

Fibre Optic Pigtails

Fibre optic pigtail assemblies are utilised in terminating fibre optic cables via fusion or mechanical splicing. High-quality pigtails combined with correct fusion splicing practices offer the best performance possible for fibre optic cable terminations.

AFL manufactures and distributes a broad range of factory terminated and tested fibre optic pigtail assemblies. These assemblies are available in various fibre types, fibre/cable constructions and connector options.

Factory-based assembly and machine connector polishing ensure excellence in performance, intermateability and durability. All pigtails are video inspected and loss tested using standards-based testing procedures.

Features

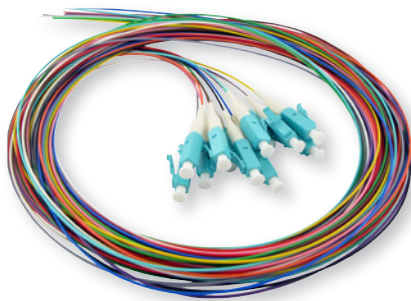
- High-quality, machine polished connectors for consistent low loss performance
- Interferometer geometry compliant connectors offer repeatable and low loss intermateability
- Factory standards-based testing practices provide repeatable and traceable results
- Video-based inspection ensures connector endfaces are free of defects and contamination
- Flexible and easy to strip fibre buffering
- Identifiable fibre buffer colours under all lighting conditions
- Short buffer style connector boots for ease of fibre management in high density applications
- Connector cleaning instructions included in each bag of 900 μm pigtails
- Individual packaging and labelling provides protection, performance data and traceability
- 12 fibre, 3 mm round mini (RM) cable pigtails available for high density splicing applications
- Range of cable constructions to suit every environment
- Large stockholding of cable and connectors for a fast turnaround of custom assemblies

Applications

- Permanent termination of optical fibre via fusion splicing
- Permanent termination of optical fibre via mechanical splicing
- Temporary termination of optical fibre cable for acceptance testing



AFL FRE® 1RU Sliding Enclosure showing spliced SC 9 / 125 µm SM 2 m pigtails, 12 pk (P1SC2M-C12-900)


















AFL Fibre Optic Pigtails

Manufacturing Options

CABLE CONSTRUCTION			
CABLE TYPE			
Standard Construction	Tight Buffered	Coloured 900 µm pigtails, 2 m, in bags of 6 or 12 (TIA-598C colour code specification)	
Alternative Constructions*	Simplex* Cord	3 mm and 2 mm	
	Multi-Fibre Cable	12 fibre round mini (RM) cable (3 mm OD) 4 / 6 / 12 fibre riser cable 4 / 6 / 12 fibre breakout cable 12 fibre ribbon cable	
Sheath	Tight Buffered/Cord	Standard sheath Optional sheath	PVC LSZH
Standard Colour	Tight Buffered	TIA-598C colour code specification	
	Cord/Cable	Yellow 9 / 125 µm OS1/2 Orange 62.5 / 125 µm OM1 Aqua 50 / 125 µm OM3 Aqua 50 / 125 µm OM4 Other colours are available upon request, MOQ and lead times may apply	
FIBRE TYPE			
Multimode	62.5 / 125 µm OM1 50 / 125 µm OM3 50 / 125 µm OM4	Single-mode	9 / 125 µm OS1/2
CONNECTORS			
	Fibre Types		
	Multimode	Single-mode All single-mode connectors are UPC (Ultra Physical Contact) or APC (Angled Physical Contact)	
LC	◆	◆	
LC Low Loss OM3/OM4	◆	n/a	
LC/APC	n/a	◆	
SC	◆	◆	
SC/APC	n/a	◆	
ST	◆	◆	
FC	◆	◆	
FC/APC	n/a	◆	
MTRJ Male (pinned connector required for pigtails)	◆	n/a	
*Alternative Constructions			
● For detailed specifications on alternative pigtail cable constructions please refer to: Cord: AFL's Fibre Optic Cable Assemblies Cable: AFL's Pre-terminated Cables – Riser/Trunk, Round Mini and Breakout			
● 1.8 mm duplex cord will be supplied for MTRJ pigtails only			

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CONNECTORS				
LC	LC MM OM1 Simplex		LC SM Simplex	
	LC MM OM3/4 Simplex		LC/APC SM Simplex	
SC	SC MM OM1 Simplex		SC SM Simplex	
	SC MM OM3/4 Simplex		SC/APC SM Simplex	
ST	ST MM OM1 Simplex		ST SM Simplex	
	ST MM OM3/4 Simplex			
FC	FC MM Simplex		FC/APC SM Simplex	
	FC SM Simplex			
MTRJ	MTRJ Male MM Duplex			
ADDITIONAL OPTIONS				
<ul style="list-style-type: none"> Bags of 4 or 8 tight buffered coloured 900 µm pigtails LC Low Loss OM3/OM4 connectors (<0.2 dB Insertion Loss) Custom labelling 				

Technical Specifications

CONNECTOR PERFORMANCE								
LC, SC, ST and FC connectors								
	MULTIMODE				SINGLE-MODE			
	@ 850 and 1300 nm		LL (Low Loss) @ 850 and 1300 nm		UPC @ 1310 and 1550 nm		APC @ 1310 and 1550 nm	
	Average	Max	Average	Max	Average	Max	Average	Max
Insertion Loss (dB)	0.15	0.25 Max	0.10	0.20 Max	0.10	0.25 Max	0.15	0.25 Max
Return Loss (dB)	n/a	n/a	n/a	n/a	58	55 Min	70	65 Min
*Please contact AFL for connector performance of other connectors								

TESTING AND APPLICABLE STANDARDS
<ul style="list-style-type: none"> As per the above table, maximum connector insertion losses (IL) fall well below the maximum connector IL allowed under AS/NZS ISO/IEC 14763.3 (Testing of optical fibre customer premise cabling) All UPC and APC Single-mode connectors exceed the return loss (RL) and geometry requirements of GR-326-CORE (Generic Requirements for Single-mode Optical Connectors and Jumper Assemblies) All connector endface conditions exceed the visual inspection criteria of IEC 61300-3-35 and AS/NZS ISO/IEC 14763.3 All test cords used for connector IL and RL testing are minimum 'reference grade' performance as per AS/NZS ISO/IEC 14763.3 specifications All test cords are inspected and cleaned prior to each connector test Multimode test launch conditions comply with ISO/IEC 14763.3, 14763.3 Amd.1 and IEC 61280-4-1 All testing adapters used are of Single-mode grade with high tolerance ceramic sleeves All assemblies meet the requirements of AS/ACIF S008 (Requirements for customer cabling products/ACMA) TIA/EIA 455 standard test procedures apply to all AFL cable assemblies and components 900 µm pigtail colour coding defined by TIA-598C

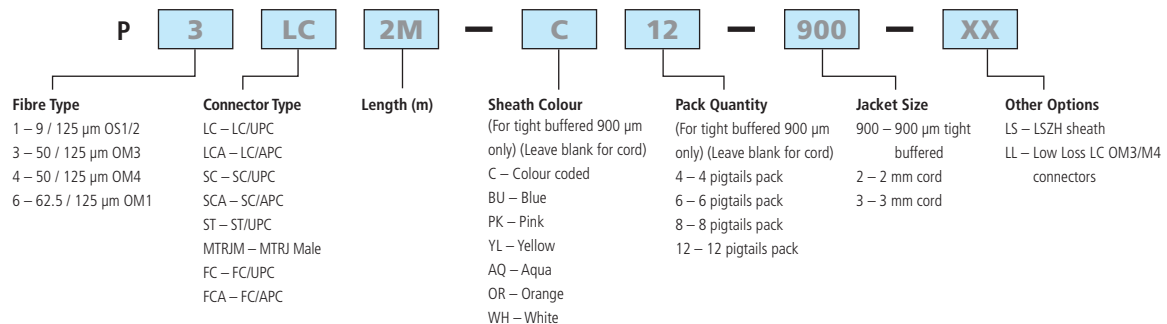
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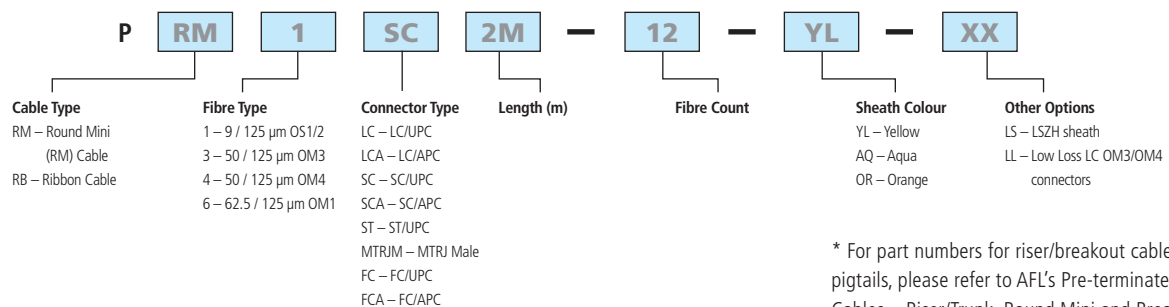
FIBRE PERFORMANCE							
Core / Cladding Diameter (µm)	Wavelength (nm)	Industry Standard Designation(s)	GigE Distance (m)	10 GigE Distance (m)	Maximum Cabled Attenuation (dB/km)	Minimum Laser Bandwidth (MHz-km)	Minimum LED Bandwidth (MHz-km)
62.5 / 125	(850 / 1310)	OM1 ISO/IEC 11801	300 / 600	33 (850 nm)	3.5 / 1.5	220 / 500	200 / 500
50 / 125	(850 / 1310)	OM3 ISO/IEC 11801	1000 / 600	300 (850 nm)	3.0 / 1.0	2000 / 500	1500 / 500
50 / 125	(850 / 1310)	OM4 ISO/IEC 11801	1040 / 600	550 (850 nm)	3.0 / 1.0	4700 / 500	3500 / 500
9 / 125 Zero Water Peak (ZWP) Single-mode	(1310 / 1550)	ITU-T G.652.D OS1/2 ISO/IEC 11801	5 km	10 km (1310 nm)	0.5 / 0.5	–	–
9 / 125 Bend-Insensitive Single-mode	(1310 / 1550)	ITU-T G.657.A1/A2 OS1/2 ISO/IEC 11801	5 km	10 km (1310 nm)	0.5/0.5	–	–

Part Numbers

Tight Buffered 900 µm and Cord Pigtails*



12 Fibre Round Mini (RM) and 12 Fibre Ribbon Cable Pigtails*



* For part numbers for riser/breakout cable pigtails, please refer to AFL's Pre-terminated Cables – Riser/Trunk, Round Mini and Breakout.

TIA-598C Colour Code Specification

Fibre ID#	Colour
1	BLUE
2	ORANGE
3	GREEN
4	BROWN
5	SLATE
6	WHITE
7	RED
8	BLACK
9	YELLOW
10	VIOLET
11	ROSE
12	AQUA

All AFL products specified in this document conform to the requirements of RoHS Regulations (Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment – EU Directive 2011/95/EC)