

EXPANDABLE SLEEVING PRODUCTS

For the Protection of Wire Harnesses Hoses and Cables

**Providing the Highest Quality Products
for Technical and Industrial Use**



Grand Junction, CO, USA

970-241-8780

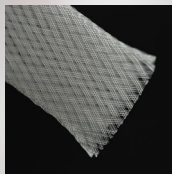


Expandable Sleeving and Multifilament Products

Our Products Cover The World

Western Filament's Expandable Sleeving is a lightweight, flexible, and self-fitting material designed to protect wires, cables, hoses, and ribbon assemblies. It adapts to irregular surfaces and enhances abrasion resistance, preventing cuts, impacts, and snagging.

WIRE HARNESS, HOSE, AND CABLE PROTECTION



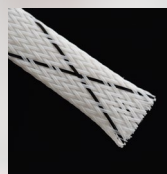
**Expand-A-Flex
Polyester (Type P)
PT/PT**



**Nomex®
Nomex®**



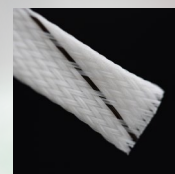
**Expand-A-Flex
Tight Weave
(Type TW) PT/TW**



**Expand-A-Flex:
Flame Retardant CT
FR/FR**



**Expand-A-Flex
Flame Retardant
light Weave
FR/TW**

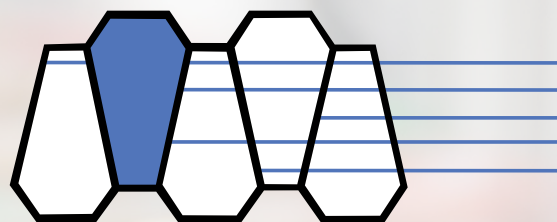


**Expand-A-Flex
Halar®
(Type H) HR/HR**

Operating Temperature	-70C/+125C	350C	+125C	+125C	+125C	+150C
Nominal I.D. (Inches)	1/8" - 2 1/2"	1/8" - 1 1/4"	1/8"-2 1/2"	1/8"-2 1/2"	1/8"-2 1/2"	1/8"-2"
Size Range (Inches) Millimeters	3/32" - 4"	1/8" - 1 1/4"	3/32" - 3"	3/32" - 4"	3/32" - 3"	3/32" - 3"
Common Specifications	BMS 13-52 Rev. L	WFI Specification	BMS 13-52 Rev. L	BMS 13-52 Rev. L 85TB7002 Rev. - C8844 Rev. E	WFI Specification	BMS 13-52 Rev. L 85TB7002 Rev. C8844 Rev. E
UL Listing	UL1441	NA	NA	VW1 UL1441	VW1 UL1441	VW1 UL1441
CSA Certified	Standard C22-2 Class 5836-01	NA	NA	Standard C22- Class 5836-0	Standard C22- Class 5836-01	Standard C22- Class 5836-01
Fire Retardant	NO	YES	NO	YES	YES	YES
Abrasion Resistance	GOOD	EXCELLENT	EXCELLENT	GOOD	EXCELLENT	EXCELLENT
Fluid Resistance	GOOD	EXCELLENT	GOOD	GOOD	GOOD	GOOD
Color	Black, Natural, Colors	Camouflage, Natural, and Sage Green	Black, Natural, Colors	Black, Natural w/ Cross Tracer	Black, Natural w/ Cross Tracer	Black, Natural w/ Tracer
Material	Polyester Monofilament .010"	Nomex® Synthetic Polyamide	Polyester Monofilament .010"	Polyester Monofilament .009" or .010"	Polyester Monofilament .009" or .010"	Halar® Monofilament .011
Content Application	The most cost effective and widely used material. Good chemical and abrasion resistance. Many general manufacturing, automotive, telecommunication, industrial and electronic uses.	High strength, solvent and abrasion resistance. Works well at elevated temperatures. Ideal for aerospace and aviation applications.	Density and coverage considerably increased, but at the expense of expandability. Recommend use where snag resistance, coverage, and protection are crucial.	Self extinguishing, with chemical and abrasion resistance. Aviation, automotive, and space applications	The same qualities of polyester tight weave with the added increase in density and coverage. Recommend use where self extinguishing snag resistance coverage and protection are critical.	Excellent chemical and abrasion resistance, withstands use with harsh chemicals, higher temperatures and more difficult mechanical environments. Aviation, automotive, space and telecommunication applications.

Nomex® Dupont, Kevlar® Dupont, Teflon® Dupont, Nextel®, Ryton™, PEEK®, Halar®
are registered trademarks.

Founded in 1938, Western Filament manufactures from its Colorado facility and is the world's lowest-cost producer of expandable sleeving. We offer 12 stocked materials, including polyester, Kevlar, Nomex, and Teflon, as well as custom options—delivering top-quality products on time and within budget.



western filament®
Since 1938

Contact us today for orders or technical support. For quality, reliability, and competitive pricing, choose Western Filament.



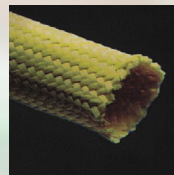
**Expand-A-Flex
PEEK® HTP-250
(Type PK)
PEEK® /HTP-250**



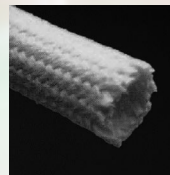
**Ryton™
(Type PPS)
PPS**



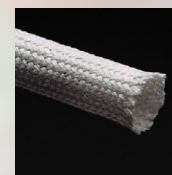
**Teflon® Fluoro-Flex
500 (Type TF)
Teflon® PFA**



**Expand-A-Flex
Fiberglass**



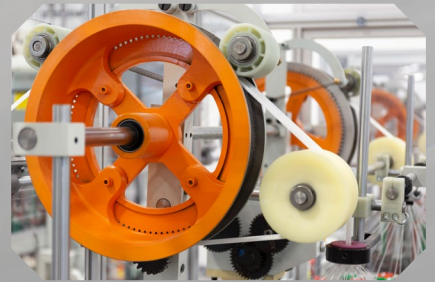
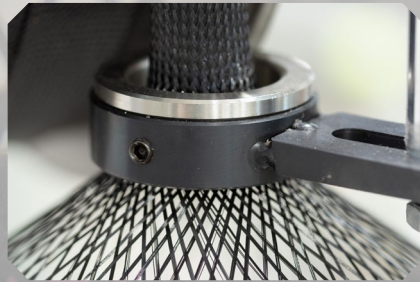
**Kevlar®
Kevlar®**



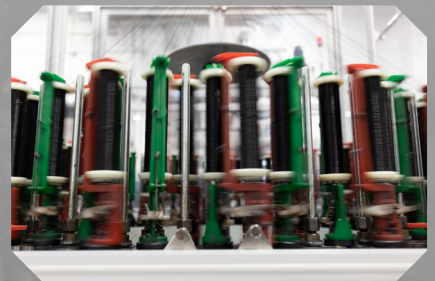
**Ceramic
(Nextel®)
Ceramic**

- 70C/250C	125C	- 70C/250C	1100F	250C	1204C
1/8"-2 1/4"	1/8"-1 3/4"	1/8"-1 1/4"	1/8"-2 1/2"	1/8"-1"	1/8"-3"
3/32" - 3"	3/32" - 2 1/2"	1/16" - 1 1/2"	1/32" - 3 1/2"	1"	1/8"-3"
WFI Specification	BMS13-52 Rev. L WFI internal	BMS13-52 Rev. L	WFI Specification	WFI Specification	MBO 135-006 Rev. V HBMS-56-014-01 Rev. B
NA	NA	NA	NA	NA	NA
NA	NA	NA	NA	NA	NA
YES	YES	YES	YES	YES	YES
EXCELLENT	GOOD	EXCELLENT	GOOD	EXCELLENT	EXCELLENT
EXCELLENT	GOOD	EXCELLENT	GOOD	EXCELLENT	EXCELLENT
Black, or Tan w/ Cross Tracer	Black, or Tan	Clear	White	Natural (Yellow) (Can be dyed)	White
Flame Retardant Polyetheretherketone .010"	Ryton™ Monofilament .008"	Teflon™ Monofilament .016"	Fiber Forming Glass (Fiberglass)	Kevlar® High Temp Resistant Aramid Fiber	Nextel 312 Ceramic
Lightweight replacement for Teflon sleeving. Self extinguishing and low out gassing, which makes it a perfect choice for critical aviation, space and industrial applications.	Exceptional chemical and temperature resistance. Ideal for uses in automotive, industrial, aviation and space, to protect hoses, wire bundles and cable assemblies.	Excellent abrasion and fluid resistance. Ideal for uses in aeronautical, space, electronic, industrial, marine and automotive applications	Excellent temperature and solvent resistance. Inert to gasoline and alcohol. Lower cost, heat resistant product for automotive, electrical and aviation applications.	High strength, temperature resistance and excellent solvent resistance. Minimum expansion makes for a tight, form fitting cover. Ideal for aerospace, aviation, and automotive hose applications.	Excellent temperature, abrasion, and fluid resistance. Ideal for aerospace, automotive, aviation, and electrical applications.

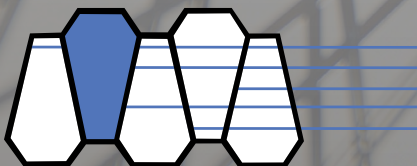
Quality Since 1938



New products and processes are major ingredients of Western Filament's leadership in the industry. Proprietary processes for applying the latest chemical and textile technology are under constant development in the laboratory and throughout the plant. In addition to Expandable Sleeving, Western Filament manufactures a complete line of wire harnessing systems.



Western Filament's manufacturing facilities include more than 2,500 braiders ranging in size from 3 carriers to 120 carriers. In addition, the same location provides all twisting, dyeing and coating production. Skilled technicians offer a full range of expertise in all areas of textile and coating technology. Statistical process control used in all manufacturing operations.



western filament®

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Grand Junction, CO 81505
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