



Applications Engineering Notes

Document Title	US Conec Recommended MTP[®] Brand Multifiber Connector Production Equipment
Document Number	AEN-1801
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1.0 Document Purpose:

The purpose of this document is to provide US Conec recommended equipment and consumables necessary for MTP® brand multifiber connector production.

2.0 Recommended Equipment and Consumables:

US Conec Provided Equipment and Consumables		
<u>Description</u>	<u>US Conec P/N</u>	<u>Comments</u>
US Conec Optical Jacket Removal Tool	6372	Standard oval jacketed ribbon cable only
Coaxial Cable Cutter	8541	Round cable only
US Conec Fiber Ribbonizing Tool, 12 Fiber	8040	Also available in 4 & 8 fiber counts
US Conec Disposable Fiber Ribbonizing Dies	16764 (Gray) 14682 (Purple) 14316 (White) 15360 (Green)	4 fibers 8 fibers 12 fibers 16 fibers
LOCTITE® 4861 PRISM® Instant Adhesive	14375	
12-24 (ribbonized fibers or bare ribbons) Cable OD 2.0 – 3.6mm	13923 (BLACK)	Replaces MTA-013 Replaces 8182 Replaces 12795
Modified Oval MTP Cable Holder (12 fibers)	MTA-013M	Standard Jacketed Ribbon Cable Only
Modified 3.0 mm Round MTP® Cable Holder for 2x12 Fiber Duplex Round Cable	12726	3.0mm round cable with CAH ribbonized fibers only
12 loose fibers – NON- RIBBONIZED Cable OD 2.0 – 3.6mm	13668 (BLUE)	Non-ribbonized fibers ONLY (no ribbonization necessary)
24-48 (ribbonized fibers or bare ribbons) Cable OD 4.5 – 5.5mm	13591 (RED)	Replaces 12424



US Conec Provided Equipment and Consumables (continued)		
<u>Description</u>	<u>US Conec P/N</u>	<u>Comments</u>
16-32 (ribbonized fibers or ribbons) Cable OD 3.0 – 5.5mm	17147 (DARK GREEN)	Not to be used with 12 ribbonized fibers or ribbons
Thermal Fiber Ribbon Stripping Kit 2-12 Fiber Ribbons or Single Fiber Stripping	17152	Includes: Built-in battery charger 12V DC power supply 100-240V AC with adapter Cleaning brush
US Conec Fiber Cleaver	MFA-004	Standard guillotine type cleaver
US Conec Precision Fiber Cleaver	13969	Fusion splice quality cleaver
US Conec Vacuum Pump Kit:	MTA-021	Includes: DAP-12S Vacuum Pump (5683) 24" Plastic Tubing (5684) MT Suction Nozzle (400025-01) MT-RJ Suction Nozzle (400025-02) Push-on Adapter (6225)
EPO-TEK 353ND A/B Epoxy Bi-Pak	MTA-008	Single-mode and Multimode Applications
Diamond Tip Scribe	2104076-01	See Phenix Fibersect Mechanical Connector Cleaver for mass production equipment
Fiber Optic Polishing Materials: 30µm Silicon Carbide Film, 5" Disc, PSA 3µm Silicon Carbide Film, 5" Disc, Non-PSA 1µm Aluminum Oxide Flocked Film, 5" Disc, PSA 0.5µm Cerium Oxide Flocked Film, 5" Disc, PSA	MTA-030-SMC-300 8329 5413 5569	Single-mode and Multimode Applications
Inter-dental Cleaning Brush	9726	Cleans guide-pin holes after polishing is complete

US Conec Provided Equipment and Consumables (continued)		
<u>Description</u>	<u>US Conec P/N</u>	<u>Comments</u>
900um Transition Ribbon Holder	15173	
900µm MTP® Crimp Tool & Die Set	15779	Includes tool and crimp dies
900µm MTP® Crimp Dies	15621	Crimp Dies ONLY
Standard MTP® Crimp Tool & Die Set (oval cable only)	12245	Includes tool and crimp dies
Standard MTP® Crimp Dies	9883	Crimp Dies ONLY
2.0mm, 2.5mm, and 3.0 mm Round MTP® Crimp Tool & Die Set	8202	Includes tool and crimp dies
2.0mm, 2.5mm, and 3.0 mm Round MTP® Crimp Dies	8173	Crimp Dies ONLY
3.6 mm Round MTP® Crimp Tool & Die Set	12345	Includes tool and crimp dies
3.6 mm Round MTP® Crimp Dies	12208	Crimp Dies ONLY
Large O.D. (4.5mm – 5.5mm) Round MTP® Crimp Tool & Die Set	13473	Includes tool and crimp dies
Large O.D. Round MTP® Crimp Dies	13119	Crimp Dies ONLY
MTP® Universal Housing Removal Tool	17421	
MT Ferrule Insertion Guide	14910	
Optipop® Male MPO/MTP® Reel Cleaner	6226	Refillable
Optipop® Female MPO/MTP® Reel Cleaner	6227	Refillable



Outside Vendor Provided Equipment and Consumables		
<u>Description</u>	<u>Vendor</u>	<u>Vendor Part Number</u>
Kevlar Scissors	Claus Supply Co.	KC699
Jonard Kevlar and Wire Cutting Shears	Connected Fibers	JIC-186
Fiber Optic Side Cutters	Techni-Tool Company	758-PL-018
Claus WS-5 Cable Jacket Stripper	McMaster-Carr	7294K57
½” Scotch® 810 Magic™ Tape	Office Supply	N/A
LOCTITE® 4861 PRISM® Instant Adhesive	McMaster-Carr	74795A74
LOCTITE® 411 PRISM® Instant Adhesive	McMaster-Carr	74765A73
Foam Pad for Ribbonization	Sumitomo Electric Company	FAC-24-NG
Single-Edge Razor Blades	McMaster-Carr	3962A3
#2 X-ACTO® Knife	X-ACTO®	57411-1002
EPO-TEK 353ND A/B Epoxy Bi-Pak	Epoxy Technology, Inc.	353ND A/B
Fixed Speed Centrifuge	Cole Parmer	EW-17250-10 (115V) EW-83058-42 (220V)
3cc Syringes	Ellsworth Adhesives	301073
SafetyLok Syringe Cap	Nordson EFD®	7012198
25 GA PPS .014 x .50 Plastic Needle Tip 18 GA PPS .032 x .50 Plastic Needle Tip	Nordson EFD®	7018366 (5125PPS-B) 7018143 (5118PPS-B)
Kimwipes EX-L	Cole-Parmer	U-33670-00
99.8% Pure Isopropyl Alcohol	Local Area Vendor	
Inter-dental Cleaning Brush (pink, 0.4”, with cap)	TePe Oral Healthcare, Inc.	132410



Outside Vendor Provided Equipment and Consumables (continued)		
<u>Description</u>	<u>Vendor</u>	<u>Vendor Part Number</u>
Fibersect Mechanical Epoxy and Fiber Remover Eliminates manual cleaving and air polishing MT ferrules, from 4 to 72 fibers, flat or 8°	Phenix Fiber Optics	PNX-FSC
Horizontal Heat Curing Oven UL Rated 110 volt AC (includes 24-position MT ferrule tray) CE Rated 220 volt AC (includes 24-position MT ferrule tray)	Domaille Engineering, LLC	CO-6500 CO-6600
1Cure Epoxy Oven (120V) Horizontal (MT) and Vertical Curing Application	Connected Fibers, LLC	1CURE-100 1CURE-200
5” Diameter Rubber-Backed Ground Glass Polishing Plate	Domaille Engineering, LLC	PM12200
5” Diameter Rubber-Backed Float Glass Polishing Plate	Seikoh-Giken USA, Inc.	PG5X-490-00
Soft Nylon Bristle Polishing Cleaning Brush	McMaster-Carr	7092T16
Distilled or De-Ionized Water	Local Area Vendor	
Fiber Optic Polishing Materials: 30µm Silicon Carbide Film, 5” Disc, PSA 3µm Silicon Carbide Film, 5” Disc, Non-PSA 1µm Aluminum Oxide Flocked Film, 5” Disc, PSA 0.5µm Cerium Oxide Flocked Film, 5” Disc, PSA	Mipox Corporation 3M Abrasives 3M Abrasives 3M Abrasives	SC-30-F-50-3P 463X Lapping Film 298X Polishing Film 598X Polishing Film



Outside Vendor Provided Equipment and Consumables (continued)		
<u>Description</u>	<u>Vendor</u>	<u>Vendor Part Number</u>
Ultrasonic Cleaner	Cole-Parmer®	EW-08890-01 EW-08895-01
	Crest Ultrasonics	CP200HT CP230HP
Heat Shrink Tubing (2.0mm jacketed round cable only)	Local Area Vendor	ATUM 3/16” 3:1 High-Shrink Ratio, Adhesive-lined, Polyolefin Tubing
Heat Shrink Tubing (2.5mm jacketed round cable only)	Local Area Vendor	Flexible 3/16” 2:1 Shrink Ratio, Adhesive-lined, Polyolefin Tubing
Fiber Optic Polishing Equipment	Domaille Engineering, LLC	<u>Polishing Machines:</u> APM Model HDC-5200 APM Model HDC-4000 <u>Polishing Fixtures:</u> (Includes MT52017 Torque Driver and MT50219 1/16” Torque Driver Key, 1” Shank) PF-MTEZ-12 (MT Flat, 12 position) PF-MTEZ8-12 (MT 8°, 12 position) PFA-MT-EZ-12 (MT Flat, 12 position, ABRASAVE) PFA-MT-EZ8-12 (MT 8°, 12 position, ABRASAVE)
	NTT Advanced Technology Corporation	<u>Polisher & Fixtures</u> ATP3000-X01 ATP3000-AZ0003 (MT Flat cylinder type jig, 22 position) ATP3000-AZ0013 (MT 8° cylinder type jig, 22 position)



Outside Vendor Provided Equipment and Consumables (continued)		
<u>Description</u>	<u>Vendor</u>	<u>Vendor Part Number</u>
Fiber Optic Polishing Equipment (continued)	Nanometer Technologies, Inc.	<p><u>Polisher & Fixtures</u> MCP-12</p> <p>NMT150200 (MCP-12 machine only, MT Flat, 6 position)</p> <p>NMT150220 (MCP-12 machine only, MT 8°, 6 position)</p> <p><u>Polisher & Fixtures</u> MCP-24</p> <p>NMT150100 (MCP-24/APC-24 machines, MT Flat, 14 position)</p> <p>NMT150120 (MCP-24/ACP-24 machines, MT 8° 14 position)</p> <p><u>Polisher & Fixtures</u> ACP-24</p> <p>NMT150130 (ACP-24 machine only, MT Flat, 24 position)</p>



Outside Vendor Provided Equipment and Consumables (continued)		
<u>Description</u>	<u>Vendor</u>	<u>Vendor Part Number</u>
Fiber Optic Polishing Equipment (continued)	Seikoh-Giken USA, Inc.	N3LTDK Torque Limiting Wrench For MT Polishing Fixtures <u>Polisher & Fixtures:</u> SPF-550 PH55-HMT-12C (Universal MT Outer Holder, 12 position) PH55-MT-12B (MT Flat Inner Holder, 12 position) PH55-MT8A-12B (MT 8° Inner Holder, 12 position) <u>Polisher & Fixtures:</u> PH55-HMT-24B (Universal MT Outer Holder, 24 position) PH55-MT-24 (MT Flat Inner Holder, 24 position) PH55-MT8A-24 (MT 8° Inner Holder, 24 position)
Inverted Bench Top Inspection Microscope with Monitor and Tooling to Accept Polishing Fixtures	Domaille Engineering, LLC	DE8800
Bench Top Inspection Microscope with Monitor and Multifiber Ferrule and Connector Adapters	Domaille Engineering, LLC	DE2500
Digital Benchtop Microscope	Data-Pixel	D-SCOPE Series
Automated High-Density MT/MTP Connector Inspection Scope	FiberQA	FastMT Series



Outside Vendor Provided Equipment and Consumables (continued)		
<u>Description</u>	<u>Vendor</u>	<u>Vendor Part Number</u>
Automated Non-Contact Interferometer for Multifiber Connectors	Data-Pixel	DAISI-MT
	Norland Products, Inc.	ACCIS AC-3005 AIM – 20/20
Multi-channel Multimode Backreflection and Insertion Loss Test Set	JDS Uniphase	RX3 Series MAP-mIL (MM LED, IL only) MAP-mORL (Laser source, IL/BR)
	JGR Services	MBR5-24-3050-1-09FA (50µ internal fiber, 24 channel, 850nm & 1310nm sources) MLT Series (integrating sphere)
	OptoTest Corporation	OP940-MM-SW12 Series (12 channel)
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