



- Meets UL 2024
- VW-1, FAR 25 Approved
- Expands Up To 150%
- Resists Gasoline And Engine Chemicals
- Cut And Abrasion Resistant
- Easy To Install

Nominal Size	Part #	Expansion Range		Put-Ups		Available Colors	Lbs/100'
		Min	Max	Bulk Spool	Shop Spool		
1/8"	HTN0.13	3/32"	1/4"	1,000'	225'	2	0.25
1/4"	HTN0.25	1/8"	7/16"	1,000'	200'	2	0.38
3/8"	HTN0.38	3/16"	5/8"	500'	125'	2	0.86
1/2"	HTN0.50	1/4"	3/4"	500'	100'	2	1.10
3/4"	HTN0.75	1/2"	1 1/4"	250'	75'	2	1.70
1"	HTN1.00	5/8"	1 5/8"	250'	65'	2	2.20
1 1/4"	HTN1.25	3/4"	1 3/4"	250'	50'	2	2.60
1 3/4"	HTN1.75	1 1/4"	2 3/4"	200'	30'	2	4.40
2"	HTN2.00	1 1/2"	3 1/2"	200'	50'	2	4.60

## Very Low Outgassing, Self-Extinguishing UL-2024 Plenum Rated Sleeving

Colors Available:  
TW & TB



Cut Cleanly  
Hot Knife

### Material HT

Ethylene-chlorotrifluoroethylene

### Grade

HTN

### Monofilament Diameter

.011"

### Drawing Number

TF001HT-WD

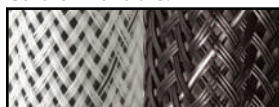
HALAR® (HT) self-extinguishing sleeving is used where flammability, high temperature endurance and low outgassing are primary concerns. HT is braided from 11 mil ethylene chlorotrifluoroethylene (ECTFE) copolymer monofilament.

Because of its low flame spread and smoke generation properties, HT has received UL 2024 and NFPA 262 plenum listings, UL flame resistance rating of VW-1 and exceeds automotive industry requirements of FMVSS 302, as well as aviation industry requirements of FAR 25.

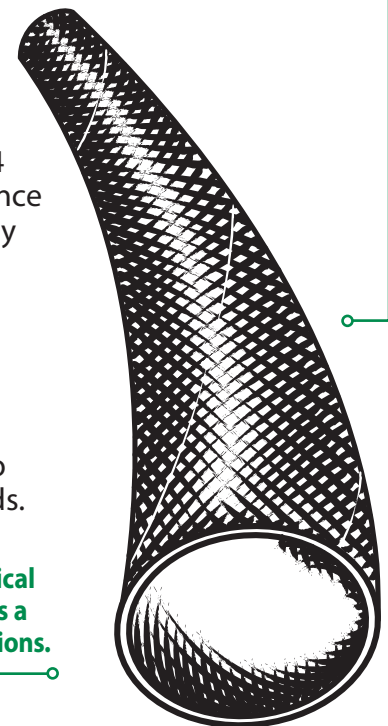
HT resists a wide range of corrosive chemicals and organic solvents, including strong acids, chlorine and aqueous caustics. HALAR® ECTFE also maintains useful properties on exposure to Cobalt 60 radiation at doses up to 200 megarads.

Halar's low outgassing, as well as its heat, chemical and radiation properties, make it ideal for use as a component in technologically advanced applications.

Colors Available:



White with Black Tracer (TW),  
Black with White Tracer (TB).





## **ABRASION** **FLAMMABILITY**

**Abrasion Resistance**  
**Medium**

Rating \_\_\_\_\_ FAR 25, VW-1

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

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

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

**Room Temperature**  
**71°F**

**Humidity**  
**58%**

**Material Destroyed**  
**600 Test Cycles**

**Pre-Test Weight**  
**6,354.9 mg**

**Post-Test Weight**  
**5,922.8 mg**

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

## **CHEMICAL RESISTANCE**

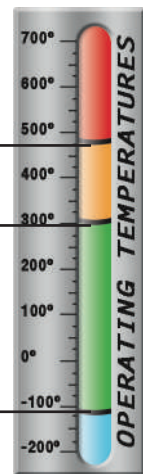
1=No Effect      4=More Affected  
2=Little Effect    5=Severely Affected  
3=Affected

Aromatic Solvents	_____	1
Aliphatic Solvents	_____	1
Chlorinated Solvents	_____	1
Weak Bases	_____	1
Salts	_____	1
Strong Bases	_____	1
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	_____	1
Strong Oxidants	_____	1
Esters/Ketones	_____	2
UV Light	_____	1
Petroleum	_____	1
Fungus ASTM G-21	_____	1
Halogen Free	_____	Yes
RoHS	_____	Yes
SVHC	_____	

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

**Maximum Continuous**  
*Mil-I-23053*  
**302°F (150°C)**

**Minimum Continuous**  
**-103°F (-75°C)**



## **PHYSICAL PROPERTIES**

Monofilament Diameter	_____	.011
<i>ASTM D-204</i>		
Flammability Rating	_____	FAR 25, VW-1
<i>FMVSS-302 Approved</i>		
Recommended Cutting	_____	Hot Knife
Colors	_____	2
Wall Thickness	_____	.028
Tensile Strength (Yarn)	_____	4.3
<i>ASTM D-2256 Lbs</i>		
Specific Gravity ASTM D-792	_____	1.68
Moisture Absorption	_____	.02
% ASTM D-570		
Hard Vacuum Data	_____	
<i>ASTM E-595 at 10-5 torr</i>		
TML	_____	.18
CVCM	_____	.02
WVR	_____	0
Smoke D-Max	_____	94
<i>ASTM E-662</i>		
Outgassing	_____	Low
Oxygen Index	_____	64
<i>ASTM D-2863</i>		