Available Materials

Nylon 6/6 — General Purpose
General purpose nylon 6/6 features light weight, high strength and a wide temperature range. It is halogen free so it does not release dangerous gases, such as chlorine, bromine, fluorine and iodine when burned. Nylon 6/6 is hygroscopic, and therefore, absorbs or releases moisture depending on its environment. Thus, the moisture level of the material will affect tensile strength, stiffness and elongation of the product.

Nylon 6/6 — Heat Stabilized
With similar properties and benefits as nylon 6/6, products manufactured with heat stabilized nylon 6/6 material have a chemical stabilizer added for higher continuous temperature applications.

Nylon 6/6 — UV Stabilized
Chemical inhibitors are used to give nylon 6/6 material added properties to fight against premature aging of products due to the effects of ultraviolet rays.

Nylon 6/6 — UV Stabilized
(2% Carbon for Military Specification)
The physical properties of this material include carbon, which acts as a UV stabilizer, prolonging the life of the product under ultraviolet conditions. It also allows cable ties to meet the particular military specification for cable ties.

Nylon 6/6 — V0 Flame Retardant
This material meets UL 94V-0 flammability requirements. Flame retardant additives generally reduce tensile strength when compared to general-purpose nylon 6/6, but this resin has been formulated to minimize such effects.

Nylon 6/6 — High Impact
Impact modifiers are added to increase flexibility. High impact nylon 6/6 has stable tensile strength due to its reduced influence from moisture. It is excellent for high vibration applications, as within the aircraft and automobile industries and performs better than nylon 6/6 against ultraviolet rays. Good for outdoor use.

Polypropylene
Polypropylene is used in environments where chemical effects on nylon are a concern. It is not affected by inorganic acids (hydrochloric), polyhydric alcohols (ethyleneglycol), neutral salts (sodium chloride) and basic salts (sodium bicarbonate). Polypropylene also resists a number of other chemicals with good results, although it has lower tensile strength than nylon 6/6 (about half). Polypropylene has good UV resistance.

Tefzel®
Although about two-thirds the strength of nylon 6/6, Tefzel is resistant to a wide range of chemicals, such as concentrated hydrofluoric and sulfuric acids. It is also a low water absorbing material, therefore, is not adversely affected by water. Tefzel is radiation resistant up to 100 megarads and meets the fire and smoke requirements of IEEE 383. Tefzel also withstands high temperatures and ultraviolet light exposure. Products made from Tefzel material also have non-outgassing properties for zero gravity applications.

Halar®
Halar is similar to Tefzel in performance and benefits. Halar is recognized for its low smoke density attribute when burned. This makes products made out of Halar more desirable for use in areas where smoke generation is a concern, as when bundling wire and cable in air handling spaces.

Material Specifications

Material	Continuous* Operating Temperature Max.	Continuous* Operating Temperature Min.	Tensile Strength at 73° F Dry as Molded ASTM D-638 (PSI)	UL Flame Rating	Oxygen Index %	Gamma Radiation Resistance	UV Resistance	Military, Federal, ASTM, and FDA Specifications
Nylon 6/6 — General Purpose (CT)	185° F 85° C	–40° F –40° C	12,000	94V-2	28	1×10^5 Rads	Poor	ASTM D-4066PA0111 FDA CFR177.1500
Nylon 6/6 — Heat Stabilized (CTHS)	220° F 105° C	–40° F –40° C	12,000	94V-2	26	1×10^5 Rads	Poor	ASTM D-4066PA0121
Nylon 6/6 — UV Stabilized (O)	185° C 85° C	–40° F –40° C	12,000	94V-2	26	1×10^5 Rads	Good	ASTM D4066PA0191
Nylon 6/6 — 2% Carbon UV Stabilized (OO)	220° F 105° C	–40° F –40° C	12,000	94V-2	26	1×10^5 Rads	Good	ASTM D-4066PA0181 MS3367/8
Nylon 6/6 — Flame Retardant (CTV)	185° F 85° C	–40° F –40° C	10,800	94V-0	34	1×10^5 Rads	Poor	ASTM D-4066PA0110
Nylon 6/6 — High Impact	185° F 85° C	–40° F –40° C	8,800	94-HB	19	1×10^5 Rads	Good	ASTM D-4066PA0150
Polypropylene — Chemical Resistant (CTPP)	185° F 85° C	–40° F –40° C	3,400	94-HB	N/A	1×10^5 Rads	Good	ASTM D-4101PP0320 FDA CFR177.1520
Nylon 12 — UV Stabilized	176° F 80° C	–40° F –40° C	5,800	94-HB	N/A	9×10^6 Rads	Good	ASTM D-4066PA411
Tefzel® (CTZ)	302° F 150° C	–50° F –46° C	5,800	94V-0	30	2×10^8 Rads	Excellent	UL2043 Grade 1 ASTM D-3159 Type 1
Halar® (CTH)	284° F 140° C	–50° F –46° C	6,100	94V-0	52	2×10^8 Rads	Excellent	ASTM D-3275 Type 3 FDA CRF177.1380

* Elevated temperatures, over time, will affect materials' properties such as tensile strength, stiffness, elongation and appearance.

BURNDY® recommends the evaluation of cable ties in the actual application to determine the suitability of the tie for that application.

Blue highlighted items are industry standard and most frequently ordered.

Material Performance Guide

Selection	Nylon 6/6 General Purpose	Nylon 6/6 Heat Stab.	Nylon 6/6 UV Stab.	Nylon 6/6 2% Carbon UV Stab.	Nylon 6/6 Flame Ret. V0	Nylon 6/6 High Impact	Poly-propylene	Nylon 12 UV Stab.	Tefzel®	Halar®
Tensile Strength	8	8	8	9	7	8	2	4	5	5
High Temp.	2	3	2	2	2	2	2	1	10	10
Flammability	5	5	5	5	10	2	2	2	10	10
UV Resistance	1	1	5	8	1	2	5	3	10	10
Radiation	3	3	3	3	3	3	6	3	10	10
Chemical	6	6	6	6	6	6	8	8	10	10
— Hydrocarbons	8	8	8	8	8	8	6	8	10	10
— Chlorinated	6	6	6	6	6	6	3	8	10	10
— Hydrocarbons	2	2	2	2	2	2	8	5	10	10
— Acids-Bases	6	6	6	6	6	6	8	6	10	10
— Salts	3	3	3	3	3	3	10	8	10	10
Relative Cost	Low	Low	Med.	Med.	Med.	Med.	Med.	Med.	High	High

1 = Least Recommended 10 = Most Recommended

The following chart is meant to help you understand BURNDY's cable tie catalog numbering system. Not every cable tie is available in every listed option. See below Catalog Numbering System Charts or contact BURNDY® Customer Service for more information.

Gray bars contain catalog number examples.

Type	Tensile	Bundle Dia.	Feature	Package	Color
CT	50	175		C	
BET = BURNDY® Extended Tie CT = Nylon 6/6 Standard CTAS = Aerial Support CTH = Halar ® CTZ = Tefzel ® CTHS = Nylon 6/6 Heat Stabilized CTV = Nylon 6/6 Flame Retardant UL94V-0 CTPP = Polypropylene	18 = 18 lbs. 30 = 30 lbs. 40 = 40 lbs. 50 = 50 lbs. 120 = 120 lbs. 175 = 175 lbs. 250 = 250 lbs.	075 = 3/4″ 087 = 7/8″ 100 = 1″ 125 = 1-1/4″ 137 = 1-3/8″ 150 = 1-1/2″ 175 = 1-3/4″ 200 = 2″ 250 = 2-1/2″ 300 = 3″ 400 = 4″ 500 = 5″ 600 = 6″ 700 = 7″ 800 = 8″ 900 = 9″ 1000 = 10″ 1100 = 11″ 1200 = 12″ 1300 = 13″ 1400 = 14″ 1500 = 15″ 1600 = 16″	EPR = Extended Pawl Releasable ID = Single Head ID ID2 = Double Head ID ID3 = Triple Head ID FL = ID Flag MH4 = Mounting Hole #4 MH6 = Mounting Hole #6 MH8 = Mounting Hole #8 MH10 = Mounting Hole #10 MH14 = Mounting Hole #14 PM = Push Mount Tie PML = Push Mount Tie w/Louvers PMW = Push Mount Tie w/Wing R = Releasable Tie LP = Low Profile Tie PS = Positive Stop	V = 5 X = 10 Q = 25 L = 50 C = 100 B = 250 D = 500 M = 1000	1 = Brown 2 = Red 3 = Orange 4 = Yellow 5 = Green 6 = Blue 7 = Purple 8 = Gray None = Natural 10 = White 11 = Telco Gray 0 = UV Black[1] 00 = UV Black[2] 02 = Red 20 = Black

[1]Material: Nylon 6/6 — UV Stabilized

[2]Material: Nylon 6/6 — 2% Carbon UV Stabilized (Mil. Spec.)

Type	Tensile	Bundle Dia.		Package	
CTSS	100	200		C	
CTSS = 304 Stainless Steel	100 = 100 lbs. 250 = 250 lbs.	Same as above		Same as above	

Type	Size	Mount Method	Feature	Quantity	Color
CTB	125	RA	4	C	0
CTB = Cable Tie Base	075 = 3/4" 125 = 1-1/4" 150 = 1=1/2"	RA = Rubber Adhesive AA = Acrylic Adhesive S = Screw Mounted	2 = 2 way 4 = 4 way	L = 50 C = 100 D = 500 M = 1000	0 = UV Black