



## Product Highlights

- Operating temperature from -60°C to +240°C (-76°F to +464°F)
- ASD EN 6049-003
- 1:2 expansion ratio
- Thin wall
- Lightweight
- Self-extinguishing
- Excellent abrasion protection
- Resistant to gamma and x-rays
- Water repellent

**Expando® HTNS-L/HO** is a thin wall braided sleeve manufactured from the meta-aramid Nomex®. Its highly expandable structure allows easy installation over long lengths even after the fitting of end connectors with a limited range of product sizes.

Expando HTNS-L/HO's flexible, expandable and non-flammable properties ensure excellent performance in the most diverse and aggressive environments. The product is designed for the protection of wire and cable bundles against flame, high temperatures, and mechanical abrasion.

The properties of Expando HTNS-L/HO ensure excellent resistance to gamma and x-rays.

Expando HTNS-L/HO has a water repellent treatment (HO) to reduce humidity absorption and to improve impermeability to fluids.

Expando HTNS-L/HO has various applications in the military, marine and aeronautical industries.

Expando products are tough, lightweight oversleeves used to protect cable assemblies, hoses and wire harnesses from chafing, cutting and abrading. The open-braid construction of Expando products enables each size to expand to fit several application shapes and diameters. This open-textile construction also makes them highly flexible and resistant to trapping water, heat and humidity.



Our manufacturing sites are certified ISO 9001, IATF 16949, or AS/EN 9100, ISO 14001 and ISO 45001 (Selected Sites)

*Nomex is a registered trademark of E.I. DuPont de Nemours.*

# Performance Data – Expando® HTNS-L/HO

Property	Test Method	Result
<b>Operating Temperature</b>		-60°C to +240°C (-76°F to +464°F) (continuous) Up to +310°C (+590°F) (short term)
<b>Carbonization</b>	Above +370°C (+698°F)	Does not melt
<b>Abrasion Resistance</b>	EN 6059 Part 403	Pass
<b>Flame resistance</b>	FAR 25 AMDT.25-72 § 853(b)	Pass
<b>Fluid resistance</b>	EN 6059 Part 303 (24h with various temperatures)	
Fuel: JP5 (NATO F44)		Pass
Hydraulic fluids		Pass
Skydrol 5 00 B4 & L D4		Pass
Mineral oil: MIL-L-7870A		Pass
Synthetic oil: MIL-L 23699		Pass
Cleaning fluids: Forane		Pass
141B & MIL-L-87936		Pass
De-Icing fluid: MIL-A-8243		Pass
<b>Humidity resistance</b>	1000 h at +150°C (+302°F) in air saturated with water vapor	Retains 70% of its original tensile strength
<b>Water repellent</b>	EN 6059 Part 305	Pass

All numeric performance data shows average or typical values. Please consult your sales representative for product drawings, test reports and OEM approvals.

## Product Specifications

Longitudinal shrinkage should be taken into account when utilizing expansion properties of the sleeve

Commercial Part Number	Recommended Application Range mm (in)		Max Weight g/m (lbs/ft)	Standard Packaging m (ft)
	Min Ø	Max Ø		
Expando HTNS-L/HO 2-X	1 (1/32")	2 (1/16")	3.0 (0.002)	100 (328')
Expando HTNS-L/HO 4-X	2 (1/16")	4 (3/16")	4.0 (0.003)	100 (328')
Expando HTNS-L/HO 6-X	4 (3/16")	8 (5/16")	8.5 (0.006)	100 (328')
Expando HTNS-L/HO 8-X	6 (1/4")	12 (7/16")	11.5 (0.008)	50 (164')
Expando HTNS-L/HO 10-X	8 (5/16")	16 (5/8")	14.0 (0.009)	50 (164')
Expando HTNS-L/HO 15-X	10 (3/8")	20 (3/4")	17.5 (0.012)	50 (164')
Expando HTNS-L/HO 20-X	12 (7/16")	24 (15/16")	22.0 (0.015)	50 (164')
Expando HTNS-L/HO 25-X	15 (9/16")	30 (1-3/16")	32.5 (0.022)	50 (164')
Expando HTNS-L/HO 30-X	20 (3/4")	40 (1-1/2")	39.5 (0.027)	50 (164')

X = Color Code: 5 = green 9 = ivory 2 = red 0 = black 3 = orange

## Part Numbering System

Example	Description	Size	Color	Quantity
	Expando HTNS-L/HO	4	5 (green)	100m



United States: (1) 800 926 2472 • México: (52) 442 101 8100 • Brazil: (55) 19 3116 1600  
 EMEA: (33) 3 44 39 06 06 • Japan: (81) 45 330 0300 • China: (86) 21 6182 7560  
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