

# Fiber Optic Splice Enclosure

## Horizontal Splice Enclosure

Infinique's Fiber Optic Horizontal Splice Enclosure has been specifically designed to give greater protection for fiber optic connections. It is made of tough chemical resistant engineering material which effectively prevents it from ageing caused by heat, cold, oxygen and UV radiation. The strong and rugged housing stands up to the most severe weather conditions and is fire resistant, water proof, quake proof, and also protects the splices from pull and impact.

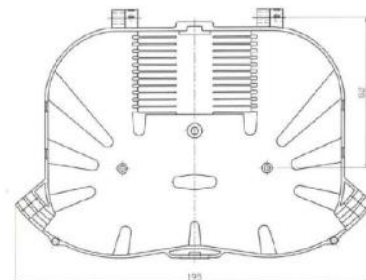
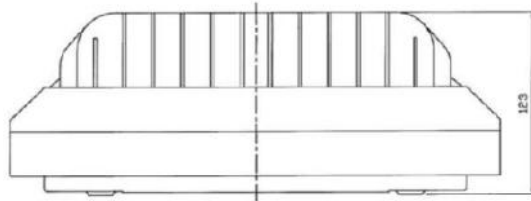
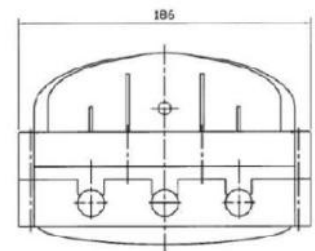
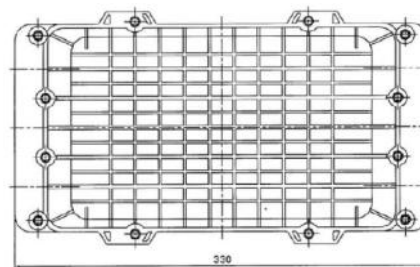
High quality elastic silicon gasket seal, shrinks and dilates to ensure long-term sealing performances and makes it reusable for easy re-entry. This splice enclosure is ideal for aerial, outside plant, direct burial, wall mount, hand hole mount and duct mount applications.

The splice enclosure can hold cables of varying sizes and provides flexibility to add splice trays making it a scalable solution to meet the current needs with the flexibility for future expansion. Horizontal splice enclosures come standard in capacities of 24 to 144 cores and accepts fusion splice or mechanical splice with minimum bend radius.

### Features and Benefits

- Versatile Cable Ports**  
 Accepts cables of various diameters from 6 ports, additional cables can be installed without disturbing the existing cables, inclusive design that provides capacity up to 144 fiber cores
- Reliability**  
 High quality elastic silicon gasket seal makes it suitable for reuse and re-entry, an air valve is pre-installed to check air leakage, manufactured as per ISO-9001:2008/TL9000 process.
- Minimum Bend Radius**  
 Bend Radius of 30mm is maintained with hinge-able structure of splice trays to route fibers with no transmission degradation
- Aerial and Direct Burial Applications**  
 Can be installed either in manhole or aerial pole using the two self supporting stainless steel strand clamps. Rugged housing suitable for direct burial, wall, hand hole and duct mounting applications
- Superior Design**  
 Corrosion free stainless steel metallic parts, non-metallic parts are made of tough engineering material resistant to solvents, chemicals, stress and constructed without sharp edges
- IP68 Rated Rugged Housing**  
 Rated IP68, the closure is water proof, quake proof, fire resistant, vibration proof, protects splices from pull, torsion, impact and can withstand extreme temperatures

### Construction



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### TESTING PROCEDURE

Tests data listed below specifies the various tests performed on the fiber optic splice enclosure to test the physical, environmental, mechanical and chemical requirements. For the Splice Enclosure which is being tested, splicing shall be done in advance for measuring optical attenuation. For measuring the mechanical performance, insert the cable into the optical splice enclosure. Optical fibers shall be spliced using fusion splicing method to minimize effect from the test environment and shall be protected by heat shrinkable sleeve at the splice point. The wavelength for the measurement of optical attenuation shall be  $1550 \pm 30 \text{nm}$  or  $1310 \pm 20 \text{nm}$  and stability shall be under  $\pm 0.01 \text{dB}$ .

### TEST DATA

Performance	Test Condition	Requirements
Cable Clamping	Splice 3 fibers as mentioned in manual. Measure and record initial optical attenuation. Clamp the cables to the closure and assemble all the sealing components and hardware. Re-measure optical attenuation.	There shall be no change in fiber attenuation greater than $\pm 0.05 \text{dB}$ .
Sheath Retention	Infuse 6 psi of Nitrogen gas into the closure. Mount the assembled closure in a fixture which allows the application of an axial deadweight. Then apply an axial load of $D/45 \times 100 \text{kg}$ at $100 \text{cm}$ from the edge of the closure for 8 hours. (D - Outer Diameter of cable)	Cable sheath shall not slip out of the closure more than $1 \text{cm}$ . There shall not be air leakage.
Bending Radius	Mount assembled closure in a fixture that allows 90 degree bending of the cables. Attach a $10 \text{kg}$ weight to the cable at $1 \text{m}$ from the edge of the closure. Lower the weight for a period of 15 minutes. Rotate the closure $90^\circ$ . Repeat above steps 7 more times for a total closure rotation of $720^\circ$ .	There shall not be air leakage.
Torsion	Mount assembled closure in a fixture which restrains the closure and permits rotation of cable at a distance $D \times 10 \text{mm}$ from the edge of the closure. Twist the cable for a total of 10 cycles. A cycle is defined as a clockwise twist $90^\circ$ followed by a $180^\circ$ twist counter clockwise followed by a $90^\circ$ clockwise twist back to the starting position.	There shall be no mechanical damage to either the cable sheath or closure clamping hardware. There shall not be air leakage.
Vertical Drop	Let the closure fallen down to concrete ground from the $75 \text{cm}$ height.	There shall be no mechanical damage to the closure or its contents after being fallen.
Compression	Apply a uniformly distributed weight of $90 \text{kg}$ for 15 minutes, using a plate having a surface area of $5 \text{sq cm}$ at the center of the closure.	There shall be no mechanical damage to the closure or its contents after being compressed.
Impact	Impact the closure using a rod with a diameter of $2.54 \text{cm}$ and weighing $24 \text{kg}$ , from a height of $1 \text{m}$ , at the center of the closure.	The closure and mounting hardware shall not exhibit any mechanical damage.
Temperature Cycling	Put 2 sets of assembled closures into the Temperature Test Chamber for 140 hours. Operate the chamber temperature between $70^\circ \text{C}$ and $-20^\circ \text{C}$	There shall be no visible mechanical or physical damage and no change in attenuation greater than $0.1 \text{dB}$ when compared with initial baseline values.
Water Immersion	Prepare a water tank with $1.5 \text{m}$ level of water. Place the assembled closure to be tested into the water tank. After 20 days, remove the closure and rinse with clean water.	There shall be no evidence of the presence of water inside the closure.
Chemical Resistance	Assemble 3 sets of closures. Place each of the closures in the each of the solvents listed below for 120 hours: $\text{pH}2 \text{HCL}$ , $\text{pH}12 \text{NaOH}$ , $\text{IGEPAL}(10\%)$	There shall be no mechanical damage or physical corruption which can affect to the performance of the closure. There shall not be air leakage.
Vibration	Place and secure the assembled closure on a vibration apparatus on a horizontal plane. Then the closure will be subjected to a forced vibration at frequency of $5 \text{Hz} - 55 \text{Hz} - 5 \text{Hz}$ at 2 minutes for a period of 2 hours.	There shall be no change in fiber attenuation greater than $0.05 \text{dB}$ in the midst of vibration and $0.1 \text{dB}$ after the end of vibration when compared with the initial baseline values.

### ORDERING INFORMATION

Part No	Description	Size (mm)	Inlet Ports	Weight	Cable Diameter	Maximum Splices
IFHBSC-24-6	Infinique Horizontal Splice Enclosure 24C	$330 \times 186 \times 123 \text{mm}$	6	2.4 Kg	$\varnothing 3-16$	24
IFHBSC-48-6	Infinique Horizontal Splice Enclosure 48C	$330 \times 186 \times 123 \text{mm}$	6	2.4 Kg	$\varnothing 3-16$	48
IFHBSC-72-6	Infinique Horizontal Splice Enclosure 72C	$330 \times 186 \times 123 \text{mm}$	6	2.4 Kg	$\varnothing 3-16$	72
IFHBSC-96-6	Infinique Horizontal Splice Enclosure 96C	$330 \times 186 \times 123 \text{mm}$	6	2.4 Kg	$\varnothing 3-16$	96
IFHBSC-144-6	Infinique Horizontal Splice Enclosure 144C	$330 \times 186 \times 123 \text{mm}$	6	2.4 Kg	$\varnothing 3-16$	144

The splice closure is packed with all the necessary components for the installation excluding the wrench, mounting pipe and pigtailed.