$. 	No mechanical damage
Vibration	<ul style="list-style-type: none"> • Inner pressure: 6PSI • Measure the loss after 2 fiber splicing. • Amplitude : 1.0mm(peak to peak) • Frequency : 5~55Hz <ul style="list-style-type: none"> • Direction : X (2 hours) 	No greater than $\pm 0.5\text{dB}$ (on test) No greater than $\pm 0.1\text{dB}$ (after test) No mechanical damage

3.3. Environmental characteristics

ITEM	Test Conditions	Requirements
Temperature and Humidity	<ul style="list-style-type: none"> • Measure the loss after 3 fiber splicing. • Assemble the closure, Temp. cycle $-30\sim 60^{\circ}\text{C}$ • 10Cycle (1cycle is 12hours) 	No greater than $\pm 0.1\text{dB}$
Water Spray	<ul style="list-style-type: none"> • The sample completed Temperature and Humidity • Rainfall : about 3.8 liter/min • Rain distance : 0.5m • Direction : X,Y,Z (3 hours) 	No presence of bubbles when The closure is sub merged
Chemical resistance	<ul style="list-style-type: none"> • Inner pressure: 6PSI • solution: pH2 HCL, NaOH, 10% IGEPAL • Submerge for 7days into the solution. 	No mechanical damage

4. DELIVERY

4.1. Packing

The Closure shall be packed as a complete kit containing all components necessary for installation. Each item is to be covered with a protective material to prevent scratching or damage during shipping or storage.

Complete assembly and installation instructions in English shall be provided with each packaged unit.

4.2. Marking

The details given below shall be distinctively marked in English with a weatherproof material on at least two sides of the shipping carton.

- The product item
- Date of Delivery
- Q'ty, Supplier
- Dimension, Gross wt
- Manufacturer's name and /or trademark, Phone
- Date of manufacture
- Caution mark

Each Closure shall be marked with the company, the month and year of manufacture and the trademark and/or name of manufacturer in legible color.

Ordering Information_____



NO	Title	Example	Descriptions
A	Product Name	CS605A	Product Model Name
B	Installation	A or M	Aerial or Manhole type
C	No. of splice Tray	T2	Splice closure with 2-splice tray
D	Fiber Count	8	3.5mm Drop Cable



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