

Application Note: Terminating Ribbonized MTP Pigtails

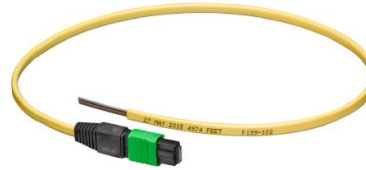
APPLICATION

Leviton MTP Pigtails are designed to support fusion-splice terminations in the field. The pigtails provide an easy means to terminate blunt end trunks pulled through conduit as well as recover trunks that get damaged during installation. The pigtails save time by eliminating the need to remove the damaged trunk.

Leviton MTP pigtails are constructed with ribbon style fiber. Each fiber is color coded per ANSI/TIA-568-C standards.

When selecting a pigtail there are several factors to consider:

- Fiber Grade
 - Multimode – OM3, OM4
 - Single-mode – OS2
- Polarity Method – Method A, B or C
- Pinning of the MTP Mating – Male (with pins) vs Female (without pins)
- Optical Loss Performance of MTP Connector
 - Standard – MM 0.50dB, SM 0.75dB
 - Premium – 0.35dB (all)



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Product Line:
Fiber Optics

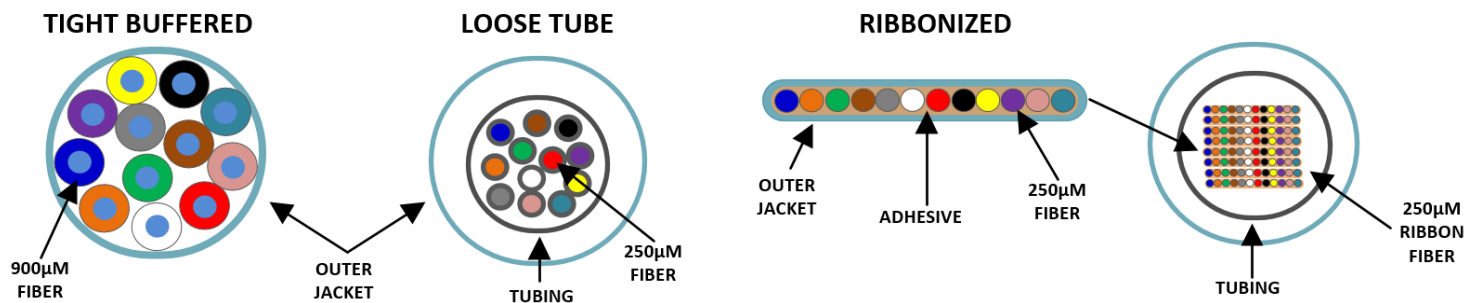
Part Numbers Affected:

- Ribbon Pigtails
- LJ2PS-03M
- LJ2PT-03M
- LJ2PL-03M
- LJ2PK-03M
- 4J2PS-03M
- 4J2PT-03M
- 4J2PL-03M
- 4J2PK-03M
- UJ2PS-03M
- UJ2PT-03M
- UJ2PL-03M
- UJ2PK-03M

Termination to different fiber constructions

Bulk fiber cable is available in several different constructions. The most typical are 900µm tight buffered, 250µm loose tube and 250µm ribbonized.

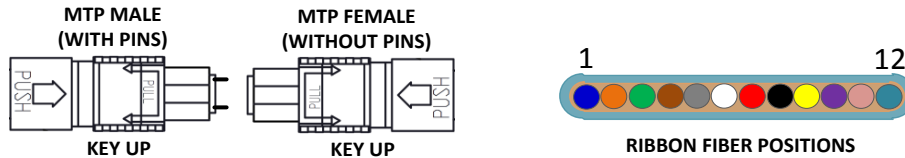
250µm ribbonized fiber consists of (12) 250µm bare fibers bonded together in a single flat row with adhesive. Multiple groupings of 12 ribbonized fibers may be housed in the same protective tube within a multifiber cable.



Terminating two ribbonized fibers together is typically achieved with a fusion splicer specifically designed for splicing multiple fibers. Fusion splicing of all fibers occurs concurrently. While terminating ribbonized fiber to other fiber constructions is possible, it requires additional preparatory steps, tools and equipment and is not addressed in this document.

Termination information

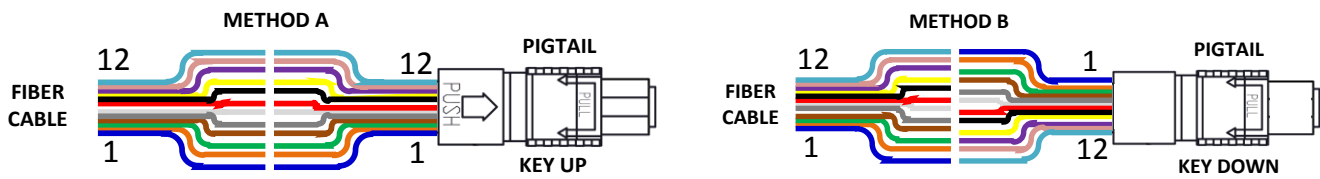
Selection of the appropriate pigtail is crucial for optimal performance. The pigtail fiber grade must match the fiber that it will be spliced to. The gender of the cable or device the pigtail will be connected to must also be correctly identified. All MTP matings are achieved by a Male to Female connection. Male MTPs have alignment pins while Female MTPs have alignment receiving holes.



Two fiber polarity methods are easily achievable when terminating the MTP pigtail. Verification of the opposite end of the Fiber cable to be spliced along with the polarity method of the entire intended channel should be verified prior to performing the pigtail splice. Note that a Method B trunk is wired differently at each end.

Using a Method A (Standard) pigtail, Method A and Method B polarities are identified by the following diagrams:

METHOD A - MTP PIGTAIL IS POSITIONED KEY UP												
Method A	FIBER 1	FIBER 2	FIBER 3	FIBER 4	FIBER 5	FIBER 6	FIBER 7	FIBER 8	FIBER 9	FIBER 10	FIBER 11	FIBER 12
TRUNK	BLUE	ORANGE	GREEN	BROWN	SLATE	WHITE	RED	BLACK	YELLOW	VIOLET	ROSE	AQUA
PIGTAIL	BLUE	ORANGE	GREEN	BROWN	SLATE	WHITE	RED	BLACK	YELLOW	VIOLET	ROSE	AQUA
METHOD B - MTP PIGTAIL IS POSITIONED KEY DOWN												
Method B	FIBER 1	FIBER 2	FIBER 3	FIBER 4	FIBER 5	FIBER 6	FIBER 7	FIBER 8	FIBER 9	FIBER 10	FIBER 11	FIBER 12
TRUNK	BLUE	ORANGE	GREEN	BROWN	SLATE	WHITE	RED	BLACK	YELLOW	VIOLET	ROSE	AQUA
PIGTAIL	AQUA	ROSE	VIOLET	YELLOW	BLACK	RED	WHITE	SLATE	BROWN	GREEN	ORANGE	BLUE



Method C requires additional steps, tools and materials and therefore is not recommended in use with ribbonized fiber.

Cleaning Facts

- The most common cause of fiber system failures is contamination
- TIA, ISO and BICSI standards state that both field and factory terminated connectors, test leads and jumpers shall be inspected and, in necessary, cleaned prior to mating to other connectors and equipment
- For more information, review the Leviton Clean, Inspect, Connect (CLIC) document at www.leviton.com/clic

Summary

MTP trunks, cassettes, array cords and pigtails provide higher density, scalable and better performing passive transport systems for today's ever adapting Enterprise and Data Center markets. An understanding of the correct product selection and termination process will provide a flexible and high performing solution when using MTP pigtails.

For more information visit: www.leviton.com

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