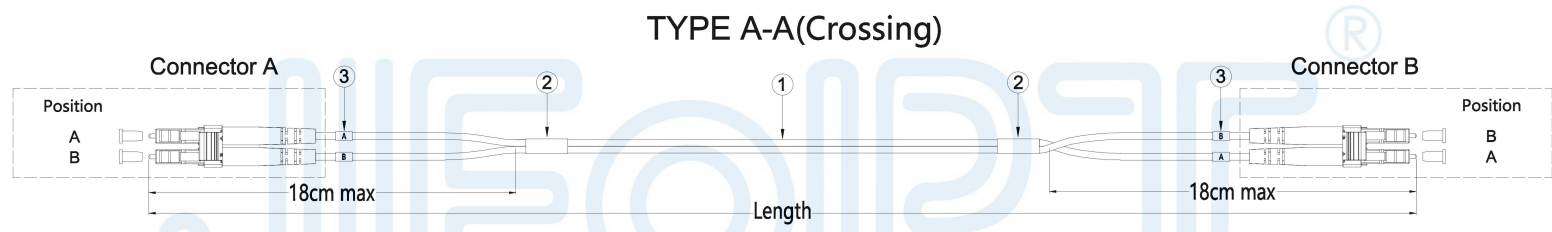
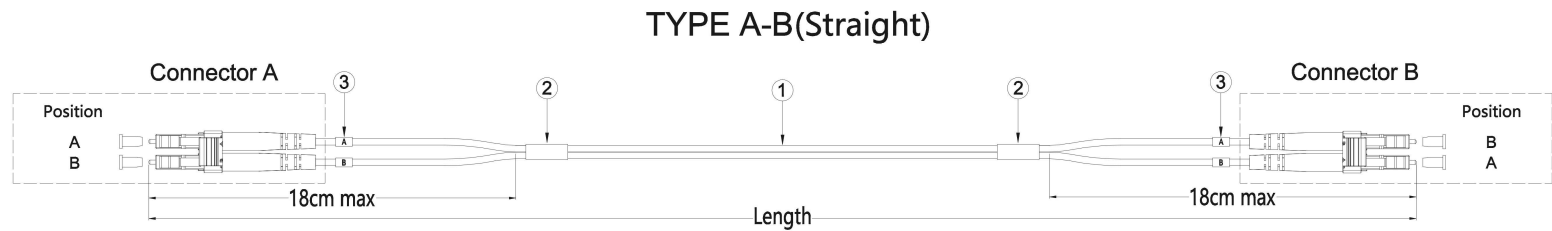




PRODUCT SPECIFICATION

DUPLEX PATCH CORD

Author	Auditor	Approver



* Clip duplex connector divided into A-B /A-A type.

TYPE A-B (Straight)		
Connector A	Connection	Connector B
A	← →	B
B	← →	A

TYPE A-A (Crossing)		
Connector A	Connection	Connector B
A	← →	A
B	← →	B

Length tolerance table	
Grade	Tolerance range (cm)
I	$0 \leq X \leq 6.0$
II	$-6.0 \leq X \leq 0$

POS.	Description	Specification	Remark
1	Cable	2.0/3.0mm	
2	Breakout kit	Heat shrinkable tube (Optional)	Standard configuration do not contain this item
3	Cable marker	Cable marker tube (Optional)	Standard configuration do not contain this item
4			

* Different types of patch cord will have different components. Please consult our company for details.

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Product Name	Patch Cord	Product Coding		
Design	Material	Date		
Review	Unit	mm	Edition	A
Approval	Scale	Visual		

Connector selection table

Connector A (Optional)	Description
	① Connector boot
	② LC connector
	③ LC Dust cover
	④ LC duplex clip
	⑤ Heat shrinkable tube (Only 2.0mm cable equipped with)
	① Connector boot
	② SC connector
	③ SC Dust cover
	④ SC duplex clip
	① Connector boot
	② FC connector
	③ FC Dust cover
	① Connector boot
	② ST connector
	③ ST Dust cover

Description	Connector B (Optional)
Connector boot	①
LC connector	②
LC Dust cover	③
LC duplex clip	④
Heat shrinkable tube (Only 2.0mm cable equipped with)	⑤
Connector boot	①
SC connector	②
SC Dust cover	③
SC duplex clip	④
Connector boot	①
FC connector	②
FC Dust cover	③
Connector boot	①
ST connector	②
ST Dust cover	③

* This manual only shows four connectors of LC / SC / FC / ST, and other connectors can be customized according to this standard. Please consult our company for details.

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Product Name	connector		Product Coding	
Design		Material		Date
Review		Unit	mm	Edition
Approval		Scale		Visual

Reference Standard:

- 1.YD/T 1272.1 《Optical fiber connector part first: LC》
 - 2.YD/T 1272.3 《Optical fiber connector part third: SC》
 - 3.YD/T 1272.4 《Optical fiber connector part four: FC》
 - 4.IEC 61753-1:2018 《Fibre optic interconnecting devices and passive components-Performance standard-Part 1: General and guidance》
 - 5.IEC 61754-4:2013 《Fibre optic interconnecting devices and passive components-Fibre optic connector interfaces-Part 4: Type SC connector family》
 - 6.IEC 61754-13:2006 《Fibre optic connector interfaces - Part 13: Type FC-PC connector》
 - 7.IEC 61754-20:2012 《Fibre optic interconnecting devices and passive components - Fibre optic connector interfaces - Part 20: Type LC connector family》
 - 8.IEC 61754-20-100:2012 《Fibre optic interconnecting devices and passive components - Fibre optic connector interfaces - Part 20-100: Interface standard for LC connectors with protective housings related to IEC 61076-3-106》
- * Due to different product requirements and grades, Compliance with different grades and requirements of a standard may vary.Please consult our company for details.

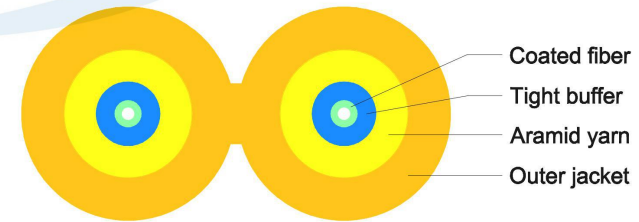
Reference Test Standards:

- 1.GB/T 7424.2-2008 《Optical fibre cable generic specification-Part 2: Basic optical cable test procedures》
- 2.GB/T 7424.1-2003 《Generic specification for optical fibre cables-Part 1:General》
- 3.IEC 61300-2-17:2010 《Fibre optic interconnecting devices and passive components-Basic test and measurement procedures - Part 2-17: Tests-Cold》
- 4.IEC 61300-2-18:2005 《Fibre optic interconnecting devices and passive components-Basic test and measurement procedures - Part 2-18: Tests-Dry heat-High temperature endurance》
- 5.IEC 61300-2-19:2012 《Fibre optic interconnecting devices and passive components-Basic test and measurement procedures-Part 2-19: Tests-Damp heat (steady state)》
- 6.IEC 61300-2-21:2009 《Fibre optic interconnecting devices and passive components-Basic test and measurement procedures-Part 2-21: Tests-Composite temperature/humidity cyclic test》
- 7.IEC 61300-2-22:2007 《Fibre optic interconnecting devices and passive components-Basic test and measurement procedures-Part 2-22: Tests-Change of temperature》
- 8.IEC 61300-3-6:2008 《Fibre optic interconnecting devices and passive components-Basic test and measurement procedures-Part 3-6: Examinations and measurements-Return loss》
- 9.IEC 61300-3-34:2009 《Fibre optic interconnecting devices and passive components-Basic test and measurement procedures-Part 3-34: Examinations and measurements-Attenuation of random mated connectors》
- 10.IEC 61300-3-45:2011 《Fibre optic interconnecting devices and passive components-Basic test and measurement procedures-Part 3-45: Examinations and measurements-Attenuation of random mated multi-fibre connectors》

Mechanical and Environmental Characteristics

Items		Unite	Parameters
Coupling Force		N	40
Patch Cord Tensile Strength		N	50
2.0mm Cord	Cord Tension (Long Term)	N	90
	Cord Tension (Short Term)	N	150
3.0mm Cord	Cord Tension (Long Term)	N	160
	Cord Tension (Short Term)	N	300
Min. Bend Radius (Dynamic)		mm	60
Min. Bend Radius (Static)		mm	30
Operating Temperature		°C	-25 ~ +70
Storage Temperature		°C	-25 ~ +70

* The above Characteristics are only applicable to grade I cable.



Cable Profile View

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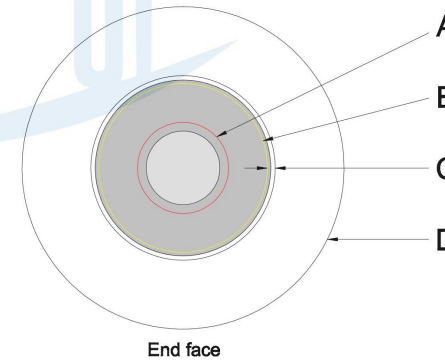
Product Name	Characteristics		Product Coding	
Design		Material		Date
Review		Unit	mm	Edition
Approval		Scale		Visual



End Face Requirement

Region	Scratch	Speckle	Other
Region A (0-65um)	None	None	Facula even and round, no crack
Region B (65-120um)	No black scratches allowed, Allow six white scratches and the width $\leq 2\mu\text{m}$.	Allow three speckles and the diameters $\leq 2\mu\text{m}$.	No breakage and crack
Region C (120-130um)	Single Mode: Allow apron which aperture width less than 5um;and the length of the apron is less than 1/3 of the perimeter of the fiber end. Multi mode: Allow apron which aperture width less than 2um;and the length of the apron is less than 1/3 of the perimeter of the fiber end.		No breakage and crack
Region D (130-250um)	Not allow $>10\mu\text{m}$	No loose particles and cavities	No breakage and crack

1. Inspection equipment requirements: Optical fiber end face detector more than 200 times.
2. For scratches (linear), it refers to the width; for speckles, fragments and particles (non linear), it refers to the maximum diameter; there shall be no cracks in the optical fiber area.
3. There shall be no massive piece stains, fragments, grinding residues, etc outside the contact area.
4. The removable dirt and loose particles on the end face of the insert core must be removed as far as possible. All the allowed defect connectors shall not exceed 15% of the total number.



Geometric Dimensions Requirement

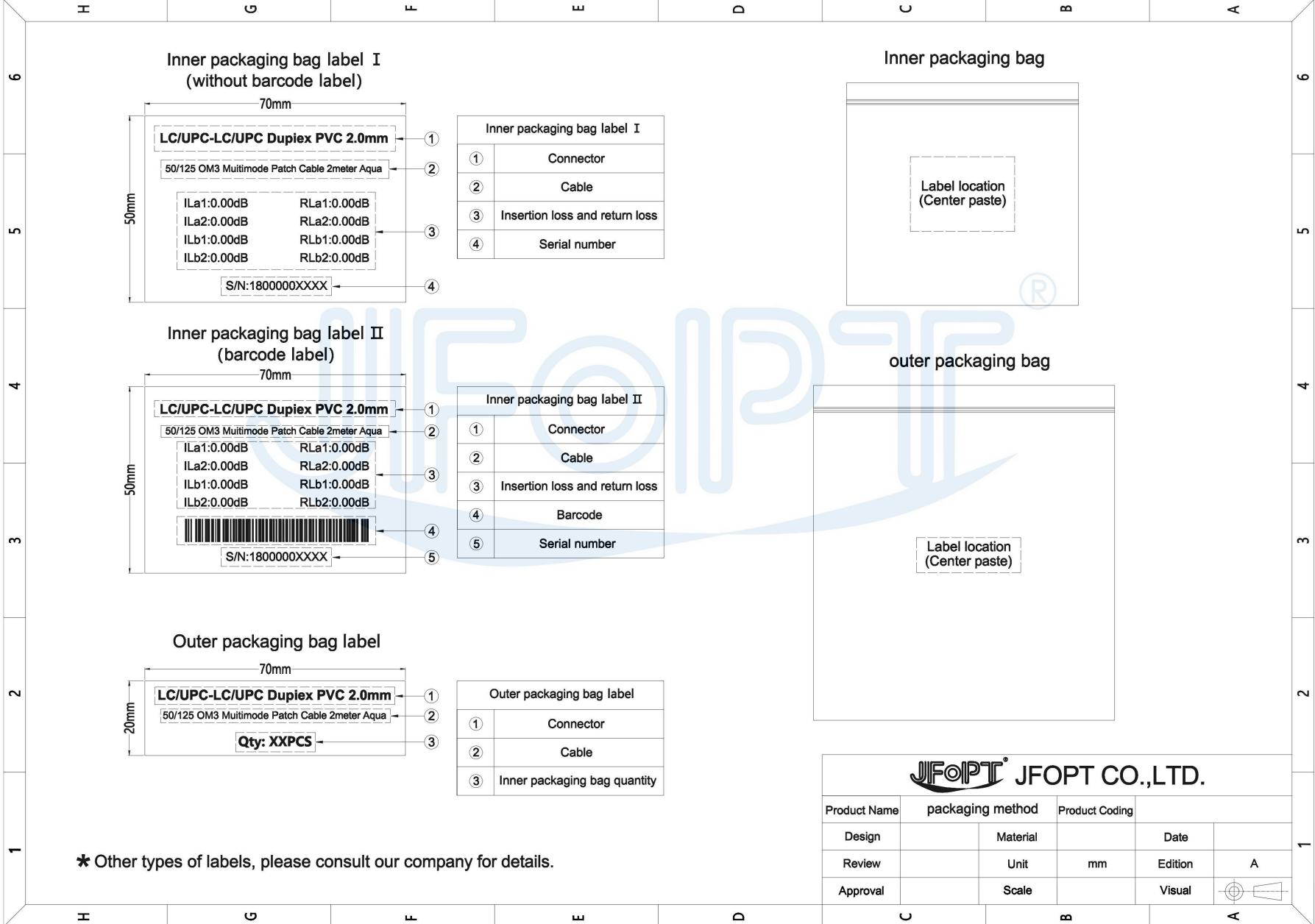
Items	PC, UPC				APC	
	SC, FC, ST		LC		SC, FC	LC
	SM	MM	SM	MM	SM	MM
Radius of curvature (mm)	10-25		7-25		5-12	
Apex offset (um)	≤ 50				≤ 30	
Fiber Depressed (nm)	± 100					
Angle deviation ($^{\circ}$)	0				8 ± 0.3	
Bond angle deviation ($^{\circ}$)	0				± 0.5	
Fiber diameter (um)	123-135					

* This item is optional.
Please consult our company for details.

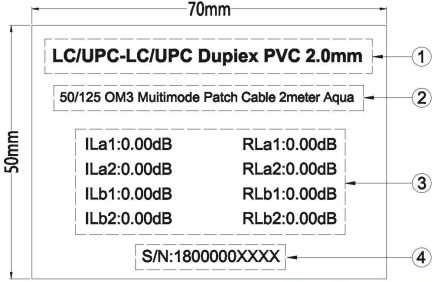
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Product Name	end face	Product Coding		
Design		Material	Date	
Review		Unit	mm	Edition
Approval		Scale	Visual	A



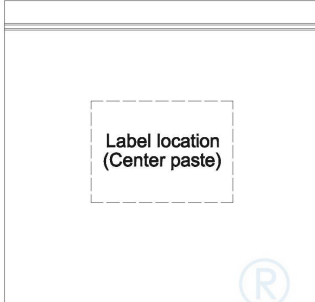


**Inner packaging bag label I
(without barcode label)**

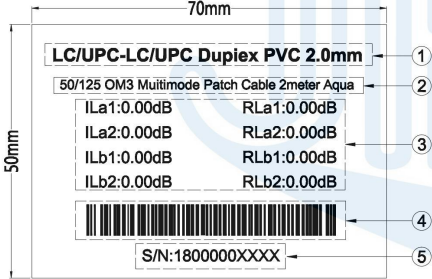


Inner packaging bag label I	
①	Connector
②	Cable
③	Insertion loss and return loss
④	Serial number

Inner packaging bag

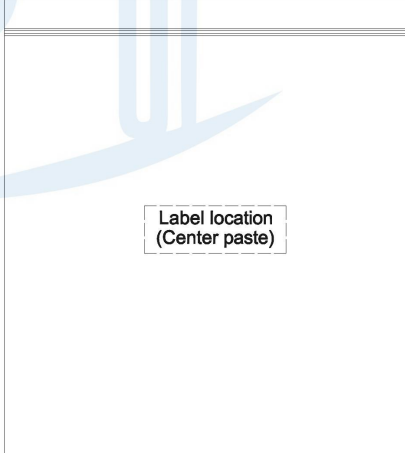


**Inner packaging bag label II
(barcode label)**

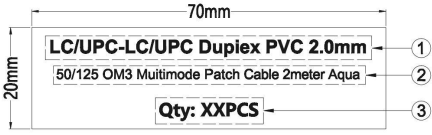


Inner packaging bag label II	
①	Connector
②	Cable
③	Insertion loss and return loss
④	Barcode
⑤	Serial number

outer packaging bag



Outer packaging bag label



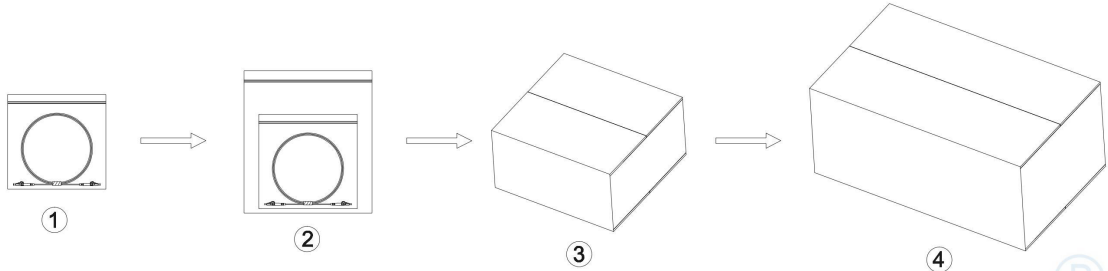
Outer packaging bag label	
①	Connector
②	Cable
③	Inner packaging bag quantity

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Product Name	packaging method	Product Coding		
Design		Material	Date	
Review		Unit	mm	Edition A
Approval		Scale	Visual	

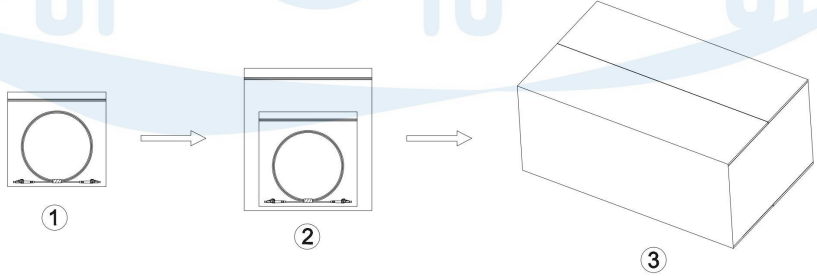
* Other types of labels, please consult our company for details.

Packaging Grade I



- Packaging I**
1. Optical fiber jumper packed in Inner packaging bag.
 2. Multiple Inner packaging bags packed in outer packaging bag.
 3. Multiple outer packaging bags packed in inner carton.
 4. Multiple inner cartons packed in outer carton.

Packaging Grade II



- Packaging II**
1. Optical fiber jumper packed in Inner packaging bag.
 2. Multiple Inner packaging bags packed in outer packaging bag.
 3. Multiple outer packaging bags packed in outer carton.

* Different types of patch cord, the packaging will be different.
Please consult our company for details.

JFOPT® JFOPT CO.,LTD.				
Product Name	packaging method	Product Coding		
Design	Material	Date		
Review	Unit	mm	Edition	A
Approval	Scale	Visual	