

Material Characteristics

Nylon Cable Ties

Selection Guide

Range Overview

Listed on the following pages are the two most popular cable tie types which are typically supplied in Nylon 6.6 material. Alternative materials are also available that offer different characteristics, as can be established from the chart below

- **Pan-Ty® Locking Cable Ties**
- **Dome-Top® Barb Ty Cable Ties**

These two products and others are available in a broad range of materials, other than the standard Nylon 6.6 as listed.

A range of alternative materials, together with their performance characteristics are reviewed in the tables below.

The materials described are available on most variants of Pan-Ty cable tie, whilst the Dome-Top cable tie has a more limited choice of materials. For more information on these cable ties and other alternatives please contact us for additional information.

Characteristic	Test Method	Standard Cable Tie Nylon 6.6	Weather Resistant [#] Nylon 6.6	Heat Stabilised Nylon 6.6	Flame Retardant Nylon 6.6	Weather Resistant Nylon 12	Poly-propylene
Part No. Suffix	-	-	0	30	60	120	109
Standard Colour	-	Natural [§]	Black	Black*	Black**	Black	Green
Mechanical Properties							
Tensile Yield @ 23°C (psi)	ISO 527	12,000	12,000	12,000	11,000	6,700	4,100
Water Absorption (24hrs)	ASTM D570	1.2%	1.2%	1.2%	1.1%	0.3%	0.1%
Radiation Resist [†] (Rads)	-	1 x 10 ⁵	1 x 10 ⁵	1 x 10 ⁵	1 x 10 ⁵	3.5 x 10 ⁶	1 x 10 ⁶
Weathering (Years)	-	1 - 2	7 - 9	4 - 5	1 - 2	12 - 15	1
Impact Resistance	-	Good	Good	Good	Low	Good	High
Chemical Resistance							
Salts Resistance	-	Low	Low	Low	Low	High	Excellent
Hydrocarbons Resistance	-	Excellent	Excellent	Excellent	Excellent	Excellent	Good
Acids Resistance	-	Low	Low	Low	Low	Low	Excellent
Thermal Properties							
Max. Continuous Temp.	UL 746B	85°C	85°C	115°C	100°C	90°C	115°C
Flammability Rating	UL 94	V-2	V-2	V-2	V-0	HB	HB
Low Smoke	ASTM E662	Pass	Pass	Pass	Pass	-	-
Oxygen Index	BS ISO 4589	28	28	28	34	-	-
Halogen Free	IEC 60754-2	Yes	Yes	Yes	Yes	Yes	Yes
Burning Fume Toxicity	BSS-7239	Pass	Pass	Pass	Pass	-	-
Material Availability by Product Family							
Pan-Ty® Cable Ties	PLT	•	•	•	•	•	•
Dome-Top® Barb Ty	BT	•	•	•	•		

[§] Other colours available

[#] Also available in 00 material (meets Mil Spec)

* Also available in Natural, use suffix ref. 39.

** Also available in Natural Ivory, use suffix ref. 69

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Characteristic	Test Method	Weather Resistant Poly-propylene	TEFZEL®	HALAR®	PEEK	Metal Detectable Nylon 6.6	Metal Detectable Poly-propylene
Part No. Suffix	-	100	76	702Y	71	86	186
Standard Colour	-	Black	Aqua Blue	Maroon	Brown	Lt Blue	Blue
Mechanical Properties							
Tensile Yield @ 23°C (psi)	ISO 527	4,100	7,500	7,000	15,200	-	-
Water Absorption (24hrs)	ASTM D570	0.1%	<0.03%	<0.05%	0.5%	1.2%	0.1%
Radiation Resist' (Rads)	-	1 x 10 ⁶	2 x 10 ⁸	2 x 10 ⁸	1 x 10 ⁹	-	1 x 10 ⁶
Weathering (Years)	-	7 - 9	>15	>15	-	-	1
Impact Resistance	-	High	Excellent	Excellent	Excellent	Good	High
Chemical Resistance							
Salts Resistance	-	Excellent	Excellent	Excellent	Excellent	Low	Excellent
Hydrocarbons Resistance	-	Good	Excellent	Excellent	Excellent	Excellent	Good
Acids Resistance	-	Excellent	Excellent	Excellent	Good	Low	Excellent
Thermal Properties							
Max. Continuous Temp.	UL 746B	115°C	170°C	150°C	260°C	85°C	115°C
Flammability Rating	UL 94	HB	V-0	V-0	V-0	HB	HB
Low Smoke	ASTM E662	-	-	-	Pass	-	-
Oxygen Index	BS ISO 4589	-	30	52	35	-	-
Halogen Free	IEC 60754-2	Yes	No	No	Yes	Yes	Yes
Burning Fume Toxicity	BSS-7239	-	-	-	-	-	-
Material Availability by Product Family							
Pan-Ty® Cable Ties	PLT	•	•	•	•	•	•
Dome-Top® Barb Ty	BT						

TEFZEL is a registered trademark of E.I. du Pont de Nemours and Company
 HALAR is a registered trademark of Ausimont USA, Inc.