

### **Comprehensive Solutions for High-Performance Interconnects**

- Wire and Cable
- Connectors and Backshells
- Harnessing Components and Devices
  - ... and Everything In Between





### RANGE, QUALITY, EXPERTISE

Widest Range of Products for a Wide Range of Harnesses. No matter what application hazards your harnesses face, you will find a comprehensive family of products to build a better harness with TE Connectivity. We offer a complete line for many application needs: connectors and cable, heat-shrinkable tubing and molded parts, backshells, and identification and labeling products. Equally important is the complete range of materials and performance to meet applications environments from the benign to the most severe.

#### Harness Better Technology, Better Expertise.

Expertise in material sciences keeps us at the forefront of advanced harnessing capabilities. Not only did TE's Raychem business pioneer crosslinking and invent heat-shrinkable tubing, we have continually innovated the technology, evolving it into new materials, new applications, and new levels of performance and quality. Our expertise in thin-wall wire and cable give you a rugged product that saves space and weight while performing in the most demanding environments. Or take our molded parts, which yield uniform, consistent heat-shrinking on backshells and cable transitions.

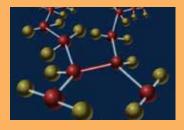
**Investing in Your Success.** Every connection counts. And every harness needs to be reliable, built to the demanding needs of aerospace, defense, and marine applications. We continue to innovate to boost performance, help companies meet SWaP (size, weight, and power) goals, and offer the most complete harness solution available.

As a leader in interconnect technology worldwide, we can offer you global account management, sourcing in every region, and local support. Our network of stocking distributors makes it easy to obtain products.

Save time and money by involving us early in your projects. We can work with you to engineer the best solution, create custom parts for special needs, and offer a comprehensive solution for any need.













#### **Material Science**

Expertise in crosslinked polymer chemistry allows TE to create unique formulations that go beyond off-the-shelf polymers to provide exceptional performance in heat-shrinkable tubing, molded parts, and wire insulation and jackets.

Crosslinking and specialized chemical formulations combine to provide demanding markets with reliable high-temperature and fluid-resistant products.

#### **Global Presence**

TE's strength in engineering, design, manufacturing, and service extends to every major region of the world. Working side-by-side to create innovative and efficient ways to solve their connectivity challenges, we are committed to providing products and services that have a proven track record.

#### **Total Support**

Count on TE for expert support from concept through production.

#### One Source

For complete harnessing solutions, with a broad array of products to services and support, rely on TE Connectivity on your next project.

## A SYSTEM-LEVEL APPROACH TO HARNESSING

Bringing extensive experience in commercial and military aerospace, marine, ground defense, and space, we have a deep understanding of the environmental, mechanical, and electrical requirements that separate one application from another. As a result, we have created system solutions with matched performance characteristics to satisfy different harnessing needs.

**Reliability** is critical, of course. With harnessing components of the highest quality and matched performance, reliability is at the core of what we do.

**EMC** is achievable with our wide range of shielded cables, connectors, backshells, and shield termination devices. The wide choice of options means you can maintain signal integrity in the most challenging electromagnetic environments.

**Abrasion Resistant** components keep cables reliable in severe mechanical environments. From TE's tough thin-wall cable to our tubing and molded parts, you can construct mechanically rugged harnesses. We also offer braided sleeving for extra protection.

**Fluid Resistance.** We have systems for a wide range of fluid environments, from oils to fuels to nearly every solvent and chemical. We even offer systems that meet requirements for decontamination from nuclear, biological, and chemical agent exposure.

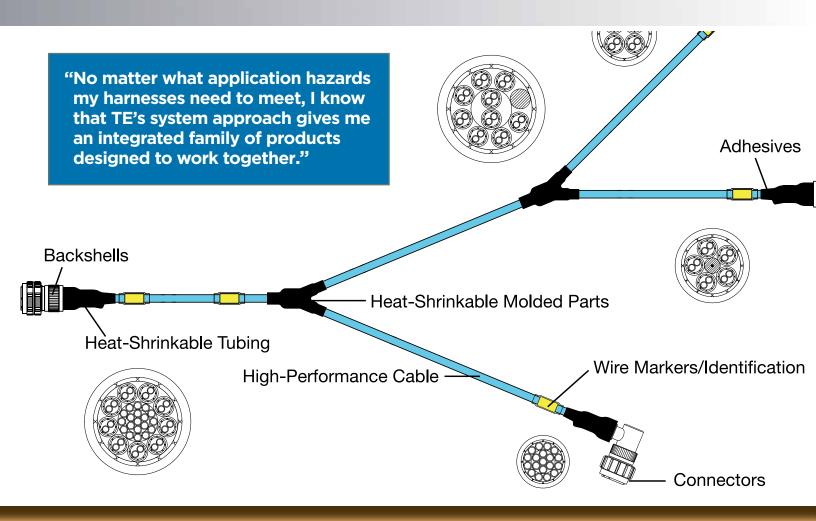
**Temperature Extremes.** Maintain performance at temperatures as low as -65°C and as high as 200°C.

**Space and Weight.** TE's thin-wall insulation and composite materials can offer significant space and weight saving critical in aerospace, marine, and similar applications.

**Safety.** With TE harnessing solutions, you can find flame-retarded, flame-resistant, and low-smoke zero-halogen (LSZH) solutions to protect personnel in such restricted areas as aircraft or naval vessels.

**Repairability.** We give you more options in maintaining and repairing wiring harnesses in the field or depot. From roll-back capabilities on molded parts to allow access to the rear of connector to cold-applied splices, tapes, and heat-shrinkable wraps, we make harness care easy.













#### **Molded Parts**

Molded parts meet the needs of sealing and protection. Our molded parts can be used for backshell strain relief, for cable transitions and breakouts, and similar applications. Available in a wide range of materials, they provide mechanical and environmental ruggedness.

#### **Backshells**

Whether you need to provide strain relief, sealing, or grounding of a shield in a challenging EMI environment, we offer many choices in backshells to provide long-term reliability and effective EMC.

Reduce inventory with the new Raychem line of spin lock variableangle backshells

#### **High-Speed Interconnects**

High-speed cable and connectors support gigabit data rates, from Quadrax for GbE to our CeeLok FAS-T family of compact, rugged circular connectors for 10 GbE.

Visit www.TheFutureUnleashed.com

#### **Data Communications**

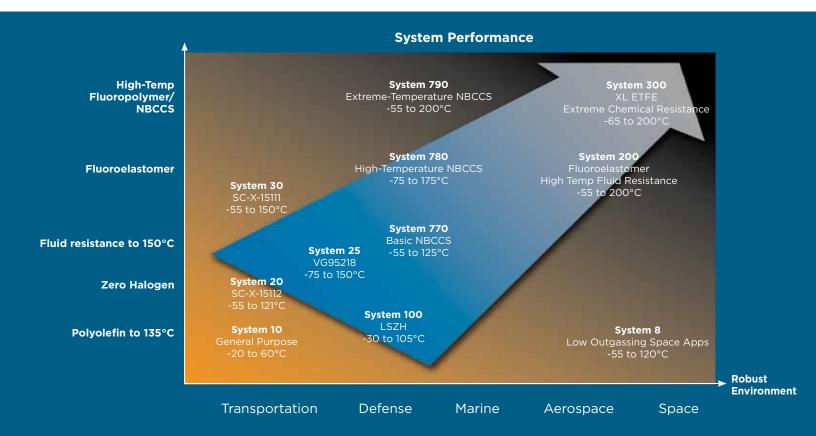
TE offers a complete line of MIL-STD-1553B couplers, connectors, terminators, and cables to meet the most stringent military data bus requirements. TE also offers fully tested custom harness assemblies using our extensive high-speed Interconnect components.

Learn More . . . System Overview, Next Page

### SOLUTIONS FOR EVERY NEED

Typical Applications	Temperature Range	Flammability	Fluid Resistance	Tubing	Molded Parts/ Transition Materials
Space Low outgassing	-55°C to 120°C			RT-218, RT-220	-8
General purpose	-20°C to 60°C	Flame retarded	Good for fuels, oils, and greases	RNF-100, VERSAFIT	-3, -3S, -4, -71
Ground vehicles SC-X-15112	-55°C to 121°C	Flame retarded	Excellent for fuels, oils, and greases	NTFR, NT-MIL	-51
Ground Vehicles VG 95218	-75°C to 150°C	Flame resistant Self-extinguishing	Most common military fuels, oils, and greases up to 70°C	DR-25, TW-DR-25	-25
Ground vehicles SC-X-15111	-55°C to 150°C	Flame resistant Self-extinguishing	Most common military fuels, oils, and greases up to 100°C	VPB	-50
LSZH VG 95218 Low Smoke Zero Halogen	-30°C to 105°C	Highly flame retarded Low smoke	Good for fuels, oils, and greases	ZH-100, ZHTM, XFFR	-100
Aerospace Fluoroelastomer	-55°C to 200°C	Flame retarded	Excellent chemical resistance	RW-200	-12
Commercial aerospace XL-ETFE	-65°C to 200°C	Flame retarded	Highly fluid resistant	RT-555	-55
NBCCS	-55°C to 125°C	Flame retarded	Excellent resistance to chemical warfare agents and decontamination fluids	RT-770	-770
NBCCS High temperature	-55°C to 175°C	Flame retarded	Highly fluid resistant	RT-780	-780
NBCCS Extreme temperature	-55°C to 200°C	Flame retarded	Highly fluid resistant	RT-790	-790
	Space Low outgassing  General purpose  Ground vehicles SC-X-15112  Ground Vehicles VG 95218  Ground vehicles SC-X-15111  LSZH VG 95218 Low Smoke Zero Halogen Aerospace Fluoroelastomer  Commercial aerospace XL-ETFE  NBCCS  NBCCS High temperature NBCCS	Space Low outgassing         -55°C to 120°C           General purpose         -20°C to 60°C           Ground vehicles SC-X-15112         -55°C to 121°C           Ground Vehicles VG 95218         -75°C to 150°C           Ground vehicles SC-X-15111         -55°C to 150°C           LSZH VG 95218 Low Smoke Zero Halogen         -30°C to 105°C           Aerospace Fluoroelastomer         -55°C to 200°C           Commercial aerospace XL-ETFE         -65°C to 200°C           NBCCS         -55°C to 175°C           NBCCS High temperature         -55°C to 175°C	Space Low outgassing  General purpose  -20°C to 60°C  Flame retarded  Ground vehicles SC-X-15112  Ground Vehicles VG 95218  Ground vehicles SC-X-15111  Ground vehicles VG 95218  Ground vehicles SC-X-15111  Ground vehicles SC-X-15111  Ground vehicles SC-X-15111  Flame resistant Self-extinguishing  Flame resistant Self-extinguishing  Highly flame retarded Low smoke  Aerospace Fluoroelastomer  Commercial aerospace XL-ETFE  NBCCS  NBCCS  Flame retarded  Flame retarded	Space Low outgassing  General purpose  -20°C to 60°C  Flame retarded  Good for fuels, oils, and greases  Ground vehicles SC-X-15112  Ground Vehicles VG 95218  Ground vehicles SC-X-15111  Flame resistant Self-extinguishing Self-extinguishing Flame retarded  Ground vehicles SC-X-15111  Flame resistant Self-extinguishing Self-extinguishing Self-extinguishing Flame resistant Self-extinguishing Self-extinguishing Self-extinguishing Flame retarded Fluor common military fuels, oils, and greases up to 70°C  Flame resistant Self-extinguishing Self-extinguishing Self-extinguishing Self-extinguishing Flame retarded Fluor common military fuels, oils, and greases up to 100°C  Flame retarded Fluor fuels, oils, and greases Good for fuels, oils, and greases Fluor fuels, oils, and	Space Low outgassing  -55°C to 120°C  General purpose  -20°C to 60°C  Flame retarded  Good for fuels, oils, and greases SC-X-15112  Ground vehicles SC-X-15112  -55°C to 121°C  Flame retarded  Ground vehicles SC-X-15112  Flame resistant Self-extinguishing Ground vehicles SC-X-15111  Flame resistant Self-extinguishing oils, and greases up to 70°C  Flame resistant Self-extinguishing oils, and greases up to 100°C  Flame retarded Good for fuels, oils, and greases SC-X-W-DR-25  VPB  VG 95218 Low Smoke Zero Halogen Aerospace Fluoroelastomer  Aerospace Fluoroelastomer  Aerospace Fluoroelastomer  Fluoroelastomer

Common components for all systems: Shielded adapters: CRES-Lock or Tinel-Lock adapters Unshielded adapters: Spin lock or solid adapters Coaxial cable: Cheminax cable



Engineeredcomponentsystemsof varietyofmarkets. From commercial matched performance is the key application stohigh-enddemands in to simplifying product choice for a these rospace industry, TE has a variety

ofmaterialsystemsdesignedtosurvive thetemperatureandenvironment required by the various markets.

# "No other supplier gives me the comprehensive range TE offers. And none give the same level of outstanding support."

Adhesive	Wire	Jacket Material	Marker Sleeves	SolderSleeve/ SolderShield Devices	Crimp/Solder Devices	System
S1009	SPEC 55			D-110, D-1744, D-436, SO63, SO96, S0175, S200, D-150	D-200	System 8
S1030	SPEC 44	THERMORAD THERMORAD O, F	RPS, CM-SCE, TMS-SCE, WM-SCE	ST63, SO63, B-070-19, B-051, D-181, B-040	MiniSeal, DuraSeal, CWT-38XX, D-110	System 10
S1124	SPEC 44	THERMORAD NT, NTFR, O	RPS, CM-SCE, TMS-SCE, WM-SCE	SO63, B-070-19, B-053, B-051, D-181-B-040	MiniSeal, DuraSeal, D-110	System 20
S1125	SPEC 44	FDR-25	HT-SCE, HTCM-SCE	ST63, SO63, B-070-19, D-106, B-053, B-02X/B-04X	MiniSeal, DuraSeal, D-110	System 25
S1125	SPEC 55	THERMORAD K Modified PVDF	HT-SCE, HTCM-SCE	SO63, B-070-19, B-106, B-053, D-181-B-040	MiniSeal, DuraSeal, D-110	System 30
S1030, S1048	Type 99, 100A, 100G	ZEROHAL	HX-SCE, HLX	B-150, B-070-19, B-053, D-105, B-181	MiniSeal, DuraSeal, CWT-38XX	System 100
S1255-04	SPEC 55	Fluoroelastomer THERMORAD HTF	HT-SCE, HTCM-SCE	S200, B-023, S200	W096, D-200	System 200
S1255-04	SPEC 55	THERMORAD HT Modified ETFE	HT-SCE, HTCM-SCE	S200, B-023, S200	W096, D-200	System 300
S1264	SPEC 44	THERMORAD 770	TMS-SCE, CM-SCE, WM-SCE	SO63, B-070-19, D-106, B-053, D-181, B-040	MiniSeal, DuraSeal, D-110	System 770
S1255-04	SPEC 55	THERMORAD 780	NBC-SCE	SO175 ,SO96, B-023	WO96, MiniSeal	System 780
S1255-04	SPEC 55	THERMORAD 790	NBC-SCE	S200, B-023	WO96, MiniSeal	System 790









#### **Interconnect Devices**

For fast, easy, and reliable shield-to-ground terminations and high-performance splicing, we offer a range of splice kits, solder sleeves, and other high-performance devices.

#### **Repair Products**

Our line of products for maintaining and repairing harnesses includes heatshrinkable tapes, wraps, sleeves, and tubing; sealed splices and terminals; cold-applied splices; sealing bushings; and toolless connectors.

#### **Harness Design Software**

TE's HarnWare software provides you with a comprehensive solution to harness design—from component selection and layout to assembly drawings and bills of material.

Visit www.harnware.com

#### **Tooling**

We have the tooling to make each step of harness making productive, easy, and efficient. Whether you need hand tools for lower production volumes or semiautomatic machines for higher volumes, our tooling means reliable, high-quality harnesses.



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