



## Strong-Ty™ Kynar® PVDF Cable Ties

Strong-Ty™ cable ties made from Kynar® PVDF are ideal for environments where combinations of high temperature, chemical attack, radiation or mechanical stress limits other materials. These cable ties are durable and resist abrasion and mechanical damage during and after installation. With minimal flame-spread and smoke-generation, Strong-Ty™ cable ties meet the National Electrical Code (NFPA-70A) and UL94V-0 requirements for installation in building plenum.

Excellent resistance to radiation allows sterilization of Strong-Ty™ cable ties for high-purity applications without loss of strength or flexibility. Our Strong-Ty™ cable ties are injection molded and packaged in the US in a clean room according to ISO 13485 procedures. Made with one-piece construction and a curved tip, Strong-Ty™ cable ties

are easy to use and provide consistent and reliable performance.

USP Class 6 Strong-Ty™ cable ties are available in three separate product lines:

- » Strong-Ty™ High-Purity – manufactured and packaged inside a clean room following an ISO 13485 procedure and designed for use in biopharma and semiconductor environments and in the production of high-purity chemicals.
- » Strong-Ty™ Industrial – made from Kynar® PVDF in a standard production environment, these cable ties are ideal for photovoltaic wire and cable management and chemical process applications.
- » Strong-Ty™ Sterix – designed with a more flexible grade of Kynar®, exposure to radiation for sterilization results in minimal off-gassing.

**Strong-Ty™ Kynar® PVDF Cable Tie Properties**

Product Name	Part Number	Color	Length (in.)	Thickness (in.)	Width (in.)	Max Bundle Dia. (in.)	Tensile Strength (lbs)
High-Purity	NPC204N	Natural	4	0.059	0.179	0.75	48
High-Purity	NPC208N	Natural	8	0.059	0.179	2.25	48
Industrial	NPCi204N	Natural	4	0.059	0.179	0.75	48
Industrial	NPCi208N	Natural	8	0.059	0.179	2.25	48
Sterix	NPCS204W	White	4	0.059	0.179	0.75	40
Sterix	NPCS208W	White	8	0.059	0.179	2.25	40

## Kynar® PVDF Material Properties

Physical Properties	Standards	Units	Results
Refractive Index	ASTM D542	-	1.42
Specific Gravity	ASTM D742	-	1.77 - 1.80
Water Absorption	ASTM D570	%	0.03 - 0.05
Mechanical Properties			
Flexural Strength at 5% Strain	ASTM D790	psi	3,000 - 5,000
Flexural Modulus	ASTM D790	psi	150,000 - 180,000
Tensile Yield Elongation	ASTM D638	%	5 - 15
Tensile Yield Strength	ASTM D638	psi	4,500 - 6,000
Tensile Break Elongation	ASTM D638	%	30 - 200
Tensile Break Strength	ASTM D638	psi	4,000 - 7,000
Tensile Modulus	ASTM D638	psi	150,000 - 220,000
Deflection Temperature	ASTM D648 at 66 psi	°F	140 - 167
Hardness	ASTM D2240	Shore D	70 - 75
Thermal Properties			
Melting Temperature	ASTM D3418	°F	311 - 320
Thermal Conductivity	ASTM D433	BTU-in/hr.ft <sup>2</sup> F	1.0 - 1.25
Electrical Properties			
Dielectric Strength	ASTM D149	KV/mil	1.3 - 1.6
Volume Resistivity	ASTM D257	ohm-cm	2 x 10 <sup>14</sup>
Flame and Smoke Properties			
Burning Rate	UL/Bulletin 94	-	V - O
Limiting Oxygen Index	ASTM D2868	% O <sub>2</sub>	43/75

## Kynar® PVDF Chemical Resistance

Chemical	Concentration	Maximum Temperature °F
Acetic Acid	50% in water	200
Acetone		Not Recommended
Brine		275
Bromine, liquid		150
Chlorine, liquid		175
Chromic Acid	Up to 40% in water	175
Hydrochloric Acid	Up to "concentrated"	275
Hydrofluoric Acid	41 - 100%	200
Nitric Acid	11 - 70% in water	150
Phosphoric Acid	Less than 85% in water	275
Sulfuric Acid	Up to 60% in water	250



Strong-Ty™ Kynar® PVDF Cable Ties are manufactured in the USA by Nile Polymers, Inc.  
**Contact us at (801) 203-3756 or sales@nilepolymers.com**

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