

The widest range of
mission-critical interconnect
technologies in the world



Flexible Conduit Wire Protection Systems

Polymer-Core and Metal-Core, Electrical and
Optical Cable Housing and Protection

Polymer-Core Convoluted Tubing

An alternative to standard jacketed cables for electrical and optical wire protection

- Lightweight, durable, highly flexible enclosure for wiring systems
- A range of standard diameters and wall thicknesses
- End and transition fittings for any installation configuration
- Combined with braided shielding and jacketing, advanced polymer plastic tubing offers outstanding EMI, EMP, mechanical and environmental protection



Polymer-Core Conduit Material Types



Diameters	
Standard Sizes	3/16" to 2"
Specials and Development	.090" PEEK • 3/32" PFA • 1/8" PFA

Materials	
Helical	
PFA	260°C, long flex life
PTFE	260°C, long flex life
FEP	200°C, long flex life
ETFE	150° - 200°C, long flex life
PEEK	200°C, Halogen free, limited flex life, excellent crush resistance, lightweight
Annular	
Kynar (PVDF) – Irradiated	166°C
PVDF	150°C
Siltem, Medium Grade	200°C, 5000 cycle flex life, lightweight
Siltem, Low Temperature	150°C, long flex life, soft



Flexible Metal-Core Conduit

Sealed and screened for optimum EMC performance
in harsh wire protection applications



- Superior crush resistance, environmental / NBC protection, abrasion resistance and flexibility
- Outstanding wiring protection in harsh environments such as above-deck shipboard use, vehicular and heavy machinery as well as airborne and submarine applications and weapons systems.
- Materials include helically wound brass, nickel iron, and stainless steel



Flexible Metal-Core Conduit Materials



Brass Core	<i>200°C, superior shielding to 186Hz, crush resistance 400+ pounds, least expensive</i>
Nickel Iron	<i>1700°C, superior shielding at low H field frequencies</i>
Stainless Steel	<i>1700°C, superior environmental protection</i>
Copper Clad Ni/Fe	<i>1300°C, superior shielding with enhanced conductivity</i>

Properties of Electrical / Optical Conduit Wire Protection Systems

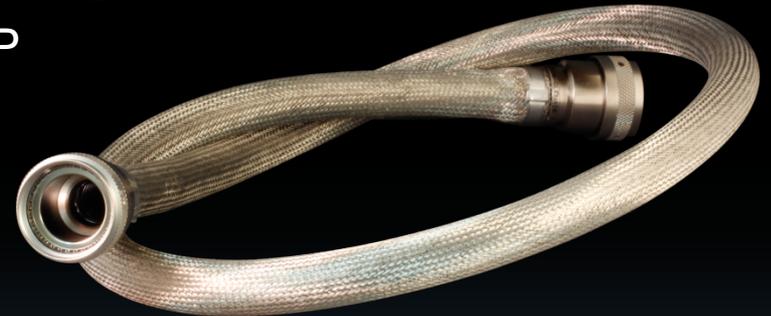


Environmental and Mechanical

- Flexibility
- High-heat resistance
- Superior abrasion, crush, and pull strength
- Environmental protection: gamma radiation, ozone, fluids, fungus, CBRN
- Non-flammable
- Low smoke and toxicity
- Halogen-free
- Repairable/expandable

Advanced EMI Protection

- Optimal EMI/RFI shielding across all frequencies: H and E fields
- TEMPEST (Transient Electromagnetic Pulse Emanation Standard)
- Lightning Strike
- EMP



Why Choose Conduit for Wire Protection:

Ease of installation and repair



1 Ease of Installation and Repair

- *Factory terminated point-to-point and multi-branch assemblies deliver exceptional value and convenience.*
- *Conduit can also be cut to length on-site and fitted with Glenair user-installable adapters and transitions.*
- *Conduit systems allow easy post-assembly access to wires for repairs, whether in the field or in the factory.*
- *For prototypes and mockups where wire routing lengths cannot be exactly determined before installation, the convenience of conduit as a wire protection solution is unmatched.*
- *Conduit systems are expandable, making it easy to add or remove wires as needed.*



Why Choose Conduit for Wire Protection:

Advanced EMI protection



2 Advanced EMI Protection

- *Metal-Core conduit provides optimal EMI/RFI shielding across all frequencies—H and E fields, TEMPEST and lightning strike.*
- *The continuously-wound and solder-sealed tubing completely encloses wire media—eliminating EMI susceptibility and emissions.*
- *Optional metallic or lightweight composite braided shielding provides an additional pathway to ground for EMI.*



Why Choose Conduit for Wire Protection:

Environmental and mechanical properties



3 Environmental and Mechanical Performance



- *Conduit is extremely flexible and offers wire routing versatility and environmental-sealing durability in repetitive flex applications*
- *Conduit delivers crush protection, abrasion protection, and high pull or tensile strength.*
- *Heat-resistant conduit materials, such as PFA, function in extreme temperatures from -95° to 500°F .*
- *High performance polymer materials are resistant to gamma radiation, ozone, fluids, fungus, and offer CBRN certification.*
- *Low smoke, zero halogen, low toxicity materials, such as PEEK, meet stringent environmental requirements.*

User Installable Wire Protection Conduit Systems



DO-IT-YOURSELF BACKSHELLS, ADAPTERS AND TRANSITIONS

Repairable and expandable on-site

- A range of fitting types, all designed for convenient user installation
- Easy to assemble and repair
- Excellent choice for topside shipboard applications
- Best for prototype systems
- For interconnect systems that require periodic expansion or maintenance



Polymer-Core Materials: Series 72

Annular, economical, mid-range performance



Quick and easy installation

- Economical, Lightweight and Flexible
- Easy-to-install fittings
- Thermally-stabilized Kynar® and PVDF materials available
- Braid options for superior EMI protection
- Used in air, rail and transit applications



User-Installable Fittings for Series 72



SERIES 72 ANNULAR POLYMER CORE

Two fitting design types are available for user termination and assembly of Series 72 annular thermoplastic tubing systems



Robust, Easy-to-Assemble Sentry System

Sentry System fittings feature a Kynar® bushing and compression nut assembly design for robust, easy-to-assemble wire protection. Two fitting styles are available: one with an integral banding porch for applications where EMI termination is required, and a lightweight, compact design for weight- and space-saving environmental protection.

Easy-to-Install Guardian System

The Guardian System is Glenair's easy-to-install, economical general-purpose wire protection solution. The heart of the Guardian system is its unique retaining clip assembly system, offering high speed assembly without the need for special tools. Environmental O-rings provide splash-proof environmental sealing, and all Guardian adapters feature shrink boot grooves for enhanced environmental sealing and strain relief. Guardian connector backshells are equipped with banding platforms for easy EMI shield termination.



Polymer-Core Materials: Series 74

Helical, High-Temperature, High-Performance



Lightweight, durable and flexible

- *Lightweight*
- *Teflon materials*
- *Long flex life*
- *Low-Smoke, Zero Halogen PEEK material available*
- *Braid options for superior EMI protection*
- *Harsh chemical environment resistant*
- *Used in landing gear and aerospace applications*



User-Installable Fittings for Series 74



SERIES 74 HELICAL POLYMER CORE

Five fitting design types are available for user termination and assembly of Series 74 convoluted thermoplastic tubing systems



Hat Trick: Compact, Versatile "3-in-1" Design

Glenair's unique and versatile "Hat Trick" Conduit system fittings provide three key functions—Conduit attachment, shield termination and boot attachment—in one easy-to-use Compact fitting. These do-it-yourself fittings are equipped with a threaded inner shell, banding porch and shrink boot groove as well as a self-locking Coupling nut. Helical Series 74 Convoluted tubing threads directly into the shell cavity for easy attachment without restricting the Conduit's inner diameter. Available in Composite plastic and aluminum versions. Banding is fast, easy and reliable with Glenair Band-Master™ ATS bands. Add a shrink boot for environmental sealing rated to IP66.



AeroLite: Weight Saving Composite with Braid Slot for Shield Termination

Developed for weight savings in airframe applications, the JSF system features lightweight and Corrosion resistant Composite fittings. Each fitting has a braid slot for convenient shield termination, plus a self-locking anti-decoupling feature. JSF is the best Choice for EMI shielding, Corrosion resistance, vibration protection and weight savings.



User-Installable Fittings for Series 74

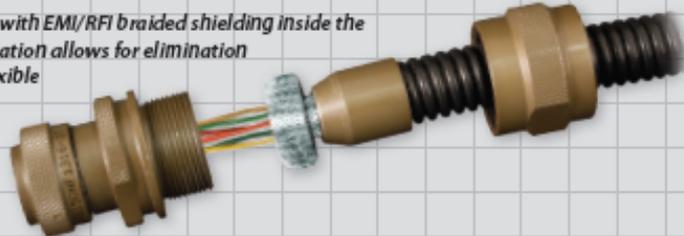


SERIES 74 HELICAL POLYMER CORE

Five fitting design types are available for user termination and assembly of Series 74 convoluted thermoplastic tubing systems

The Harsh-Environment Internal Braid Solution

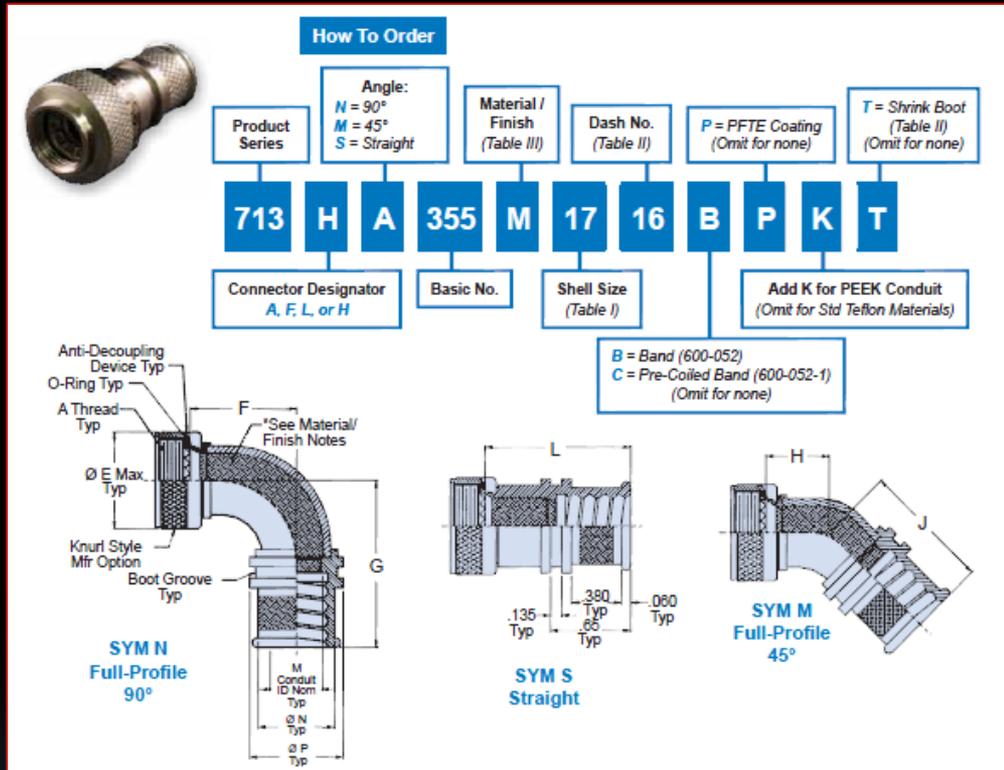
These special-purpose, do-it-yourself fittings are fabricated with EMI/RFI braided shielding inside the chemical- and UV-resistant convoluted tubing. This configuration allows for elimination of outer jacketing materials, providing a lightweight and flexible conduit that resists fuels, oils, solvents, and other harsh chemicals. Use with epoxy adhesive lined elastomer shrink boots for environmental sealing. Internal braid fittings provide easy termination of single or double layers of shielding.



Heavy-Duty Environmental System

These bump seal equipped heavy duty EMI/RFI Conduit backshells, fittings and adapters are ideally suited for conventional conduit wire protection applications such as aircraft undercarriage and wheel-well wire routing. These heavy duty user installable fittings are designed for use with shielded conduit and feature easy-to-assemble ground ring shield termination. The heavy duty series includes its own family of Y and T transition fittings, in stock for immediate same-day shipment.

Hat Trick System Conduit

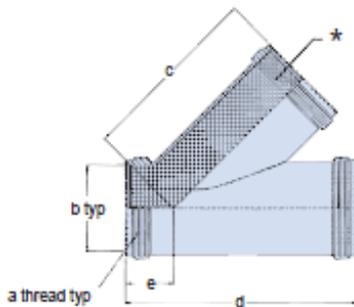
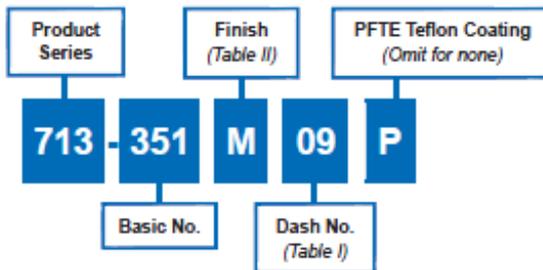


Transitions for Self-Locking Coupling Nuts

Y transition with self-locking feature for ease of assembly and repair for multi-legged conduit assemblies. Use H code conduit fittings to interface.



How To Order



Sym	Material	Finish Description
M	Aluminum	Electroless Nickel
MT		Nickel-PTFE
NF		Cad/Olive Drab over Electroless Nickel
ZN		Zinc Nickel/Olive Drab over Electroless Nickel
ZNU		Zinc Nickel/Black over Electroless Nickel
Z1	Stainless Steel	Passivate

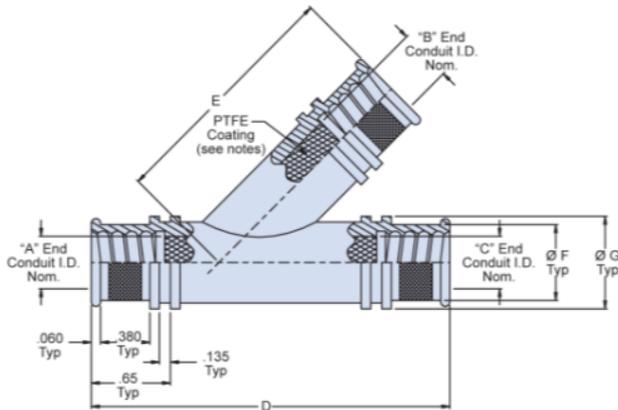
Direct-Attach Transitions

Hat Trick Y transition with banding platform and boot groove for direct attachment of Series 74 conduit



How To Order

Product Series	Material/ Finish (Table II)	"B" End Conduit Dash No.	B = Band (600-052) C = Pre-coiled band (600-052-1) Omit for none	K = PEEK Conduit (Omit for std Teflon)
713	M	A24	C16	K
Basic No.		"A" End Conduit Dash No.	"C" End Conduit Dash No.	T = Shrink Boot (Table III) (Omit for none)
			P = PFTE Teflon Coating (Omit for none)	
				T



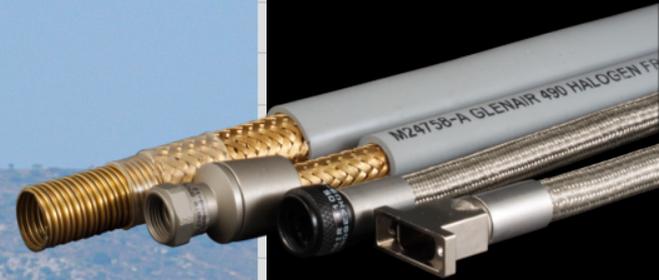
Metal-Core Materials: Series 75

Crush Proof, Sealed, Optimal EMC



Crush-proof EMI protection

- *Continuous solder seal for optimum EMI/EMP protection*
- *Superior crush resistance*
- *Metallic braid provides tensile (pull) strength*
- *Used in tanks, ships, heavy machinery, airframes and submarines*



User-Installable Fittings for Series 75



SERIES 75 FLEXIBLE METAL CORE

Three fitting design types are available for user termination and assembly of Series 75 metal-core conduit systems



RP Plus: Lightweight, Compact, with Secure EMI Termination with Self-Locking Coupling Nut

Glenair's lightest, most compact fitting design for metal-core conduit is based on the Navy RP2000 fitting series and utilizes integrated split ring inserts for seCure EMI shield termination, with or without jacketing on the conduit. RP Plus fittings are interchangeable with selected 24758 Mil-spec end-fittings, and can be ordered with optional shrink boots for environmental sealing when terminating conduit with an outer jacket.

User-Installable Fittings for Series 75



SERIES 75 FLEXIBLE METAL CORE

Three fitting design types are available for user termination and assembly of Series 75 metal-core conduit systems

Heavy-Duty Environmental System: Metal

Glennair is a full-spectrum supplier of qualified MIL-PRF-24758 fittings. We bring the same rugged reliability and heavy duty performance to all of our MIL-PRF-24758 style Commercial fittings. These topside, durable fittings feature individual termination of conduit, braiding and jacketing layers for maximum EMI performance and environmental sealing.



User-Installable Fittings for Series 75



SERIES 75 FLEXIBLE METAL CORE

Three fitting design types are available for user termination and assembly of Series 75 metal-core conduit systems



Heavy-Duty Environmental System: Composite

The same reliable, ruggedized performance of our M24758 QPL products in a unique hybrid configuration: Heavy-duty metal connectors with lightweight, corrosion resistant composite "Haze Gray" fittings provide a durable weight saving solution.

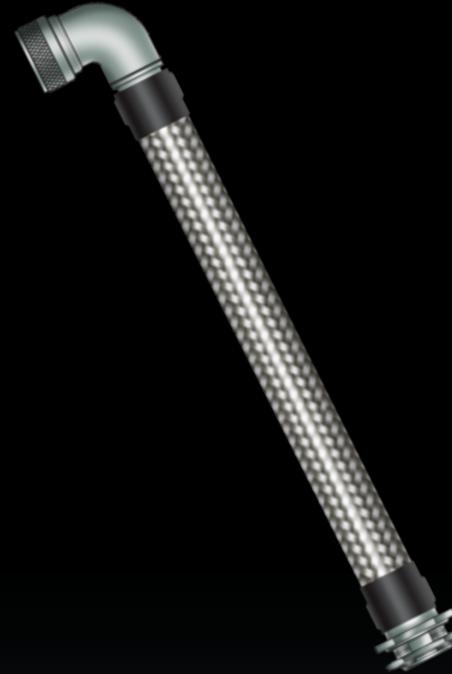
Factory Terminated Wire Protection Conduit Systems



FACTORY TERMINATED CONDUIT AND CONVOLUTED TUBING ASSEMBLIES

**Labor-saving,
tamper-proof and
lightweight**

- *Glenair can design, build, terminate—and even pre-wire—turnkey conduit wire routing solutions.*
- *Save space, weight, assembly time and labor cost.*

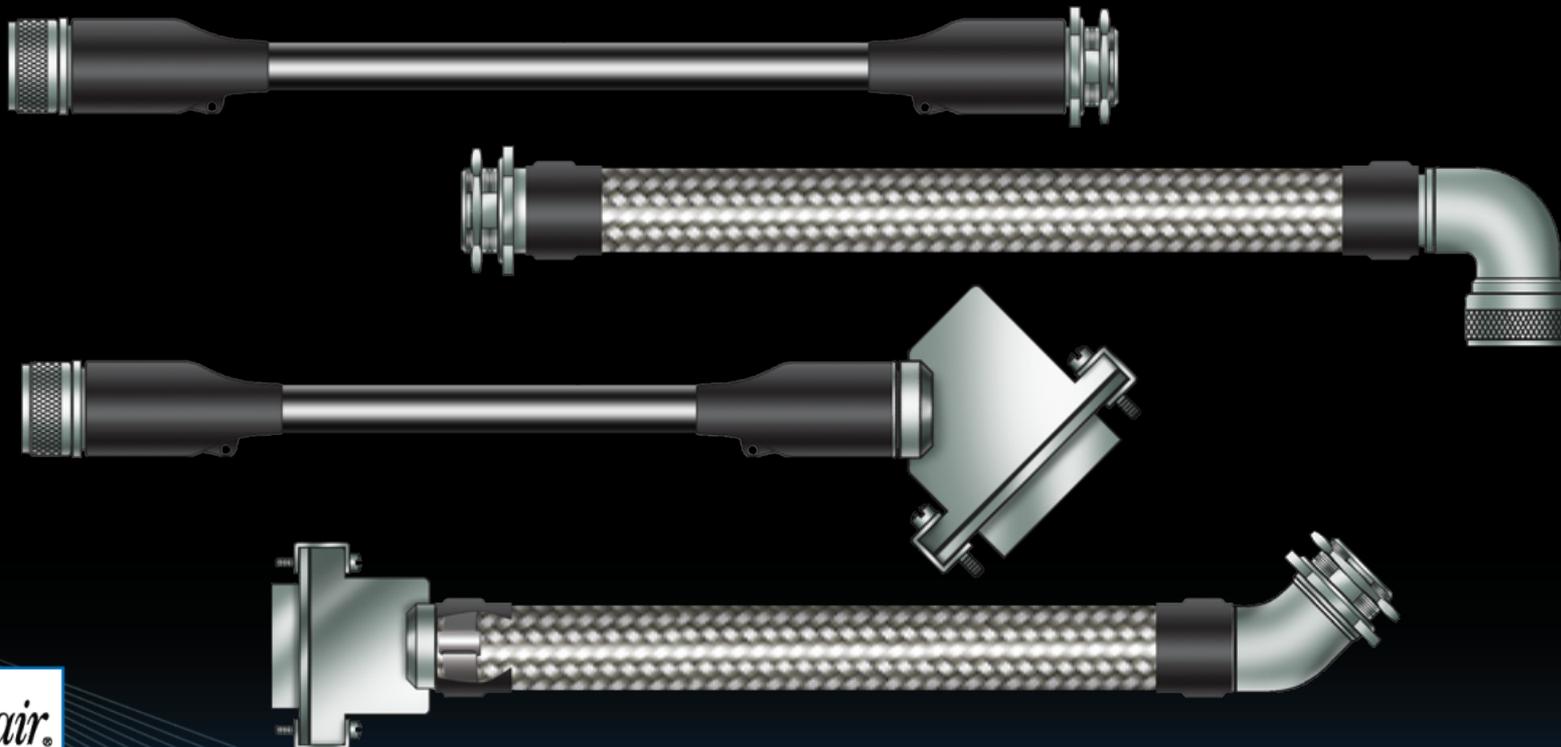


Factory Built Conduit Assemblies



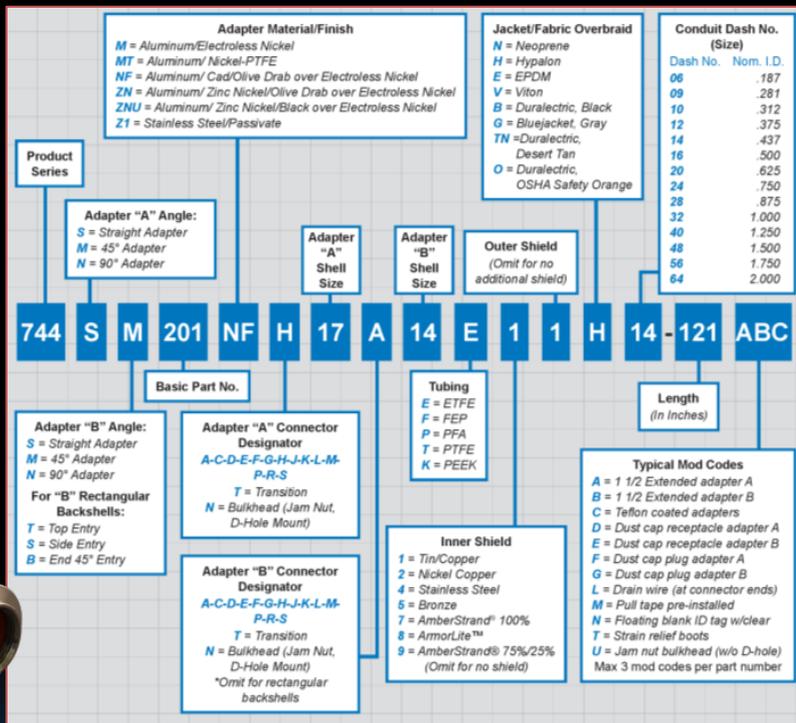
- Better performance vs. ALL user-installable system.
CALIBRATED TOOLING
CERTIFIED ASSEMBLERS
- Wide range of capabilities:
 - Simple point to point catalog assemblies.
 - Complex customer specified designs.
 - Build to print harnesses.
- New part number format for easy selection TO BUILD YOUR OWN PART NUMBER
- Fast turn around on quotes for custom conduit assemblies

Factory Terminated Polymer-Core Conduit Assemblies



Polymer-Core Conduit Assemblies

How-to-Order Factory Terminated Systems



In-House Conduit Tubing Manufacturing Capabilities

- Comprehensive conduit fabrication
 - metal-core and convoluted hi-temp plastic
- Tube bending
- Conduit hole drilling
- Automated Crush wire application
- Teflon internal coating
- EMI shield and fabric overbraiding



In-House Component Part Manufacturing Capabilities



- Machining/Fabrication
- Certified welding
- Metal stamping (Brackets)
- Plating
- Die casting
- Composite extrusion and molding
- Cable jacket overmolding



Conduit Engineering / Manufacturing Capabilities



- Catia software equipped and trained
- Experienced engineering and application support staff
- Turnkey conduit system assembly design and fabrication
- Wired and tested assemblies



Wiring Assembly Area



The widest range of
mission-critical interconnect
technologies in the world



Flexible Conduit Wire Protection Systems

Polymer-Core and Metal-Core, Electrical and
Optical Cable Housing and Protection