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FIBERHUBB™ 900µm FUSION SPLICE CONNECTOR

Before You Splice

Safety

Cleaved fiber scrap can be a hazard. Wear safety glasses and discard glass fiber scrap in the appropriate safety container. It is recommended that you do not have open drinks or food in proximity of the fiber splicing workbench.

Splicer

It is important to perform an ARC Calibration Test to ensure the splicing machine is acclimated to working conditions (temperature, elevation, humidity, etc.). If you see a result other than "arc OK" or "good arc state", etc., you will need to repeat the arc test until this result is achieved. The splicer will automatically adjust if it finds the arc to be too weak or too strong. You may need to run the test again to get closer to the desired arc strength. It is not uncommon to run the arc test more than once to achieve the proper ARC test result. Set appropriate heat settings for desired splice sleeve length. Splice sleeve for a standard "fiber-to-fiber" splice are longer than a splice-on connector splice sleeve. The Hubbell Splice-On Connector splice sleeves are 27 mm in length.

Remove the factory-provided "clip/chuck" on right-hand side of the v-groove splice platform (photo 1) and install the compatible HPW splice sled (photo 2) for the specific fusion splice machine you are using (see selection guide, last page). This should be installed in the right-hand side of the splicer v-grooves.

Photo 1 - Standard Clip Removed

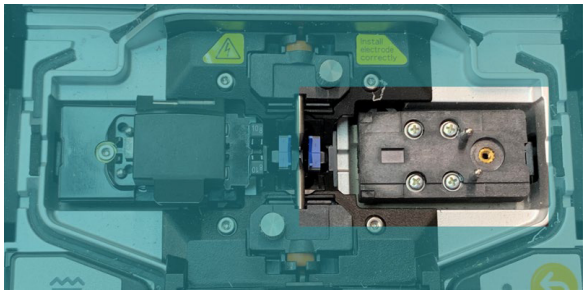
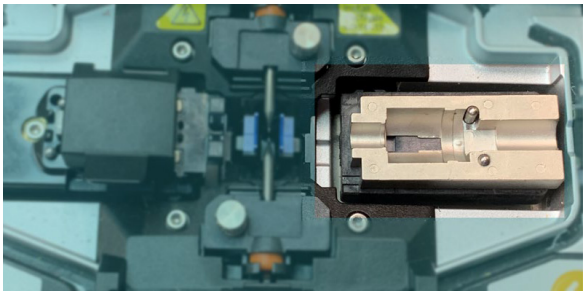


Photo 2 - Splice Sled Placed



Connector Holder/Sled

Use the proper connector holder/sled for the fusion splicer being used.

See Selection Guide, Last Page

Note: This Fusion Splice connector holder/sled is compatible with 900µm buffered optical fiber.

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The Fusion Splice Connector package contains the following items:

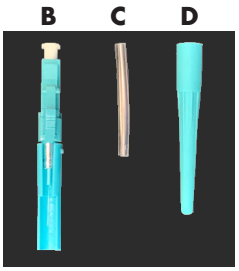
A. (1 ea.) Outer housing (SC style only)

B. (1 ea.) Splice-On Connector (SOC) pigtail with cleave protector

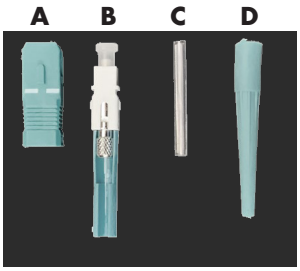
C. (1 ea.) 27mm splice sleeve

D. (1 ea.) Universal strain relief boot

Note: If fiber protector sleeve has become separated from the connector body, do not attempt to re-install, discard it and continue.



LC Connector



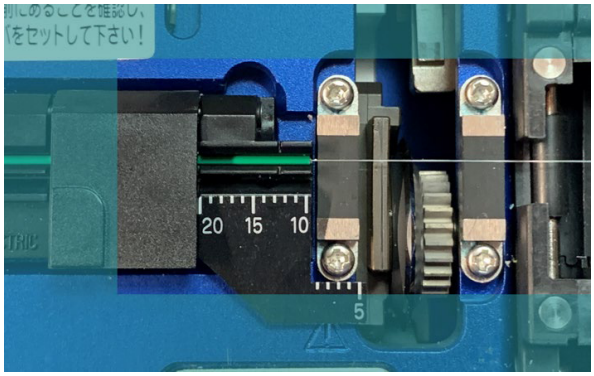
SC Connector

CABLE PREPARATION

Slide the 900μm strain relief boot and the 27mm mini splice sleeve onto the 900μm tight buffer field fiber.

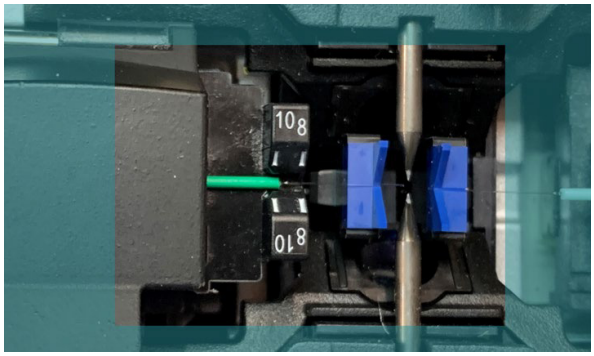
Strip, clean, and cleave the field fiber to a 10mm cleavelength.

NOTE: See Strip and Cleave notes page 4



Insert the cleaved fiber into the left-hand fiber holder of the fusion splicer.

Make sure to butt the 900μm buffer up to the edge of the fiber holder. This will ensure that the mini splice sleeve will fit properly.

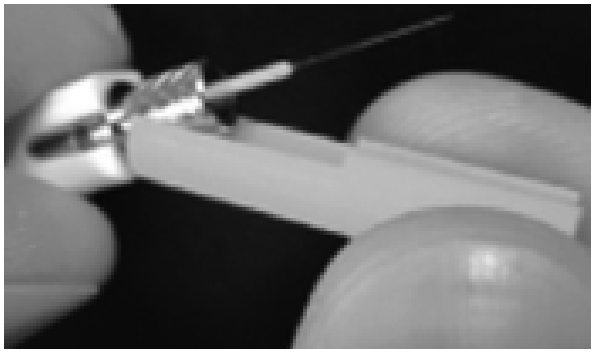


Installation

Remove the factory dust cap from the connector.

While holding the connector firmly, pull down on the cleave protector to remove it from the connector (photo right)

Note: Do not touch the cleaved fiber stub with the protector or fingers as this may damage or contaminate the factory cleave.



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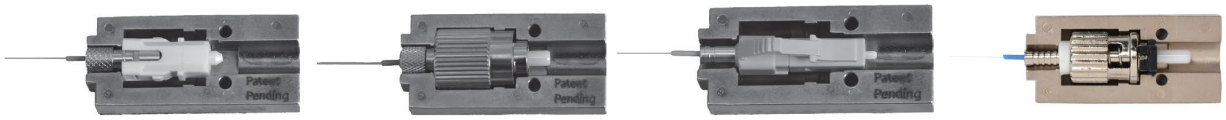
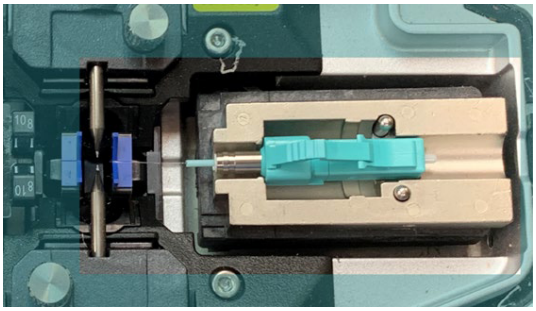
Insert the connector/sled (clip/chuck) into the Fusion Splice Connector Holder so the back end of the connector is flush with the end of the holder (see figures below). Once aligned properly, the connector should fit freely into the holder with no force required.



SC **FC** **LC** **ST**

Insert the holder into the right-hand side of the splicer, being sure that the fiber stub lays properly into the v-groove block of the splicer.



Perform the fusion splice as described in the fusion splicer manufacturer's instructions.

Once the splice process is complete, note the estimated splice loss.

Note: You may notice the estimated splice loss start to creep up as you process splices.; 0.01-0.03db is common. If the estimated splice loss begins to steadily increase, it would be advisable to perform another arc test to ensure proper arc strength is still being used.

Once the fusion splicing cycle is completed, slide the splice sleeve up next to the left side fiber holder prior to opening. This makes next step much easier.

Carefully remove connector and fiber starting with the left side – and support both as the fiber splice is brittle and while doing so, maintain gentle tension, lightly pulling the fiber taught to avoid excessive bowing or sagging of the fiber.

While holding the fiber link gently taught, lower connector side straight down so that gravity causes the splice sleeve to drop into position up against the connector body.

Slide the splice protection sleeve up to `cover the splice. An equal amount of the sleeve should cover the 900μm buffer on either side of the splice.

Transfer the splice to the splice sleeve heat oven. Verify the position of the splice sleeve and initiate the heat cycle.

Note: Re-check the correct position of the protection sleeve on the fiber, then lower the oven door. Initiate the heat shrink cycle.

Once the heating cycle is complete, remove assembly from heater and allow to cool for a moment before sliding the boot up and completing the connector. If done too soon, the splice sleeve may still be malleable and could deform, potentially breaking the fiber.

Replace the factory dust cap to the end of the connector.

This ends the splice process.

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Strip and Cleave notes

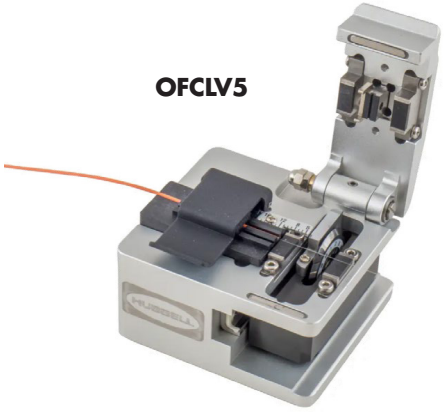
Precision Fiber Optic Cleve Tool

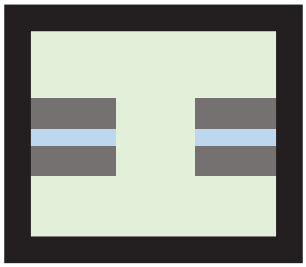
It is crucial the cleaning, cleaving and splicing procedures are followed carefully. This will ensure quality splices time and time again.

Fiber Cleave quality and cleaved length is critical. Poor cleaves or chipped fiber ends will cause splice failure.

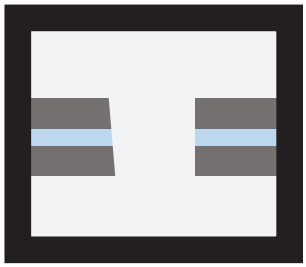
A precision cleaver such as the FIBERHUBB Precision Fiber Optic Cleve Tool (OFCLV5) or equivalent is highly recommended. "Duckbill" or "Beaver-Tail" style cleavers are not recommended as they will not afford the proper cleave quality.

OFCLV5

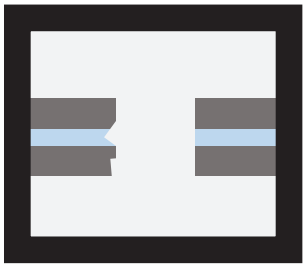




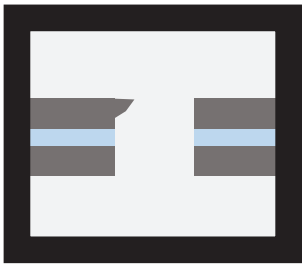
Good Cleave



Bad Cleave
Poor cleave



Bad Cleave
End-face Chipped



Bad Cleave
End-face Cracked

Precision Fiber Optic Strip Tool

Carefully remove the outer jacket of the cable to expose a sufficient amount of buffered fiber to create a service loop. Also remove any strength member, aramid yarn, and other fillers. Use a precision strip tool sized correctly to remove 25 mm of 900μm tight buffer and 250μm acrylic coating.

OFSTRIP3

- Strip buffer coatings in small increments.
- Use a firm steady motion to avoid breaking fiber.
- The tool should not break the glass fiber.
- Gently bend the stripped fiber to check for nicks. A nicked fiber will break easily.
- Clean the fiber with a wipe and cleaning fluid.

FCSPLHSOVEN

Splice-On Connector Sleeve Oven 3mm and 900µm

An external fusion splice heat shrink oven is required for ST/FC Style connectors.

An external fusion splice heat shrink oven is not required but recommended for LC/SC Style connectors for improved splicing production.

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Hubbell Splice Connector Holder/Sled Selection Guide

Splicer	Splice Sled	Notes
		FIS
AC4	FCSPLFXTAC4	
AC5	FCSPLFXTAC4	
CA3	FCSPLFXTCA3	Replaceable oven brack can be used to melt ST/FC connectors in the on-board oven
CA6	FCSPLFXTS	"Oven bracket on right hand side can slide out so that even ST/FC connectors can be melted in the on-board oven"
		AFL
18S	FCSPLFXTA	The on-board oven is tight and hard to get connectors in. It is always recommended to use an external oven with the 18S
12S	FCSPLFXTA	Little adhesive foam pads on lid to help prevent dust into splice platform. Foam pads can interfere with splice
31S	FCSPLFXTA	
41S	FCSPLFXTA	
19S	FCSPLFXTA	
60S	FCSPLFXTA	The on-board oven is tight and hard to get connectors in. It is always recommended to use an external oven with the 60S
62S	FCSPLFXTA	
70S	FCSPLFXTA	Oven clamp can sometimes cause an incomplete melt. It is always recommended to set oven at the 40mm setting
90S	FCSPLFXTA	Oven clamp can sometimes cause an incomplete melt. It is always recommended to set oven at the 40mm setting
		Sumitomo
Q101	FCSPLFXTS	Must turn off "post action splice" to remove pre-splice twitch
Q102CA+	FCSPLFXTS	
T56	FCSPLFXTS	"Proof test off, re-align after arc pause set to OFF 1. Go to Operation settings 2. 2. Scroll all the way down to “Post Splice Action” 3. 3. Select “None-Open”"
QH201	FCSPLFXTS	
T400S	FCSPLFXTS	
		Fitel
S123	FCSPLFXTF	Older Fitel machines have fiber guides that are a bit stiff. If lid is closed too hard it could break the fiber
S153	FCSPLFXTF	Older Fitel machines have fiber guides that are a bit stiff. If lid is closed too hard it could break the fiber
S178	FCSPLFXTF	Older Fitel machines have fiber guides that are a bit stiff. If lid is closed too hard it could break the fiber
S179	FCSPLFXTF2	Use the Black SLA holders instead of aluminum sled
NINJA	FCSPLFXTF2	Use the Black SLA holders instead of aluminum sled
		Fiber Fox
Mini 6S	FCSPLFXTCA3	
Mini 4S	FCSPLFXTCA3	
Mini 5C	FCSPLFXTCA3	

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