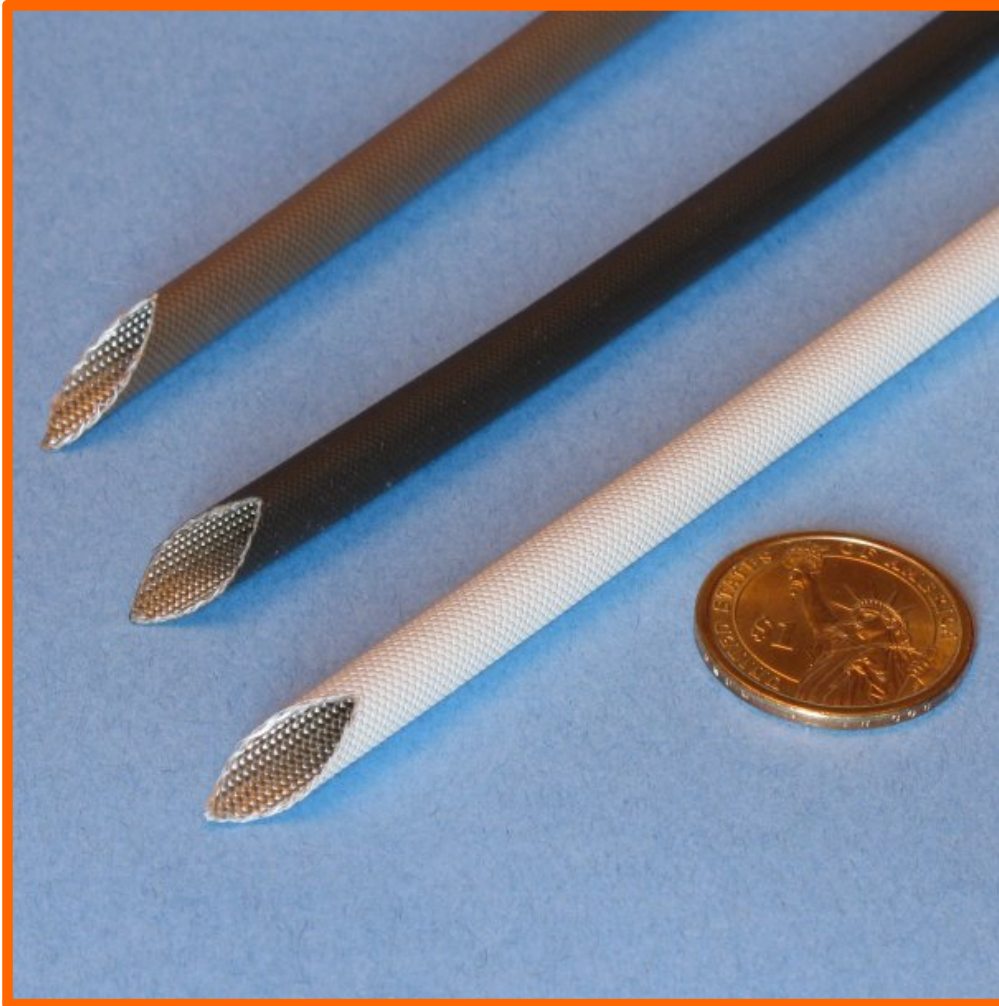


**Viton<sup>®</sup> 231 Coated Fiberglass Sleeve: AWG Wire Sized**  
**High Temperature, Heat & Flame Resistant**  
**428°F / 220°C: Continuous Rating – Higher Temperature for Shorter Periods**  
**Cut, Puncture & Abrasion / Wear Resistance**

**Available meeting NEMA Grade A-1, B-1 & C-1**



FlameShield™ Tuff-Flex™ Viton<sup>®</sup> coated sleeve is designed as a primary insulation sleeve for protecting small diameter wire, cable, lines, hose, and pipe from high temperature, flame and environmental contamination. Recognized by UL / CSA for 220°C, 7000V service, and complies with VW-1 flammability requirements. Conforms to, and is listed on the QPL for MIL-I-3190/9. Available in 3 grades: NEMA Grade A-1, B-1 and C-1.

Extremely flexible and easily installed. Used in electrical apparatus as a primary or secondary wiring insulation. Suitable for use in silicone free requirement environments. Resistance to solvents, both aromatic and aliphatic; fuels, including JP-5; and oils, including Skydrol.

The inner fiberglass braid is very fine and dense, and along with the precision Viton<sup>®</sup> 231 coating, this is the toughest cut and abrasion resistant flexible sleeve we have available for wire, cable and hose protection.

**428°F / 220°C: Continuous Rating – Higher Temperature for Shorter Periods**  
**Cut, Puncture & Abrasion / Wear Resistance**

**Viton® 231 Coated Fiberglass Sleeve: AWG Wire Sized**  
**High Temperature, Heat & Flame Resistant (Continued)**  
**428°F / 220°C: Continuous Rating – Higher Temperature for Shorter Periods**  
**Cut, Puncture & Abrasion / Wear Resistance**

Available in all standard AWG wire sizes (see end of this section): Available Colors are White, Black and Dark Tan (Natural).

<u>Property</u>	<u>Procedure</u>	<u>Performance</u>
<b>Physical</b>		
Tensile Strength, Coating	ASTM-D412	2000 psi @ 24°C; 600 psa @ 149°C
Ultimate Elongation, Coating	ASTM-D412	150% @ 24°C; 75% @ 149°C
Hardness, Coating	ASTM-D2240	80 (Durometer, Shore A)
Flexibility & Toughness, Coating	UL 1441	Passes Penetration Test
<b>Chemical</b>		
Oil & Solvent* Resistance	MIL-I-3190/9	Passes (excellent)
Water Vapour Resistance	MIL-I-3190/9	Passes (excellent)
Resistance to Acids and Alkalis	-	Excellent
Resistance to Weathering	-	Unaffected by sunlight and weather
Compatibility	UL 1446	Good. Compatible with most potting compounds and varnishes
<b>Electrical</b>		
Dielectric Strength:		
after 48/23/50, Grade A	NEMA TF-1	7000V min avg., 5000v min individual
after 96/23/96, Grade A	NEMA TF-1	80% of Original Value
Hydrostatic Stability after 336 hrs @ 70°C over Constant Water Reflex	MIL-I-3190/9	Passes 6000V min avg with no disintegration, reversion or cracks (spec 5000V)
<b>Thermal</b>		
Thermal Endurance	MIL-I-3190/9 & UL 1441	Class 220°C (R)
Brittleness Temperature	ASTM-D350	-70°C
Flame Resistance	UL 1441	Passes (VW-1)
	ASTM-D350, Method A	Passes
	NEMA TF-1	Passes
	MIL-I-3190/9, Method A	Passes
Pushback	MIL-I-3190/9	No cracks or ruptures, 6000V min avg breakdown strength

**This product is not stock, it is made to order: Delivery is approximately 10 business days.**

\* Do not use Ketone type solvents as a cleaning agent; use V.M. & P. Naphtha.

**Viton® 231 Coated Fiberglass Sleeve: AWG Wire Sized (Continued)**

428°F / 220°C: High Temperature, Heat & Flame Resistant

Primary Insulation Viton® 231 Coated Fiberglass Sleeve for

Wire Protection, with UL/CSA approval rating and NEMA Grade A-1/B-1/C-1 classified

**FlameShield™ High Temperature - Small Diameter – Viton® 231  
Coated Fiberglass Sleeve with UL/CSA rating and  
NEMA Grade A-1 / B-1 / C-1 Classification. High Cut & Abrasion Resistance**

Part Number	Nominal ID				Feet per Spool	Price per 100 feet A-1 / B-1 / C-1
	AWG	Inches	mm	-dash		
S-FG-VITON-AWG24-X-Y	24	0.022	0.56		500*	£ 465.94 / 372.76 / 233.04
S-FG-VITON-AWG22-X-Y	22	0.027	0.69		500*	£ 470.26 / 376.24 / 235.02*
S-FG-VITON-AWG20-X-Y	20	0.034	0.86		500*	£ 603.00 / 482.40 / 301.50
S-FG-VITON-AWG19-X-Y	19	0.038	0.96		500*	£ 607.63 / 486.30 / 303.95
S-FG-VITON-AWG18-X-Y	18	0.042	1.07		500*	£ 618.80 / 495.22 / 309.27
S-FG-VITON-AWG17-X-Y	17	0.047	1.19		500*	£ 649.95 / 520.13 / 324.97
S-FG-VITON-AWG16-X-Y	16	0.053	1.35		500*	£ 670.95 / 537.11 / 335.33
S-FG-VITON-AWG15-X-Y	15	0.059	1.50		500*	£ 680.40 / 544.47 / 340.17
S-FG-VITON-AWG14-X-Y	14	0.066	1.68	-01	500*	£ 702.90 / 562.42 / 351.27
S-FG-VITON-AWG13-X-Y	13	0.076	1.93		250*	£ 716.90 / 573.75 / 358.55
S-FG-VITON-AWG12-X-Y	12	0.085	2.16		250*	£ 747.87 / 598.17 / 374.07
S-FG-VITON-AWG11-X-Y	11	0.095	2.41		250*	£ 784.57 / 627.67 / 392.25
S-FG-VITON-AWG10-X-Y	10	0.106	2.69		250*	£ 827.45 / 662.02 / 413.70
S-FG-VITON-AWG9-X-Y	9	0.118	3.10		250*	£ 874.32 / 699.42 / 437.40
S-FG-VITON-AWG8-X-Y	8	0.133	3.38	-02	250*	£ 930.37 / 744.27 / 465.20
S-FG-VITON-AWG7-X-Y	7	0.148	3.76		250*	£ 948.21 / 758.45 / 474.15
S-FG-VITON-AWG6-X-Y	6	0.166	4.22		150*	£ 981.20 / 785.10 / 490.62
S-FG-VITON-AWG5-X-Y	5	0.186	4.72	-03	150*	£ 1010.90 / 808.77 / 505.62
S-FG-VITON-AWG4-X-Y	4	0.208	5.28		150*	£ 1017.95 / 814.32 / 508.70
S-FG-VITON-AWG3-X-Y	3	0.234	5.94		150*	£ 1065.80 / 852.75 / 532.95
S-FG-VITON-AWG2-X-Y	2	0.263	6.68	-04	150*	£ 1097.75 / 878.17 / 548.85
S-FG-VITON-AWG1-X-Y	1	0.294	7.47		150*	£ 1266.72 / 1013.32 / 633.30
S-FG-VITON-05-X-Y	5/16	0.313	7.95	-05	150*	£ 1436.75 / 1149.22 / 718.35
S-FG-VITON-AWG0-X-Y	0	0.330	8.38		150	£ 1605.07 / 1284.12 / 802.47
S-FG-VITON-06-X-Y	3/8	0.375	9.52	-06	150	£ 1841.02 / 1472.75 / 920.52
S-FG-VITON-07-X-Y	7/16	0.438	11.12	-07	100	£ 2365.92 / 1892.70 / 1183.05
S-FG-VITON-08-X-Y	1/2	0.500	12.70	-08	100	£ 3242.62 / 2593.92 / 1621.20
S-FG-VITON-10-X-Y	5/8	0.625	15.87	-10	100	£ 3943.80 / 3155.10 / 1972.02
S-FG-VITON-12-X-Y	3/4	0.750	19.05	-12	100	£ 4556.25 / 3644.97 / 2278.12
S-FG-VITON-14-X-Y	7/8	0.875	22.22	-14	100	£ 5608.47 / 4486.62 / 2804.30
S-FG-VITON-16-X-Y	1	1.000	25.40	-16	100	£ 6834.82 / 5468.12 / 3417.42
S-FG-VITON-18-X-Y	1 1/8	1.125	28.57	-18	100	£ N/A / 6589.25 / 4118.15
S-FG-VITON-20-X-Y	1 1/4	1.250	31.75	-20	100	£ N/A / 7851.07 / 4906.80
S-FG-VITON-22-X-Y	1 3/8	1.375	34.92	-22	3**	£ N/A. / N/A / 6134.17
S-FG-VITON-23-X-Y	1 7/16	1.437	36.49	-23	3**	£ N/A. / N/A / 6572.31
S-FG-VITON-24-X-Y	1 1/2	1.500	38.10	-24	3**	£ N/A. / N/A / 7010.82
S-FG-VITON-26-X-Y	1 5/8	1.625	41.27	-26	3**	£ N/A. / N/A / 7404.66
S-FG-VITON-28-X-Y	1 3/4	1.750	44.45	-28	3**	£ N/A. / N/A / 7799.31
S-FG-VITON-30-X-Y	1 7/8	1.875	47.62	-30	3**	£ N/A. / N/A / 8412.27
S-FG-VITON-32-X-Y	2	2.000	50.80	-32	3**	£ N/A. / N/A / 8982.45

Quantity Pricing: For 1000 to 4999 feet -10% / For 5000 feet or more -17%  
See end of section 1 for a table of pre-coated dimensional specifications for this product

For the "X" value, specify "A1", "B1" or "C1"  
For the "Y" value in the part number, specify "B" for Black or "W" for White or "N" for Natural (Dark Tan)

**This product is available in full coils only.**  
**This product is not generally stock: Delivery is approximately 15 business days.**

\* Longer Spool Lengths Available. \*\* Minimum order 30 pieces