

Application Note: Creating Heater Programs for Leviton FASTSPLICE™ Splice-On Connector Termination

APPLICATION

Leviton single fiber FASTSPLICE™ Splice-On Connectors are designed to work with current AFL/Fujikura, Sumitomo, Fitel/Furukawa and UCL Swift/Isintech fusion splicers. To account for the use of various heat shrink sleeve options, many current fusion splicing devices have pre-configured heater settings. It is necessary to consult the user guide and set-up menu of the device in use for available settings. For older units that don't address Splice on Connectors specifically, a 40mm setting can typically be used. If sleeves are over or under heated, a custom heater program may be required.

General Guidelines to heater profiles

The heating element, physical size and contact surface area of the heating bay varies depending on splicer manufacturer and model. The two key factors in the heat shrinking process are temperature and time. Shrink sleeve material is designed to shrink at a certain temperature. Using too high a temperature setting can begin to melt the sleeve material of jacket of the fiber itself. When creating and making adjustments to a custom setting, it is recommended to begin adjusting time (duration) of the burn before adding temperature.

The temperature settings outlined in this document are intended as a starting point as actual temperatures may vary from unit to unit. Leviton recommends testing the heater performance using a target splice sleeve with the bulk jacketed fiber in use and if necessary, adjusting the heat duration and/or temperature accordingly prior to termination.

Application Note ID:

NSAN-19-0003

Date:

04-05-23

Product Line:

Fiber Optic Connectors

Products Affected:

Leviton Splice-On
Connectors
499ST-xxx
499SC-xxx
499LC-xxx

Determining an acceptable heat shrink

Each splice sleeve should be evenly shrunk over the cable jacket and ferrule assembly. An under heated sleeve will appear loose at one or both ends. A sleeve heated at too high a temperature or too long a duration can cause damage to the outer jacket or splice sleeve.

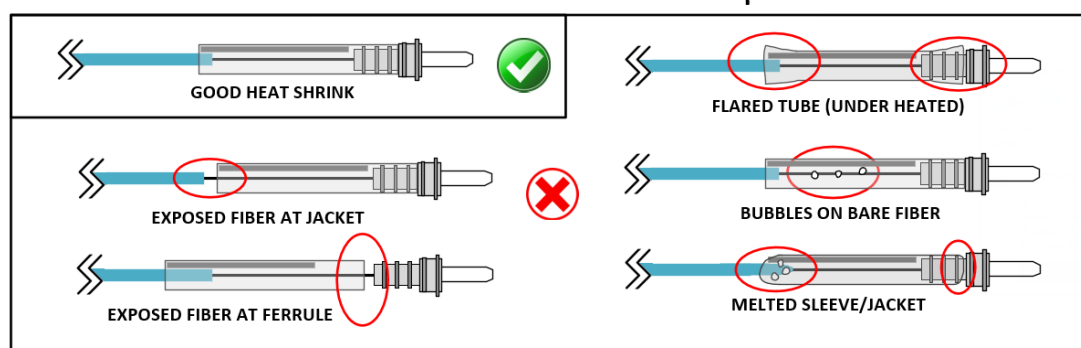
Under heated



Over heated



FIBER TO SOC CONNECTOR – 900µm



Custom Heat programs:

Heater Programs should be set with the following parameters by Manufacturer for successful termination of 900 μ m, connectors. Please refer to the User Manual of the target splicer for step by step directions on creating custom heater programs.

Recommended Heater Settings				
900 μ m Connectors				
Utilizes 27 mm splice sleeves				
MFG	Model	Mode Title	Temp	Time
AFL	90s	Custom	210 C	30
	70s	Custom	240 C	30
	41s/31s	Custom	230 C	45
Sumitomo	T-Q102-CA	Lynx	374 F	35
	T-Q502-S	Lynx	374 F	34
Fitel	S179	SOC EZFuse	170 C	50
	Ninja NJ001	Custom	170 C	80
UCL Swift	KF4 / KF4A	Custom	195 C	45
	K11	Custom	195 C	45

AFL/Fujikura – Example 41s

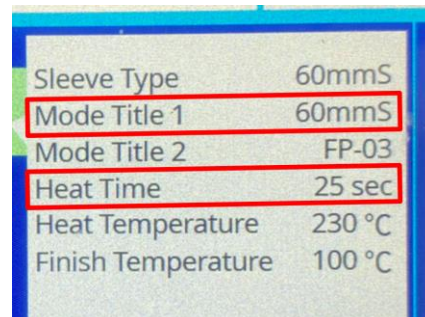
- **Program –** Heat Temperature – Select by Model from above
(Custom Program) Heat Duration – Select by Model from above
Typical Finish Temperature – 100° C / 212° F

To create new:

1. In the Heater Menu, Enter Edit Mode in an available (empty) program 
2. Select OK to create a new mode.
3. Select 60mmS as the Sleeve Type
4. In Mode Title 1 Enter “Lev 900” (or desired Title)
5. Press Heat Time and enter 45 seconds



6. Select  to exit
7. Verify heater mode is edited correctly



Sumitomo – Example T-Q102

- **900um Program –** Heat Temp A - 190° C / 374° F
(If Custom Program Heat Duration – 35 seconds
is necessary) Heat Temp B - 180° C / 356° F
Heat Duration B - 0 seconds
Finish Temp - 150° C / 302° F
Cooling Temp - 50° C / 122° F

To create a custom program:

1. Log in as Administrator
2. In Heater Programs, Select Splice-On Connector and enter Edit



3. Select "Copy" for the "Lynx" setting



4. Select an open heater number and press "Done"



5. Select the new Heater Program and enter Edit mode
6. Edit the name to "Lev SOC 900um" (or desired Title)
7. Edit all Heat step temperatures and durations
8. Verify heater mode is edited correctly
9. Select "Lev SOC 900um" for use

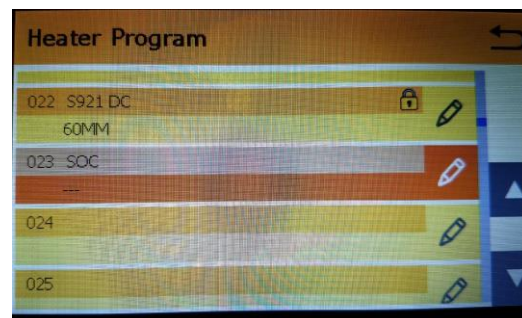


Fitel/Furakawa – Example S179

- **S179 900um Program –** Heat Temperature - 170° C / 338° F
(SOC) Heat Duration – 50 seconds
Finish Temperature – 0° C
Cooling Temp - 80° C / 176° F
Cooling Duration – 30 seconds

NOTE - The Fitel heater program "SOC" can be used to copy from. A custom name can be created and the above modifications made as required. Perform the following steps:

1. In Heater Programs, locate SOC and enter Edit mode
2. Select "Copy"
3. Choose an open heater number and enter Edit mode
4. Select "Paste"
5. Enter Edit mode
6. Select "Edit" and re-name to "Lev SOC 900um" (or desired Title)
7. Confirm all heat step temperatures and durations
8. Select "Yes" to overwrite parameters
9. Select "Lev SOC 900um" for use



UCL Swift (Formerly IIsintech) – Example KF4A

- **900 μ m Program** Heat Temperature - 195° C / 383° F
(Custom Program) Heat Duration – 45 seconds

To create a custom program, perform the following steps:

1. In Heater Programs, locate SOC and enter Edit mode  and
then 
2. Select the right arrow to “Add” 
3. Scroll to heater setting 13 “S30-C 32x3.7x4.4” and select 
4. The new profile will be entered in the next available slot
5. Enter Edit mode 
6. Select “Edit” and re-name to “Lev SOC 900” (or desired Title)
7. Confirm all heat step temperatures and durations

8. Adjust parameters selecting  when done with each step
9. Select Escape when complete
10. Select “Lev SOC 900” for use



Summary

Be familiar with the operational features and functions of your Fusion Splicer prior to starting the termination process. Proper curing of the splice sleeve is an integral part of the termination process when working with Splice-On connectors. Always evaluate settings within the splicing device and monitor each termination step to achieve consistent and successful results.

For more information visit: www.leviton.com/fastsplice

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