

**OPERATION PROCEDURE OF CLEANER MPO ESD PRODUCT**

Document No.: 4-OP-0516

Version: 1

Page: 1/6

**I. Purpose:**

- To instruct operation method which implemented in Fujikura Fiber Optics Vietnam.

**II. Application:**

- This guideline is applied for Cleaner MPO ESD products as following processes:

No.	Process name	Remark
1	Cleaning	
2	Laser	
3	Material Preparation	
4	Cutting	
5	One-click Assembly 1	
6	One-click Assembly 2	
7	Final inspection 1	
8	End-face	
9	Final inspection 2	
10	Individual packaging	
11	Inner box Packing	
12	Outer box packing	
13	Shipping	

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

**III. Reference Documents**

4-QC-0516: QC flow chart of Cleaner MPO ESD product.

Purchase specification:

No	Product Name	Specification	Remark
1	One-Click Cleaner MPO ESD (MPO ESD-CLK-A)	HW-0051-027\$003	

**IV. Term and definition**

FOV: Fujikura Fiber Optics Viet Nam

SIC: Section In Charge

One-Click Cleaner MPO ESD: The name of one of products in Fujikura Fiber Optics Vietnam Co., Ltd.

**V. Traceability control:**

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

Type of record	Item	Record
Quality control Item	Refer to: QC Flow chart 4-QC-0516	Related Check sheet
Identification & trace ability record	4M information (if any): - Material Lot# - Machine/Tool-jig control number - Operator code - Manufacturing/ inspecting date	

**VI. Contents:****1. Cleaning****1.1 Process specification****※ Polishing Tip/Head:**

Item	Specifications
Kind of Tip/head	All of Tip/head must be correct type as spec required
Surface of Tip/head	Tip/head surface after polishing must be flat.

**OPERATION PROCEDURE OF CLEANER MPO ESD PRODUCT**

Operation Procedure: 4-OP-0516

Version: 1

Page: 2/6

## ※ Washing:

Item	Specifications
Pre-Washing	<ul style="list-style-type: none"> <li>- Pour parts out inox tray follow the below order:</li> <li>+ With plastic parts: Bobbin =&gt; Cap =&gt; Tip =&gt; others.</li> <li>+ With metal parts: Spring tip =&gt; Spring Middle =&gt; Spring Bottom.</li> <li>- Using air blow gun to clean Holder L and Holder R before put them on tray.</li> <li>- Cap, Bobbin, Nozzle are just poured ½ tray.</li> </ul>
Washing	<ul style="list-style-type: none"> <li>- Use Ultrasonic machine with New Alcohol (lifetime ~ 10 times) or RO water to wash part as spec mentioned in OBL3.</li> <li>- The whole part of product should be depth in Alcohol/Water.</li> <li>- Timer to washing: 5 minutes ± 30 seconds</li> </ul>
Drying	<ul style="list-style-type: none"> <li>- Use drying machine and chamber machine to drying</li> <li>- Timer to drying: rotate and air blow 5 ± 1 minutes by drying machine and 50 +/- 5 minutes, 50± 4 degree if using chamber.</li> </ul> <p><b>Note:</b></p> <ul style="list-style-type: none"> <li>+ Holder, window: using air blow function of drying machine about 5 min or until parts drying (don't rotate).</li> <li>+ Cap: rotate and air blow 3 times or until parts drying.</li> <li>+ Parts washed by alcohol don't use chamber to dry.</li> <li>+ Shaft Y must to air blow by air blow gun before put it on chamber machine.</li> <li>+ Wear cloth glove when touch parts after drying.</li> <li>+ Lead time to change new Alcohol or RO water is 2500 parts/time +/- 100 parts for Sharp Machine and 4,500 parts/time +/- 200 parts for Suzuki Machine.</li> </ul>
Appearance of parts	<p>Dry, no dirty, no change characteristic on the surface of the material.</p> <p>Sample for checking after cleaning under microscope 3pcs/tray.</p> <p>Put parts completely drying on zip-lock bag, resin box and tray which are cover by plastic bag immediately.</p>

**1.2 Process condition**

Item	Conditions
Washing condition	Ultrasonic machine with 5 minutes ± 30 seconds
Drying condition	Drying machine with 5 ± 1 minutes & chamber machine with 50 +/- 5 minutes, 50± 4 degree
Appearance of parts (dry, no dirty, no change characteristic)	Visual (3pcs/tray)
Surface of Tip/head	Visual

**2. Laser****2.1 Process specification**

Item	Specifications
Position	As spec required.
Content	As spec required.
Appearance	Letters must be clear

**2.2 Process condition**

Item	Conditions
Position of printing	Jig, laser program
Content of printing	Laser printing machine
Appearance	Visual

**OPERATION PROCEDURE OF CLEANER MPO ESD PRODUCT**

Operation Procedure: 4-OP-0516

Version: 1

Page: 3/6

**3. Material Preparation****3.1 Process specification****※ Assembly Outer Shell and Cap**

Item	Specifications
Position	All of material must be assembled with right position, no deform after assembly as spec required
Quantity	Quantity of material must be enough as spec required

**※ Paste sticker**

Item	Specifications
Position	All of sticker must be right position as spec required
Direction	All of sticker must be add with right direction as spec required
Appearance of sticker	No dirty, tear off, wrinkle, peel off
Quantity	Quantity of sticker must be enough as spec required

**3.2 Process condition**

Item	Conditions
Correct position	Visual
Correct quantity	Visual
Correct direction	Visual
Correct kind	Visual
Appearance of sticker	Visual

**4. Cutting****4.1 Process specification****- Cloth rewinding:**

Item	Specifications
Length of string	All bobbin must be correct length as spec required: 7.3~7.7m
Kind of string/cloth	String/ cloth must be correct kind as spec required.

**4.2 Process condition**

Item	Conditions
Length of string	Sampling length check 1pcs/beginning of shift or length of rewinding changed.
Appearance of Cleaning Bobbin String	No dirty, no twist.

**5. One-click Assembly 1****5.1 Process specification**

Item	Specifications
Kind of parts	All of parts must be correct kind with each product as spec required
Position of parts	All of parts must be correct position as spec required
Direction of parts	All of parts must be correct direction as spec required
Quantity of parts	All of parts must be correct quantity as spec required
Assembly structure	All of parts must be assembled correct structure as spec required.

**5.2 Process condition**

Item	Conditions
Kind of parts	Visual

**OPERATION PROCEDURE OF CLEANER MPO ESD PRODUCT****Operation Procedure:** 4-OP-0516

Version: 1

Page: 4/6

Position of parts	Visual
Direction of parts	Visual
Quantity of parts	Visual
Assembly structure	Visual, manual

**6. One-click Assembly 2****6.1 Process specification**

Item	Conditions
Kind of parts	All of parts must be correct kind with each product as spec required
Position of parts	All of parts must be correct position as spec required
Direction of parts	All of parts must be correct direction as spec required
Quantity of parts	All of parts must be correct quantity as spec required
Assembly structure	All of parts must be assembled correct structure as spec required.
Jamming click function test	After 3 times of click all of product must be without strange sound, operate smoothly, no jam

**6.2 Process condition**

Item	Conditions
Kind of parts	Visual
Position of parts	Visual
Direction of parts	Visual
Quantity of parts	Visual
Assembly structure	Visual, manual
Jamming click function test	Manual

**7. Final inspection 1****7.1 Process specification**

Item	Specifications
Appearance of parts	All of parts after assembly must be dry, no deform, no broken, no dirty.
Position of parts	All of parts must be correct position as spec required
Direction of parts	All of parts must be correct direction as spec required
Laser marking content	Laser marking content must be clear, no miss line, correct content as spec required
Resistance measuring	Measuring resistance < $10^{12}\Omega$ sampling 1pc/PO

**7.2 Process condition**

Item	Conditions
Cap appearance	Visual
Nozzle appearance	Visual
Sticker appearance	Visual
Outer-shell appearance	Visual
Laser content & appearance	Visual
Measuring resistance	1pc/PO

**8. Endface****8.1 Process specification**

Item	Specifications
End face	End face must be clean
Check abnormal sound & jamming click	No abnormal sound & jamming click

**OPERATION PROCEDURE OF CLEANER MPO ESD PRODUCT****Operation Procedure:** 4-OP-0516

Version: 1

Page: 5/6

**8.2 Process condition**

Item	Conditions
End face	Microscope
Check abnormal sound & jamming click	Manual

**9. Final inspection 2****9.1 Process specification**

Item	Specifications
String does not come off the tip	String correct position on tip
String fluffing	No string fluffing

**9.2 Process Condition**

Item	Conditions
String does not come off the tip	Visual
String fluffing	Visual

**10. Individual Packing****10.1 Process specification**

Refer to relevant purchase spec for detail packing method.

Item	Specifications
Quantity of product/ box	Must be correct as spec required
Kind of box	Must be correct as spec required
Content of box no label	Must be correct as spec required
Direction packing	Must be in correct direction for label & box as spec required

**10.2 Process condition**

Item	Conditions
Quantity of product/ box	Programing
Kind of box	Visual
Content of box no label	Programing, visual
Direction packing	Visual

**11. Inner box packing****11.1 Process specification**

Refer to relevant purchase spec for detail packing method.

Item	Specifications
Quantity of product/carton box	Must be correct as spec required
Carton box type	Must be correct as spec required
Content of carton box Label	Must be correct as spec required

**11.2 Process condition**

Item	Conditions
Quantity of product/carton box	Programing
Carton box type	Programing
Content of carton box Label	Visual

**12. Outer box packing**

**OPERATION PROCEDURE OF CLEANER MPO ESD PRODUCT****Operation Procedure:** 4-OP-0516

Version: 1

Page: 6/6

**12.1 Process specification**

Refer to relevant purchase spec for detail packing method.

Item	Specifications
Quantity of inner box/outer box	Must be correct as spec required
Carton box type	Must be correct as spec required
Content of carton box Label	Must be correct as spec required

**12.2 Process condition**

Item	Conditions
Quantity of inner box/outer box	Programing
Carton box type	Visual
Content of carton box Label	Visual

**13. Shipping**

Refer to planning section.

- ❖ Shipping Q'ty and product name must be confirmed correct with P/O from Customer
- ❖ Test report of that shipment will be sent to Customer latest one day after product is ex-factory
- ❖ The content of test report included items that are request in Product specification.

**REVISION HISTORY**

Preparing date	Person	Version	Description		Reason	Requester
			OLD CONTENT	NEW CONTENT		
18-Oct-24	Thu DTM Phuong TM	1	-	New established	New product	Phuoc NB Duc TNM