Test Report

Product Name: Mechanical Splice

Specification Model: MAY-L925B

Testing Department: Engineering department

Test Category: Reliability test

2023.7.28

Inspection Report

Product Name (Model, Specification)	MAY-L925B	Production Date	2023.5.17
		Sample Number	20
		Samples Source	Stock
Inspection Items	See annex 2	Inspection Category	Reliability test

Sample Initial State	The sample is in good initial condition and meets the inspection requirements.		
Inspection Basis	YD/T 2155-2010 Single-core optical fiber mechanical continuation device for communication		
Inspection Date	2023.5.17	Completion Date	2023.7.28
Test results	Upon inspection, the results are as follows: The 34 items that should be tested; The 34 items that has been tested; 0 irrelevant items; 0 unqualified items; Comprehensive judgment, the sample inspection conclusion: qualified. Testing department: (seal) Date: 2023.7.28		
remarks	This test sample is made with 0.9mm tight buffer optical fiber.		

Ratify: **Examine and verify:** **Chief Inspector:**

Test results

Number	Inspection Item	Unit	Inspection Requirements	Results	Conclusion
1	Exterior	--	Single-core optical fiber mechanical connector should have regular shape, smooth metal surface, uniform color plating (coating) , no obvious difference, no scratch, rust, peeling;	Comply with standard requirements	Qualified
2	Size	mm	The length of single core fiber mechanical connector is ≤ 50mm	45.2 - 45.4	Qualified
3	Insertion Loss	dB	Insertion loss: mean value ≤ 0.2dB, limit value ≤ 0.5dB	0.10 - 0.30 Mean value: 0.18 Limit value: 0.30	Qualified
4	Return Loss	dB	Return loss limit value: ≥ 40dB	43.5 - 50.2	Qualified
5	Stretch-Appearance	--	No mechanical damage, such as deformation, shedding or relaxation.	Comply with standard requirements	Qualified
6	Stretch - insertion loss variable	dB	Insertion loss variable ≤ 0.2	0.00 - 0.04	Qualified
7	Stretch - return loss variable	dB	Return loss variable < 5	0.5 - 2.0	Qualified
8	Flat-Appearance	--	No mechanical damage, such as deformation, shedding or relaxation	Comply with standard requirements	Qualified
9	Squash flat - insertion loss variable	dB	Insertion loss variable ≤ 0.2	0.02 -0.04	Qualified
10	Squash flat - insertion loss variable	dB	Return loss variable < 5	0.2 - 1.0	Qualified
11	Twist-Appearance	--	No mechanical damage, such as deformation, shedding or relaxation	Comply with standard requirements	Qualified
12	Twist - insertion loss variable	dB	Insertion loss variable ≤ 0.2	0.03 -0.08	Qualified
13	Twist - return loss variable	dB	Return loss variable < 5	0.8 - 2.5	Qualified
14	Vibration-Appearance	--	No mechanical damage, such as deformation, cracking, relaxation and other phenomena	Comply with standard requirements	Qualified

15	Vibration - insertion loss variable	dB	Insertion loss variable ≤ 0.2	0.02 -0.09	Qualified
16	Vibration - return loss variable	dB	Return loss variable < 5	1.2 - 2.5	Qualified
17	Damp heat-Appearance	--	No mechanical damage, such as deformation, cracking, relaxation and other phenomena	Comply with standard requirements	Qualified
18	Damp heat - insertion loss variable	dB	Insertion loss variable ≤ 0.2	0.03 - 0.10	Qualified
19	Damp heat - return loss variable	dB	Return loss variable < 5	0.5 - 3.1	Qualified
20	Temperature cycle-Appearance	--	No mechanical damage, such as deformation, cracking, relaxation and other phenomena	Comply with standard requirements	Qualified
21	Temperature cycle - insertion loss variable	dB	Insertion loss variable ≤ 0.2	0.06 - 0.14	Qualified
22	Temperature cycle - return loss variable	dB	Return loss variable < 5	0.7 - 3.8	Qualified
23	Low temperature-Appearance	--	No mechanical damage, such as deformation, cracking, relaxation and other phenomena	Comply with standard requirements	Qualified
24	Low temperature - insertion loss variable	dB	Insertion loss variable ≤ 0.2	0.03 - 0.11	Qualified
25	Low temperature - return loss variable	dB	Return loss variable < 5	0.5 - 2.7	Qualified
26	High temperature-Appearance	--	No mechanical damage, such as deformation, cracking, relaxation and other phenomena	Comply with standard requirements	Qualified
27	High temperature - insertion loss variable	dB	Insertion loss variable ≤ 0.2	0.04 - 0.15	Qualified
28	High temperature - return loss variable	dB	Return loss variable < 5	0.4 - 3.1	Qualified
29	Salt mist-Appearance	--	No mechanical damage, such as deformation, cracking, relaxation and other phenomena	Comply with standard requirements	Qualified
30	Salt mist - insertion loss variable	dB	Insertion loss variable ≤ 0.2	0.02 - 0.09	Qualified
31	Salt mist - return loss variable	dB	Return loss variable < 5	0.3 - 2.0	Qualified

32	Mechanical durability-Appearance	--	No mechanical damage, such as deformation, cracking, relaxation and other phenomena	Comply with standard requirements	Qualified
33	Mechanical durability - insertion loss variable	dB	Insertion loss variable ≤ 0.2	0.03 - 0.12	Qualified
34	Mechanical durability - return loss variable	dB	Return loss variable < 5	0.4 - 3.6	Qualified

annex**: Photos of the test products**

Annex 2: Environmental and Mechanical properties test conditions

NO.	inspection item	test requirements
1	Stretch (not on-line)	Load capacity: 250um bare fiber 2N; 900um tight set fiber 4N Load time: 30s Applied load rate 0.5N / s
2	Squish (not on-line)	Load quantity: 5N Load time: 1min
3	Twist (not on-line)	Load: 1N Fixed point distance from the connector: L=22-28cm Torsion rate: 10 times / min Torsion: 10 times
4	Vibration (online)	Frequency range: 10Hz-55Hz Scan requirements: the scan rate should be one multiplier per minute, the tolerance is ± 10% Amplitude: 0.75mm single amplitude Each direction duration: 30min
5	Damp and heat (not online)	Test temperature: 40℃ Relative humidity: 90-95% RH Test time: 96h
6	Temperature cycle (not online)	Low temperature: -40℃ High temperature: 80℃ 5 hours one cycle, 12 cycles
7	Low-temperature (on-line)	Test temperature: -40℃ Test time: 96h

8	High temperature (on-line)	Test temperature: 80℃ Test time: 96h
9	Salt mist (not on-line)	Salt mist concentration: 5%NaCL Severity: 35℃, 48h
10	Mechanical durability	Suctions: 3

Annex 3: Inspection instruments and test equipment

NO.	Equipment	Model	Photo
1	**JW3307 type insertion and return loss tester**	JW3307D	
2	**Constant temperature and humidity test box**	ETH-150-60-CP-SD	
3	**Electromagnetic vibration test table**	VT710	
4	**Optical fiber optic mechanical performance testing machine**	JC-2010	
5	**Microcomputer tension test machine**	JC-5800B