

**FLEXO® FR**

- Economical And Easy To Install
- Expands Up To 150%
- Resists Gasoline And Engine Chemicals
- Cut And Abrasion Resistant
- Mil-202, FAR-25, FMVSS 302, VW-1, FR-1 Approved
- Halogen Free



**Cut Cleanly**  
**Hot Knife**

**Material**  
Polyethylene Terephthalate

**Grade**  
FRN

**Monofilament Diameter**  
.010"

**Drawing Number**  
TF001FR-WD



**Put-Ups**

Nominal Size	Part #	Expansion Range		Bulk Spool	Shop Spool	Retail	Clam	Bag	Available Colors	Lbs/100'
		Min	Max							
1/8"	FRN0.13	3/32"	1/4"	1,000'	225'	110'	25'	10'	4	0.16
1/4"	FRN0.25	1/8"	7/16"	1,000'	200'	100'	25'	10'	4	0.24
3/8"	FRN0.38	3/16"	5/8"	500'	125'	60'	25'	10'	4	0.57
1/2"	FRN0.50	1/4"	3/4"	500'	100'	50'	25'	10'	4	0.72
3/4"	FRN0.75	1/2"	1 1/4"	250'	75'	35'	25'	10'	4	0.87
1"	FRN1.00	5/8"	1 5/8"	250'	65'	25'	n/a	10'	4	1.34
1 1/4"	FRN1.25	3/4"	1 3/4"	250'	50'	25'	n/a	10'	4	1.60
1 1/2"	FRN1.50	1"	2 1/2"	200'	40'	25'	n/a	10'	3	1.96
1 3/4"	FRN1.75	1 1/4"	2 3/4"	200'	30'	25'	n/a	10'	4	2.70
2"	FRN2.00	1 1/2"	3 1/2"	200'	50'	25'	n/a	10'	4	3.30
2 1/2"	FRN2.50	1 3/4"	4 1/2"	200'	50'	25'	n/a	10'	4	3.80
3"	FRN3.00	2 1/2"	4 3/4"	100'	50'	25'	n/a	10'	3	4.00
<b>3 End Construction</b>										
1/4"	FR30.25TB	1/8"	3/8"	1,000'	200'				TB	0.39

**Flame Retardant, Economical Sleeving Solution**

Flexo® PET Flame Retardant (FR) sleeving is the perfect choice for electronic and high tech applications where flame retardance and durability are primary concerns. Ease of installation makes FR an efficient choice for long runs of wire or cable.

The addition of an organic combustion inhibitor to our standard polyethylene terephthalate gives FR an Underwriters Lab and CSA flame resistance rating of VW-1.

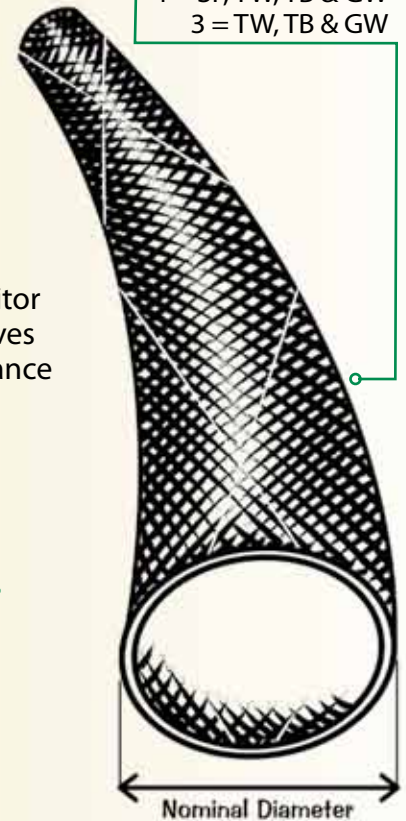
**FR meets or exceeds automotive and aircraft engineering standards for flammability and flame retardance.**

Colors Available:



Spyder (SP) - Custom Color, White with Black Tracer (TW), Black with White Tracer (TB) and Gray with White Tracer (GW).

**Colors Available:**  
4 = SP, TW, TB & GW  
3 = TW, TB & GW





**FLEXO® FR**



**Abrasion Resistance**  
**Medium**

**Abrasion Test Machine**  
**Taber 5150**

**Abrasion Test Wheel**  
**Calibrase H-18**

**Abrasion Test Load**  
**500g**

**Room Temperature**  
**80°F**

**Humidity**  
**70%**

**Minor Scuffing Is Visible**  
**100 Test Cycles**

**Several Broken Strands**  
**And Small Hole**  
**Developing**  
**500 Test Cycles**

**Material Destroyed**  
**700 Test Cycles**

**Pre-Test Weight**  
**4124.0 mg**

**Post-Test Weight**  
**3884.7 mg**

**Test End Loss Of Mass**  
**Point Of Destruction**  
**239.3 mg**



Rating \_\_\_\_\_ **VW-1**



**Chemical Resistance**

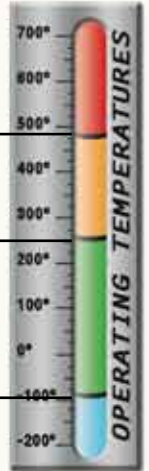
1=No Effect    4=More Affected  
2=Little Effect    5=Severely Affected  
3=Affected

Aromatic Solvents	_____	2
Aliphatic Solvents	_____	1
Chlorinated Solvents	_____	3
Weak Bases	_____	1
Salts	_____	1
Strong Bases	_____	2
Salt Water 0-S-1926	_____	1
Hydraulic Fluid MIL-H-5606	_____	1
Lube Oil MIL-L-7808	_____	1
De-Icing Fluid MIL-A-8243	_____	1
Strong Acids	_____	3
Strong Oxidants	_____	2
Esters/Keytones	_____	2
UV Light	_____	1
Petroleum	_____	1
Fungus ASTM G-21	_____	1
Halogen Free	_____	Yes
RoHS	_____	Yes
SVHC	_____	None

**Melt Point**  
*ASTM D-2117*  
**482°F (250°C)**

**Maximum Continuous**  
*Mil-I-23053*  
**257°F (125°C)**

**Minimum Continuous**  
**-94°F (-70°C)**



**PHYSICAL PROPERTIES**

Monofilament Diameter	_____	.010
<i>ASTM D-204</i>		
Flammability Rating	_____	VW-1
<i>FMVSS-302 Approved</i>		
Recommended Cutting	_____	Hot Knife
Colors	_____	4
Wall Thickness	_____	.025
Tensile Strength (Yarn)	_____	5
<i>ASTM D-2256 Lbs</i>		
Specific Gravity <i>ASTM D-792</i>	_____	1.38
Moisture Absorption	_____	.1-.2
<i>% ASTM D-570</i>		
Hard Vacuum Data <i>ASTM E-595 at 10-5 torr</i>	_____	
TML	_____	.19
CVCM	_____	.04
WVR	_____	.06
Smoke D-Max	_____	275
<i>ASTM E-662</i>		
Outgassing	_____	Med
Oxygen Index	_____	31
<i>ASTM D-2863</i>		

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