

OPERATION PROCEDURE OF FIBER WITH FAS CONNECTOR**Document No.: 4-OP-130****Version: 18****Page: 1/10****I. Purpose:**

To instruct operation method which implemented in Fujikura Fiber Optics Vietnam

II. Application:

- This guideline is applied for Fiber with FAS Connectors as processes following:

No	Proces name
1	Cutting & Aging
2	Laser marking
3	Part insertion
4	Ferrule Assembly
5	Polishing, Inter,Endface
6	Key selection
7	Housing
8	PRD length check
9	QC length check
10	Loss inspection
11	Reflectometer
12	Final endface
13	QC Appearance
14	Label & Final packing
15	Shipping



- This document concerns to Production function, Production engineering function, Quality Assurance function and Planning function

III. Reference documents:

- Customer specification

Reference document	Product name	Remark
PNJHY-0090-25-08L#1 HY-0090-008#1\$002	Fiber with FAS Connector 「R」 「F」	Apply spec OBL3
PNJHY-0090-25-08L#2	Fiber with FAS Connector 「R」 「-」	-
PNJHY-0090-25-07R#1 HY-0090-007#1\$003	Fiber with FAS Connector 「K」 「F」	Apply spec OBL3
PNJHY-0090-25-07R#2	Fiber with FAS Connector 「K」 「-」	-
HY-0090-026#1\$002	SR15E 2mm cord with FAS Connector Plug / SC Connector	-
HY-0090-026#2\$002	SR15E 2mm cord with FAS Connector Socket / SC Connector	-
4-COS-0047	PATCH CORD PRODUCT WITH FAS/SC CONNECTORS	Apply key selection

IV. Term and definition:

FOV: Fujikura Fiber Optics Vietnam Ltd.,

SIC: Section In Charge

FAS connector: The common name of products of FAS-Plug and FAS-Socket

Checked by: BanNT Date: Follow DMS	Approved by: Kien NT Date: Follow DMS
Prepared by: ChauDNB + Cross check by: TanNDD Date: 6-Aug-2024	Originator: Kien NT Date: 14-Feb-06

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V. Traceability control:

The requirement of traceability record for each products shall follow the 9-PR-013 Data traceability procedure.

Type of record	Items	Record
Quality control items	Refer to: QC Flow chart 4-QC-130	Related Check sheet
Identification & trace ability record	4M information (if any): - Material Lot# - Machine/Tool-jig control number - Operator code - Manufacturing/ inspecting date	

VI. Content**6.1 Cutting & aging:**

Refer to 4-OP-0483 for detail of setting up cord cutting length and aging condition.

6.2 Laser marking:

Refer to 4-OP-577 for laser marking method.

6.3 Part Insertion:

Refer to 4-OP-0392 for detail of part method.

6.4 Ferrule Assembly:

* Adhesive mixing:

Refer to **4-OP-500** (ADHESIVE MIXING) for “**Epotek 353ND**” mixing operation.

* *Ferrule Assembly:*

Refer to **4-OP-503** for SC connector type ferrule Assembly

6.5 Polishing,Inter,Endface:

Refer to: 4-OP-528 for SC/SPC Polishing

4-OP-563 for Fiber Endface and ferrule Endface checking.

6.6 Key selection:

Refer to 4-OP-509 (Key selection)

Apply for only spec 4-COS-0047 with product name have (M) at the end.

Example product name: SR15E 2mm cord with FAS socket/SC-APC connectors L=2m (M)

6.7 Housing:

Refer to 4-OP-0484 for all operations SC housing.

6.8. PRD length check:

Check total length of product that specification required (refer to spec) by jig

a- Process Specification:

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Items	Specifications
Length	Check total length of product that specification required (refer to spec)

b- Process Condition:

Items	Conditions
Total Length	Jig/Ruler

6.9. QC length check:

Check 1pc/ID and check 100% for all rework product

a- Process Specification:

Items	Specifications
Length	Check total length of product that specification required (refer to spec)

b- Process Condition:

Items	Conditions
Total Length	Ruler

6.10. Loss inspection:**A. Loss Inspection:**

Refer to 4-OP-506 to inspect the loss of product and product specification.

B. Customer test:

Following to Customer requirements.

6.11. Reflectometer :

Refer to 4-OP-511: Reflectometer checking for no fiber broken inside ferrule
Apply sampling reflectometer 12con/2h

6.12. Final End face:

Refer to 4-OP-527 for endface judgment method

**6.13. QC appearance****a. Process Specification:**

Items	Specification
Appearance of main product	<ul style="list-style-type: none"> Connector checking (Plug, Socket, Boot, type of housing, cap), cord checking. Laser mark: check size, position and direction, content is corrected, clearly and check 100% the content of laser with serial of product Scratch should not be feeling by finger nail. No any crack, no any bubble, no any contamination.

b. Process condition

Items	Conditions
Appearance	Visual

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6.14. Label & Final packing:

Refer to 9-OP-0001 for Packing method

6.15. Shipping:

- Apply in planning function.
- Note: Attach label outside carton box to indicate: Specific of product type, Specification Number and serial No.

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REVISION HISTORY

Preparing date	Person	Version	Description		Reason	Requester
			Old contents	New contents		
6 Aug 2024	ChauDNB	18	VI.Content Item 12. Final enface check Item 13. QC Appearance	VI.Content Item 12.Appearance check Item 13.Final enface check	Follow 4MC no. 4-Pr-007-4-Fo-0007-9-RC-0010	Executive. BanNT
			Item VII: Record Item VIII: Review	Item VII: None Item VIII: None	Follow 0-PR-001-0-TEM-0008 Operation procedure template	
	DiemNT		-	Item 12.Appearance check Cancel check Taper of Ferrule: No any Epotek and conditions by flashlight. ▪ Add checking item: Connector checking (Plug, Socket, Boot, type of housing, cap), cord checking.		Manager. DucTNM
6-Jan-2024	Nguyen Thi Diem	17	Item VI.6.11	- Cancel check Plug assembly by Jig - Add appearance by visual/flashlight	- Follow 4-Pr-007-4-Fo-001-9-RC-0315 (Update the missing content in version 15) - Update	Manager TienDT
			Item VI.6.11 Laser mark... Sample q'ty checking: check the first set of every bunch of six products, check 100% for rework product.	Item VI.6.11 Laser mark: Check 100% the content of laser with serial of product.	Change from sampling check to check 100% (Update follow CAPA: JQHC-59-22-0015_Lack of laser marking on knob)	
			Item VI.6.14 - Quantity per Pallet: 3200pcs/pallet -	Item VI.6.14 - Quantity per Pallet: 1800pcs/pallet - Revise format of labels	- Correct mistake - Revise	
	PhungTK		-	Update new OP template 0-Pr-001-5-WI-0749-5-TEM-0001 ver 03	Update template	
	Item VI.6.1. List out detail of all cutting length and aging condition		Item VI.6.1. Refer to 4-OP-0483 for detail of setting up cord cutting length and aging condition	Refer to G.OP		
	Item VI.6.2. List out detail of laser marking		Item VI.6.2. Refer to 4-OP-577 for laser marking method			
	Item VI.6.10 B.Mechanical Reliability test		Item VI.6.10 B.Customer test			
	Item VI.6.14 List out detail of Label and packing condition		Item VI.6.14 Refer to 9-OP-0001 for Packing detail	Refer to G.OP		

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01 – Jun - 2023	Chau Thi Cam Tien	16	Item II: - (page 1) Item 5.6 (Page 5)	Add Key selection process and make clear scope apply	Update for new spec	Manager Dinh Tan Tien
			Item IV PNJHY-0090-25-08K PNJHY-0090-25-07P	Add new spec Update spec: PNJHY-0090-25-08L PNJHY-0090-25-07R	Update spec	
			Item 5.1.1, 5.2, 5.3.1, 5.6, 5.7, 5.10, 5.15	Add control item for new spec: HY-0090-008#1\$002 (change OBL3) HY-0090-007#1\$003(change OBL3) HY-0090-026#1\$002 HY-0090-026#2\$002 4-COS-0047	Update spec	
			Item 5.10 (page 8), 5.14.1 (page 9), 5.14.2 (page 10) Refer to 4-OP-506, 4-OP-507	Refer to 4-OP-506	Combine 4-OP-507 into 4-OP-506	
			Item 5.3 -	Refer to 4-OP-0392 for detail of part method	Update follow to General OP	
			Item 5.7 -	Refer to 4-OP-0484 for all operations SC housing.		
15 Mar 21	Do Thuy Tien	15	5.9 a. “Plug housing check: Ensure the key of stop ring with right direction”	Cancel plug housing check: Ensure the key of stop ring with right direction at QCS Appearance process	Follow 4-Pr-007-4-Fo-001-9-RC-0315	Dept. Manager Nguyen Trung Kien
			5.9 a. “Laser mark:... content of laser with serial of product”	Add sample q'ty laser checked: check the first set of every bunch of six product, check 100% for rework product	Follow 4-Pr-007-4-Fo-001-9-RC-0321	
			5.9 a “Cord rotate”	Cancel cord rotate at QCS Appearance process	Follow 4-PR-007-4-FO-001-9-RC-0223	
			PNJHY-0090-25-08I PNJHY-0090-25-07M	PNJHY-0090-25-08K PNJHY-0090-25-07P	Update spec	
26 Oct 18	Pham Thai Bao Trung	14	5.9 Loss inspection Connector IL	5.9 Loss inspection Total IL	JEHC-58-15-0023	Dept. Manager Nguyen Trung Kien
			-	IV. Term definition Update spec	Update	
			5.6.a. Socket side Check the ▲ mark direction	5.6.a. Socket side Cancel check the ▲ mark direction	Material was improved	
25 Jul 17	Tuyết Anh	13	PNJHY-0090-25-07J#1	PNJHY-0090-25-07O#1	Update	Nguyen Trung Kien
			PNJHY-0090-25-07J#2	PNJHY-0090-25-07O#2		
			PNJHY-0090-25-08F#1	PNJHY-0090-25-08I#1		
			PNJHY-0090-25-08F#2	PNJHY-0090-25-08I#2		
			-QC length check 100%	-QC length check: Sampling 1pc/ID & 100% for all rework product	Updated 4M-FOV-15-013	

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			-Reflect 100%	-Sampling reflectometer 12con/2h	Updated 4-PR-007-4-FO-001-4-RC-0008	
			-	IV. Term definition Update spec	Update	
			5.6.a. Socket side Check the ▲ mark direction	5.6.a. Socket side Cancel check the ▲ mark direction	Material was improved	