

NELCO

cable tie products



Cable Ties & Accessories



Wire Routing & Protection



Identification Products



Wire Terminals & Connectors



Heat Shrink Products

National	800.346.3526
New Jersey	866.635.2660
Florida	800.899.8533

www.nelcoproducts.com

Nelco's Commitment to Excellence

At Nelco, quality and service go beyond conventional measures. For over twenty five years we have delivered quality products and service, always with our 100% satisfaction guarantee.

As an employee-owned and run business, we believe providing personalized and professional customer service is essential to the strength and future of our company.

When calling Nelco, you are greeted by a person happy to serve you. Never will you have to contend with an automated phone system.

Our trained product specialists are available to assist you with your cable tie and wiring accessory needs and will even help source products and services not available through Nelco.

Written quality statements may be inexpensive to promote, but calling any of our toll-free numbers to experience professionalism at its very best is even less expensive. Call us today and see!

Excellent Service...Our Pledge!



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Nelco Products has a full-line of quality cable ties in a wide variety of materials, colors, styles, and sizes.



Material Specifications

GENERAL PURPOSE APPLICATIONS

Nylon 6/6 - General Purpose

General purpose nylon 6/6 is suitable for use in most practical applications at a continuous temperature up to 150°F. Nylon 6/6, the grade most often used for cable tie production, meets UL 94V-2 flammability ratings. Its working temperature range is from 40°F to 185°F.

OUTDOOR APPLICATIONS

Nylon 6/6 - UV Stabilized

UV Stabilized Nylon 6/6 is used in continuous or extended exposure to outdoor use. The nylon cable tie is a weather resistant grade, enduring additional ultraviolet (UV) light. This grade is produced by incorporating stabilizers in the nylon resin. UV Stabilized Nylon cable ties are available only in black.

Nylon 6/6 - UV Stabilized/Heat Stabilized

Heat Stabilized Nylon 6/6 is used in continuous or extended exposure to high temperatures (up to 250°F). A general-purpose nylon will have a reduction in physical properties and fatigue as a result of high temperatures. Nylon cable ties containing specially formulated heat stabilizers provide additional thermal endurance. Heat stabilized nylons are engineered for continuous exposure to temperatures above 185°F, which meet UL standards for electrical applications.

CHEMICAL RESISTANT APPLICATIONS

Polypropylene - General Purpose

Polypropylene is used in environments where chemical effects on nylon are a concern, because it is not affected by inorganic acids (hydrochloric), polyhydric alcohols (ethylene glycol), neutral salts (sodium chloride), and basic salts (sodium bicarbonate). Polypropylene also resists a number of other chemicals with good results although it has a lower tensile strength than nylon 6/6. In addition, this material has the ability to withstand ultraviolet light exposure.

Tefzel*

Although weaker than general purpose nylon 6/6 (about 37%), 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, moisture has a minimal effect on it. Tefzel is radiation resistant up to 100 megarads and meets IEEE requirement 333. Tefzel also withstands high temperatures, ultraviolet light exposure, and meets UL flammability requirement 94V-0.

Material Specifications

FLAME RETARDANT APPLICATIONS

Halar*

Halar is similar to Tefzel in performance. Its outstanding characteristic is a lower smoke density when burned. This makes Halar more desirable for use in areas where smoke generation is a concern, as when bundling wire in plenum spaces.

FLEXties (Hook & Loop Cable Ties)

HTH (888)

A unique back-to-back fastening system featuring a polyethylene hook laminated to a nylon loop without the use of an adhesive.

HTH (889)

A flame retardant version. This product meets UL requirements for a rating of 94-V-2 and also meets requirements for FAR 25.853 A/B. Specified configurations of black HTH (889) meet the requirements for use in air handling applications in accordance with NEC's section 300-22 (C) & (D).



MATERIAL	CONTINUOUS OPERATING TEMPERATURE		TENSILE STRENGTH AT 73°F DRY AS MOLDED ASTM-D-638 (psi)	UL FLAME RATING	OXYGEN INDEX %	GAMMA RADIATION RESISTANCE	UV RESISTANCE	MILITARY, FEDERAL, AND ASTM SPECIFICATIONS
	MAX.	MIN.						
Nylon 6/6-General Purpose	185°F 85°C	-40°F -40°C	12,000	94V-2	28	1 x 10 ⁵ RADS	Poor	ASTM-D4066 PA111 FDA CFR 177.1500
Nylon 6/6- Heat Stabilized	220°F 105°C	-40°F -40°C	12,000	94V-2	26	1 x 10 ⁵ RADS	Poor	ASTM-D4066 PA121
Nylon 6/6- UV Stabilized	185°F 85°C	-40°F -40°C	12,000	94V-2	NA	1 x 10 ⁵ RADS	Very Good	ASTM-D4066 PA181
Nylon 6/6- Heat & UV Stabilized	220°F 105°C	-40°F -40°C	12,000	94V-2	25	1 x 10 ⁵ RADS	Very Good	ASTM-D4066 PA121
Nylon 6/6-Flame Retardant	185°F 85°C	-40°F -40°C	10,800	94V-0	34	1 x 10 ⁵ RADS	Poor	
Nylon 6/6-High Impact Weather Resistant	185°F 85°C	-40°F -40°C	8,800	94-HB	19	1 x 10 ⁵ RADS	Good	ASTM-D4066 PA171
Nylon 4/6-Heat Stabilized	275°F 135°C	-40°F -40°C	14,400	94V-2	27	9 x 10 ⁶ RADS	Poor	
Nylon 12-UV Stabilized	176°F 80°C	-40°F -40°C	5,800	94-HB	NA	1 x 10 ⁵ RADS	Very Good	ASTM-D4066 PA411
Polypropylene-General Purpose	185°F 85°C	-40°F -40°C	3,400	94-HB	NA	1 x 10 ⁶ RADS	Poor	ASTM-D4101
Tefzel*	302°F 150°C	-50°F -46°C	7,500	94V-0	30	2 x 10 ⁸ RADS	Excellent	UL 83 ASTM-D2633 ASTM-D3159 Type I
Halar*	284°F 140°C	-50°F -46°C	7,000	94V-0	60	2 x 10 ⁸ RADS	Excellent	ASTM-D3275 Type II

*Tefzel is a registered trademark of E.I. DuPont Corporation.

*Halar is a registered trademark of Solvay Solexis, Inc.

Military Specifications

Mil-Spec	Nelco #	Color
MS-3367-1-0	N-7-50-0	UV Black
MS-3367-1-9	N-7-50-9	Natural
MS-3367-1-2	N-7-50-2	Red
MS-3367-1-3	N-7-50-3	Orange
MS-3367-1-4	N-7-50-4	Yellow
MS-3367-1-5	N-7-50-5	Green
MS-3367-1-6	N-7-50-6	Blue
MS-3367-1-7	N-7-50-7	Purple
MS-3367-1-8	N-7-50-8	Grey
MS-3367-2-0	N-14-50-0	UV Black
MS-3367-2-9	N-14-50-9	Natural
MS-3367-2-2	N-14-50-2	Red
MS-3367-2-3	N-14-50-3	Orange
MS-3367-2-4	N-14-50-4	Yellow
MS-3367-2-5	N-14-50-5	Green
MS-3367-2-6	N-14-50-6	Blue

Mil-Spec	Nelco #	Color
MS-3367-2-7	N-14-50-7	Purple
MS-3367-2-8	N-14-50-8	Grey
MS-3367-3-0	N-14-120-0	UV Black
MS-3367-3-9	N-14-120-9	Natural
MS-3367-4-0	N-4-18-0	UV Black
MS-3367-4-9	N-4-18-9	Natural
MS-3367-4-2	N-4-18-2	Red
MS-3367-4-3	N-4-18-3	Orange
MS-3367-4-4	N-4-18-4	Yellow
MS-3367-4-5	N-4-18-5	Green
MS-3367-4-6	N-4-18-6	Blue
MS-3367-4-7	N-4-18-7	Purple
MS-3367-4-8	N-4-18-8	Grey
MS-3367-5-0	N-5-40-0	UV Black
MS-3367-5-9	N-5-40-9	Natural
MS-3367-5-2	N-5-40-2	Red

Mil-Spec	Nelco #	Color
MS-3367-5-3	N-5-40-3	Orange
MS-3367-5-4	N-5-40-4	Yellow
MS-3367-5-5	N-5-40-5	Green
MS-3367-5-6	N-5-40-6	Blue
MS-3367-5-7	N-5-40-7	Purple
MS-3367-5-8	N-5-40-8	Grey
MS-3367-7-0	N-11-50-0	UV Black
MS-3367-7-9	N-11-50-9	Natural
MS-3367-7-2	N-11-50-2	Red
MS-3367-7-3	N-11-50-3	Orange
MS-3367-7-4	N-11-50-4	Yellow
MS-3367-7-5	N-11-50-5	Green
MS-3367-7-6	N-11-50-6	Blue
MS-3367-7-7	N-11-50-7	Purple
MS-3367-7-8	N-11-50-8	Grey

Reading Nelco Cable Tie Part Numbers

N-7-50-ID-9-M

Cable Tie Length

Tensile Strength

18 lbs.
40 lbs.
50 lbs.
70 lbs.
120 lbs.
150 lbs.
175 lbs.
250 lbs.

Tie Type

FL=Flag
ID=Identification
MH=Mounted Head
R=Releasable
SS=Stainless Steel

Colors

0=UV Black
1=Brown
2=Red
3=Orange
4=Yellow
5=Green
6=Blue
7=Purple
8=Grey
9=Natural
10=White
11=Fluorescent Green
12=Fluorescent Pink
13=Fluorescent Yellow
14=Fluorescent Orange
15=Fluorescent Blue

Amount Per Package

M=1,000
D=500
C=100
L=50



Miniature Cable Ties (18 LB.)

Nelco #	Nominal Length	Actual Length Inches/mm	Width Inches/mm	Maximum Bundle Diameter Inches/mm	Tensile Strength (Lbs)	Military Specification
N-4-18	4"	3.94/100	.09/2.4	.87/22	18	MS-3367-4
N-5-18	5"	5.51/140	.10/2.5	1.3/33	18	
N-8-18	8"	7.87/200	.10/2.5	2.09/53	18	
N-15-18	15"	15.75/400	.10/2.5	4.56/116	18	



Intermediate Cable Ties (40 LB.)

Nelco #	Nominal Length	Actual Length Inches/mm	Width Inches/mm	Maximum Bundle Diameter Inches/mm	Tensile Strength (Lbs)	Military Specification
N-5-40	5"	5.51/140	.14/3.6	1.3/33	40	MS-3367-5
N-6-40	6"	5.91/150	.14/3.6	1.38/35	40	
N-8-40	8"	8.46/215	.14/3.6	2.20/56	40	
N-10-40	10"	9.84/250	.14/3.6	2.56/65	40	
N-11-40	11"	11.81/300	.14/3.6	2.99/76	40	
N-14-40	14"	14.57/370	.14/3.6	4.02/102	40	



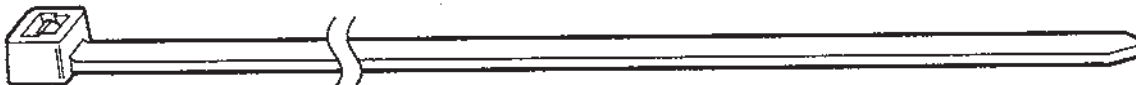
Standard Cable Ties (50-88 LB.)

Nelco #	Nominal Length	Actual Length Inches/mm	Width Inches/mm	Maximum Bundle Diameter Inches/mm	Tensile Strength (Lbs)	Military Specification
N-7-50	7"	7.40/188	.19/4.8	1.81/46	50	MS-3367-1
N-11-50	11"	11.81/300	.19/4.8	2.99/76	50	MS-3367-7
N-14-50	14"	14.57/370	.19/4.8	4.02/102	50	MS-3367-2
N-17-50	17"	16.93/430	.19/4.8	4.33/110	50	
N-21-50	21"	20.87/530	.19/4.8	5.51/140	50	
N-25-50	25"	25.00/635	.19/4.8	7.48/190	50	
N-33-50	33"	32.68/830	.19/4.8	10.00/254	88	
N-36-50	36"	36.42/925	.19/4.8	10.35/263	88	



Heavy Duty Cable Ties (120 LB.)

Nelco #	Nominal Length	Actual Length Inches/mm	Width Inches/mm	Maximum Bundle Diameter Inches/mm	Tensile Strength (Lbs)	Military Specification
N-8-120	8"	7.87/200	.30/7.6	2.09/53	120	
N-11-120	11"	11.81/300	.30/7.6	2.99/76	120	
N-14-120	14"	14.49/368	.30/7.6	4.02/102	120	MS-3367-3
N-18-120	18"	17.72/450	.30/7.6	5.20/132	120	
N-24-120	24"	24.40/620	.30/7.6	7.00/177	120	
N-30-120	30"	30.60/731	.30/7.6	9.00/228	120	
N-36-120	36"	37.00/940	.30/7.6	11.00/279	120	



Extra Heavy Duty Cable Ties - Ductmaster Straps (175 LB.)

Nelco #	Nominal Length	Actual Length Inches/mm	Width Inches/mm	Maximum Bundle Diameter Inches/mm	Tensile Strength (Lbs)	Military Specification
N-17-175	17"	16.93/430	.35/9.0	4.33/110	175	
N-18-175	18"	17.72/450	.35/9.0	4.72/120	175	
N-21-175	21"	20.71/526	.35/9.0	5.51/141	175	
N-24-175	24"	24.02/610	.35/9.0	7.00/187	175	
N-28-175	28"	27.95/710	.35/9.0	7.48/190	175	
N-32-175	32"	32.09/815	.35/9.0	9.41/239	175	
N-36-175	36"	35.91/912	.35/9.0	10.35/263	175	
N-48-175	48"	48.00/1220	.35/9.0	14.37/365	175	
N-60-175	60"	60.23/1530	.35/9.0	18.15/460	175	



Extra Heavy Duty Lashing Ties (250 LB.)

Nelco #	Nominal Length	Actual Length Inches/mm	Width Inches/mm	Maximum Bundle Diameter Inches/mm	Tensile Strength (Lbs)	Military Specification
N-9-250	9"	9.06/230	.50/12.6	1.97/50	250	
N-15-250	15"	14.96/380	.50/12.6	4.17/106	250	
N-19-250	19"	18.90/480	.50/12.6	4.72/120	250	
N-22-250	22"	22.83/580	.50/12.6	5.98/152	250	
N-29-250	29"	29.13/740	.50/12.6	8.03/204	250	
N-34-250	34"	34.64/880	.50/12.6	9.76/248	250	
N-40-250	40"	40.55/1030	.50/12.6	11.61/295	250	



Heat Stabilized Cable Ties

Nelco #	Nominal Length	Actual Length Inches/mm	Width Inches/mm	Max. Bundle Diameter Inches/mm	Tensile Strength (Lbs)	Colors Available
N-4-18-HS	4"	4.10/104	.09/2.4	.87/22	18	Black
N-5-40-HS	5"	5.80/148	.14/3.6	1.43/36	40	Black
N-6-18-HS	6"	6.18/157	.09/2.4	1.50/38	18	Black
N-7-50-HS	7"	7.50/192	.180/4.6	1.88/48	50	Black
N-8-40-HS	8"	8.80/225	.140/3.6	2.37/60	40	Black
N-8-120-HS	8"	8.70/220	.300/7.6	2.06/52	120	Black
N-11-50-HS	11"	11.20/285	.180/4.6	3.06/77	50	Black
N-14-50-HS	14"	14.25/361	.180/4.6	4.00/101	50	Black
N-14-120-HS	14"	15.00/383	.300/7.6	4.06/103	120	Black



Polypropylene Cable Ties

Nelco #	Nominal Length	Actual Length Inches/mm	Width Inches/mm	Max. Bundle Diameter Inches/mm	Tensile Strength (Lbs)	Colors Available
N-4-11-PP	4"	3.94/100	.09/2.4	.87/22	11	LT GREEN, BLACK
N-5-18-PP	5"	5.51/140	.14/3.6	1.30/33	18	LT GREEN, BLACK
N-7-30-PP	7"	7.40/188	.19/4.8	1.88/48	30	LT GREEN, BLACK
N-8-50-PP	8"	7.87/200	.30/7.6	2.09/53	50	LT GREEN, BLACK
N-11-30-PP	11"	11.60/ 300	.19/4.8	3.00/76	30	LT GREEN, BLACK
N-11-50-PP	11"	11.81/300	.30/7.6	2.99/76	50	LT GREEN, BLACK
N-14-30-PP	14"	14.57/370	.19/4.8	4.02/102	30	LT GREEN, BLACK
N-14-50-PP	14"	14.49/368	.30/7.6	4.02/102	50	LT GREEN, BLACK

Natural Polypropylene is a distinct Light Green color for easy identification.

The Black ties have an added ultraviolet inhibitor that make them weather resistant.



Tefzel® Cable Ties

Nelco #	Nominal Length	Actual Length Inches/mm	Width Inches/mm	Max. Bundle Diameter Inches/mm	Tensile Strength (Lbs)	Color
N-4-18-TZ	4"	3.94/100	.09/2.4	.87/22	18	AQUA BLUE
N-7-50-TZ	7"	7.40/188	.19/4.8	1.81/46	50	AQUA BLUE
N-8-40-TZ	8"	8.46/215	.14/3.6	2.20/56	40	AQUA BLUE
N-11-50-TZ	11"	11.81/300	.19/4.8	2.99/76	50	AQUA BLUE
N-11-120-TZ	11"	11.81/300	.30/7.6	2.99/76	120	AQUA BLUE
N-14-50-TZ	14"	14.57/370	.19/4.8	4.02/102	50	AQUA BLUE
N-14-120-TZ	14"	14.49/368	.30/7.6	4.02/102	120	AQUA BLUE

*Tefzel is a registered trademark of E.I. Dupont Company.



Halar® Cable Ties

Nelco #	Nominal Length	Actual Length Inches/mm	Width Inches/mm	Max. Bundle Diameter Inches/mm	Tensile Strength (Lbs)	Color
N-4-18-HAL	4"	3.94/100	.09/2.4	.87/22	18	MAROON
N-7-50-HAL	7"	7.40/ 188	.19/4.8	1.88/48	50	MAROON
N-11-50-HAL	11"	11.60/300	.19/4.8	3.00/76	50	MAROON

*Halar is a registered trademark of Solvay Solexis, Inc.



Releasable Cable Ties: Pawl Release

Nelco #	Nominal Length	Actual Length Inches/mm	Width Inches/mm	Max. Bundle Diameter Inches/mm	Tensile Strength (Lbs)
N-6-40R	6"	5.51/140	.14/3.6	1.30/33	40
N-8-50R	8"	7.87/200	.19/4.8	1.97/50	50
N-11-50R	11"	11.81/300	.19/4.8	3.39/86	50
N-14-50R	14"	14.57/870	.19/4.8	4.02/102	50
N-24-175R	24"	23.97/609	.35/9.0	7.00/178	175
N-9-250R	9"	9.45/240	.50/12.6	1.97/50	250
N-22-250R	22"	22.83/580	.50/12.6	5.98/152	250
N-29-250R	29"	29.13/740	.50/12.6	8.03/204	250
N-34-250R	34"	34.64/880	.50/12.6	9.65/245	250



Releasable Cable Ties: Trigger Release

Nelco #	Nominal Length	Actual Length Inches/mm	Width Inches/mm	Max. Bundle Diameter Inches/mm	Tensile Strength (Lbs)
NT-5-50R	5"	5.91/150	.30/7.6	1.38/35	50
NT-8-50R	8"	7.87/200	.30/7.6	1.97/50	50
NT-11-50R	11"	11.81/300	.30/7.6	3.15/80	50
NT-14-50R	14"	14.57/370	.30/7.6	4.02/102	50



Mounted Head Cable Ties

Nelco #	Nominal Length	Actual Length Inches/mm	Width Inches/mm	Max. Bundle Diameter Inches/mm	Tensile Strength (Lbs)	Screw Hole
N-4-18-MH	4"	4.33 / 110	.10 / 2.5	.87 / 22	18	No. 6
N-5-40-MH	5"	5.91 / 150	.14 / 3.6	1.26 / 32	40	No. 8
N-7-50-MH	7"	7.87 / 200	.19 / 4.8	1.97 / 50	50	No. 10
N-11-50-MH	11"	12.20 / 300	.19 / 4.8	2.99 / 76	50	No. 10
N-14-50-MH	14"	14.84 / 370	.19 / 4.8	4.02 / 102	50	No. 10
N-14-120-MH	14"	14.96 / 380	.30 / 7.6	3.86 / 98	120	1/4 inch



Restricted Bundle (Tote-Box) Cable Ties

Nelco #	Nominal Length	Actual Length Inches/mm	Width Inches/mm	Max. Bundle Diameter Inches/mm	Tensile Strength (Lbs)
N-5-30TB	5"	5.60/142	.13/3.3	.87 / 22	30

Identification Cable Ties (18 LB. & 50 LB.)



Nelco #	Nominal Length	Actual Length Inches/mm	Width Inches/mm	Max. Bundle Diameter Inches/mm	Tensile Strength (Lbs)	Mil Spec.	Write-On Area (in)
N-4-18ID	4"	3.94/100	.10/2.5	.71/18	18	MS3368-5*	1.0 x .31
N-8-18ID	8"	7.87/200	.10/2.5	1.97/50	18	MS3368-5*	1.0 x .31

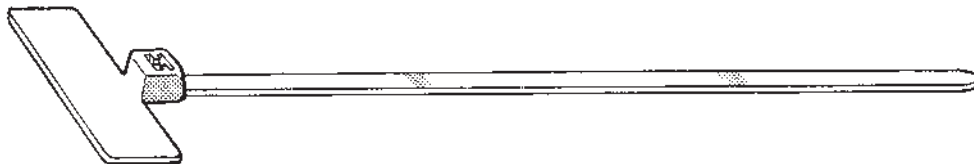
*In natural color only



Nelco #	Nominal Length	Actual Length Inches/mm	Width Inches/mm	Max. Bundle Diameter Inches/mm	Tensile Strength (Lbs)	Mil Spec.	Write-On Area (in)
N-7-50ID	7"	7.48/190	.185/4.7	1.75/45	50	MS3368-1**	0.51 x 1.10
N-14-50ID	14"	14.6/371	.185/4.7	4.00/102	50	MS3368-2*	0.44 x 2.00

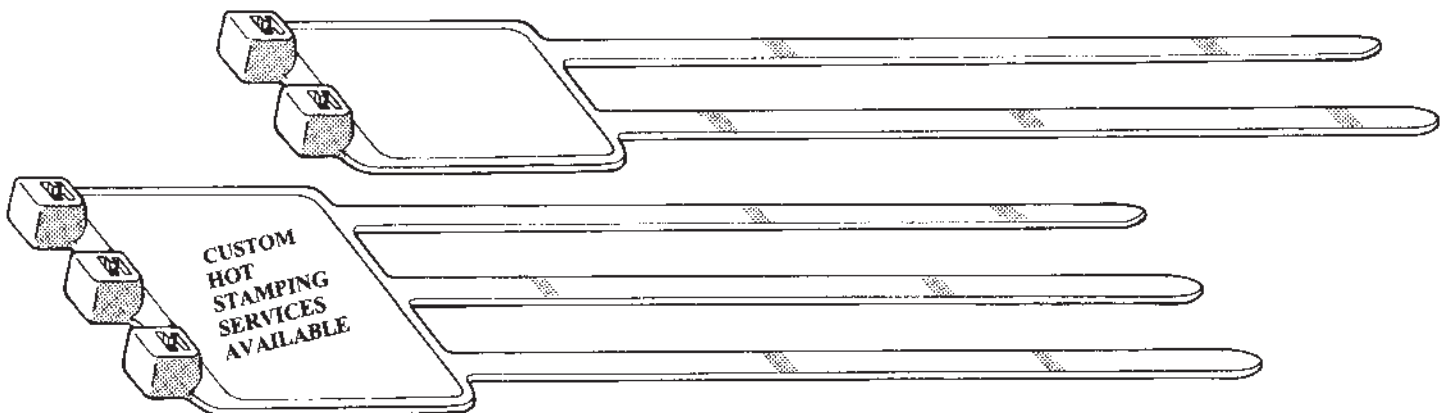
*In natural color only

**In blue, fluorescent blue, green, orange and yellow colors only



Flag Cable Ties (18 LB.)

Nelco #	Nominal Length	Actual Length Inches/mm	Width Inches/mm	Max. Bundle Diameter Inches/mm	Tensile Strength (Lbs)	Write-On Area (in)
N-4-18FL	4"	4.39/112	.10/2.5	.71/18	18	.80 x .35



Multi-Head Marker Ties (50 LB.)

Nelco #	Nominal Length	Actual Length Inches/mm	Width Inches/mm	Max. Bundle Diameter Inches/mm	Tensile Strength (Lbs)	Mil Spec.	Write-On Area (in)
N-7-50ID2	7"	7.40/188	.185/4.70	1.75/45	50	MS3368-3	.87L x 1.07W
N-7-50ID3	7"	7.40/188	.185/4.70	1.75/45	50	MS3368-4	.87L x 1.79W

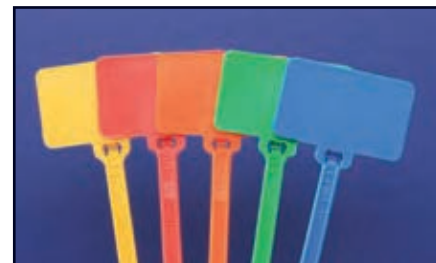
Blank Flag Identification Tags with 1-1/8" x 5/8" Flag

Nelco #	Nominal Length	Flag Size	Colors	Packaging
N-6C	6"	1-1/8" x 5/8"	Blue, Green, Ivory, Orange, Red, Yellow	100/pack



Blank Flag Identification Tags with 1-7/8" x 1-1/8" Flag

Nelco #	Nominal Length	Flag Size	Colors	Packaging
N-3C-MID	3"	1-7/8" x 1-1/8"	Blue, Green, Orange, Red, Yellow	100/pack
N-6C-MID	6"	1-7/8" x 1-1/8"	Blue, Green, Ivory, Orange, Red, Yellow	100/pack



Blank Flag Identification Tags with 2" x 3" Flag

Nelco #	Nominal Length	Flag Size	Colors	Packaging
N-3L	3"	2" x 3"	Blue, Green, Ivory, Orange, Red, Yellow	100/pack
N-6L	6"	2" x 3"	Blue, Green, Ivory, Orange, Red, Yellow	100/pack
N-9L	9"	2" x 3"	Blue, Green, Ivory, Orange, Red, Yellow	100/pack
N-18L	18"	2" x 3"	Blue, Green, Ivory, Orange, Red, Yellow	100/pack



Write-on Mini Flag Identification Tags with 7/8" x 5/8" Flag

Nelco #	Nominal Length	Flag Size	Write-on Area	Colors	Packaging
N-3M	3"	7/8" x 5/8"	5/8" x 9/16"	Blue, Green, Orange, Red, Yellow	100/pack



Write-on Flag Identification Tags with 1-1/8" x 5/8" Flag

Nelco #	Nominal Length	Flag Size	Write-on Area	Colors	Packaging
N-6A	6"	1-1/8" x 5/8"	1-1/16" x 9/16"	Blue, Green, Ivory, Orange, Red, Yellow	100/pack



Write-on Mid-Size Flag Identification Tags with 1-7/8" x 1-1/8" Flag

Nelco #	Nominal Length	Flag Size	Write-on Area	Colors	Packaging
N-3A-MID	3"	1-7/8" x 1-1/8"	1-3/4" x 1"	Black, Blue, Green, Orange, Purple, Red, Yellow	100/pack
N-6A-MID	6"	1-7/8" x 1-1/8"	1-3/4" x 1"	Blue, Green, Orange, Red, Yellow	100/pack



Self-Lock Stainless Steel Cable Ties (100 LB.)

Type 304 Stainless Steel

Nelco #	Nominal Length	Actual Length Inches/mm	Width Inches/mm	Bundle Diameter	Tensile Strength (Lbs)
N-5-100-SS	5"	5.40/137	.187/4.76	1"	100
N-8-100-SS	8"	8.40/213	.187/4.76	2"	100
N-11-100-SS	11"	10.90/276	.187/4.76	2.7"	100
N-14-100-SS	14"	14.90/378	.187/4.76	4"	100
N-21-100-SS	21"	20.90/530	.187/4.76	6"	100
N-27-100-SS	27"	27.40/695	.187/4.76	8"	100
N-33-100-SS	33"	33.40/848	.187/4.76	10"	100
N-42-100-SS	42"	42.40/1076	.187/4.76	12"	100
N-47-100-SS	47"	47.40/1203	.187/4.76	14"	100



Note: Also available in higher tensile strengths, epoxy-coated stainless steel and Type 316 stainless steel.

Subject to lead times and availability.

STAINLESS STEEL SPECIFICATIONS

Type 304 Stainless Steel

Type 304 is an all purpose austenitic, low carbon 18-8 chromium-nickel stainless steel. It has good corrosion resistance and weldability. Type 304 is the most widely used stainless steel. It is found in chemical and food processing equipment, hospital and paper mill equipment, heat exchangers, etc.

Type 316 Stainless Steel

Type 316 is an austenitic chromium-nickel stainless and heat resisting steel with superior corrosion resistance. It is extensively used in marine atmospheres and environments where it is subjected to various chemicals, salts, acids, and high temperatures. Type 316 has superior creep strengths at elevated temperatures.

FLEXtie Straps (Hook & Loop Cable Ties)

Nelco #	Length (in.)	Width (in.)	Head Width (in.)
NFT-75-5	5.00	0.500	0.750
NFT-75-6	6.00	0.500	0.750
NFT-75-8	8.00	0.500	0.750
NFT-75-12	12.00	0.500	0.750
NFT-75-18	18.00	0.500	0.750
NFT-1-8*	8.00	0.500	1.00
NFT-1-12*	12.00	0.500	1.00
NFT-50-25YDS	25 yards	0.500	
NFT-75-5YDS	5 yards	0.750	
NFT-75-25YDS	25 yards	0.750	
NFT-1-25YDS	25 yards	1.00	



Standard Color: Black. Other colors available upon request.

*Designed to allow attachment with a mechanical fastener

Cable Tie Installation Tools



QC-100

A lightweight tool for least critical applications. Cinch tie to desired bundle and twist tool to remove excess strap. Recommended for use with 18-50 lb. cable ties.



N-400

A heavy duty tool for use with 18-50 lb. ties. Automatic cut-off and adjustable tensioning for dependable use in assembly applications. This tool is available in plastic or metal.



N-300

Rugged construction makes this tool ideal for use with our 120- 175 lb. ties. Cinch the tie to the desired bundle and pull the trigger to cut excess flush at the cable tie head.

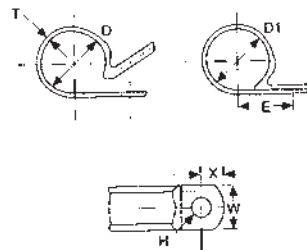
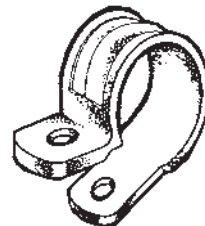


N-SLT

Hand tool to apply our self-lock stainless steel ties. The easy to use tool includes adjustable tension & automatic cut-off.

Molded Cable Clamps

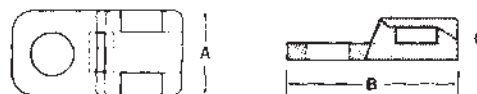
Nelco #	D Nominal Diameter inch/mm	E inch/mm	W inch/mm	H Hole Diameter
N-125	.125/3.17	.329/8.36	.375/9.52	.167/4.24
N-187	.187/4.76	.430/10.92	.375/9.52	.167/4.24
N-250	.250/6.34	.410/10.41	.375/9.52	.167/4.24
N-312	.312/7.93	.495/12.57	.375/9.52	.167/4.24
N-375	.375/9.52	.595/15.11	.375/9.52	.167/4.24
N-500	.500/12.69	.605/15.37	.375/9.52	.167/4.24
NH-187	.187/4.76	.375/9.52	.500/12.69	.203/5.15
NH-250	.250/6.34	.410/10.41	.500/12.69	.203/5.15
NH-312	.312/7.93	.500/12.69	.500/12.69	.203/5.15
NH-375	.375/9.52	.530/13.46	.500/12.69	.203/5.15
NH-437	.437/11.11	.560/14.22	.500/12.69	.203/5.15
NH-500	.500/12.69	.595/15.11	.500/12.69	.203/5.15
NH-562	.562/14.28	.606/15.39	.500/12.69	.203/5.15
NH-625	.625/15.87	.655/16.64	.500/12.69	.203/5.15
NH-687	.687/17.46	.755/19.17	.500/12.69	.203/5.15
NH-750	.750/19.04	.780/19.81	.500/12.69	.203/5.15
NH-812	.812/20.63	.815/20.70	.500/12.69	.203/5.15
NH-875	.875/22.22	.845/21.46	.500/12.69	.203/5.15
NH-1000	1.00/25.39	.910/23.11	.500/12.69	.203/5.15
NH-1250	1.25/31.73	1.06/26.92	.500/12.69	.203/5.15

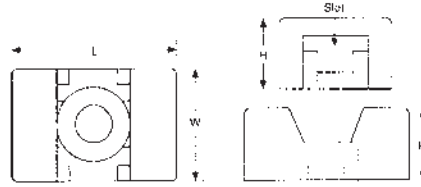
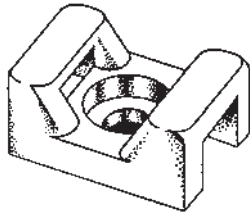


Tie Anchor Mounts

Nelco #	Dimensions (in.)			Mounting Method
	A	B	C	
CTAM-1	0.400	0.800	0.200	#8 Screw
CTAM-2	0.400	0.800	0.200	#10 Screw

Available in Natural and Weather Resistant Nylon



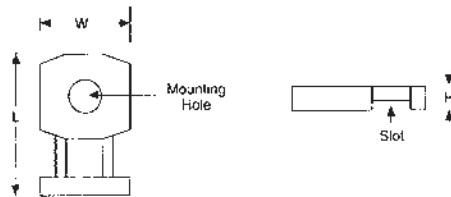
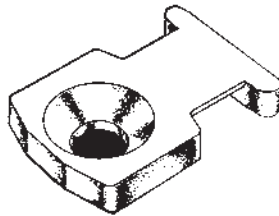


Screw Mounts

Nelco #	Length inch/mm	Height inch/mm	Width inch/mm	Slot Height inch/mm	Slot Width inch/mm	Screw Size	Accepts Ties
SM-0 #4 *	.59/15.0	.27/7.0	.39/10.0	.06/1.5	.20/.51	#4	M,I,S
SM-1 #6 *	.59/15.0	.27/7.0	.37/9.3	.06/1.5	.19/4.8	#6	M,I,S
SM-1 #8 *	.59/14.9	.28/7.2	.37/9.3	.06/1.5	.19/4.8	#8	M,I,S
SM-2 #8 *	.63/16.0	.28/7.2	.43/10.8	.06/1.5	.19/4.8	#8	M,I,S
SM-2 #10 *	.88/22.2	.38/9.5	.63/15.8	.08/2.0	.19/4.8	#10	M,I,S
SM-3 #10 *	.90/23.0	.35/9.0	.63/16.0	.12/3.1	.35/9.0	#10	M,I,S,HD
SM-3 1/4 *	.87/22.1	.38/9.6	.64/16.2	.12/3.1	.30/7.6	1/4	M,I,S,HD

Accepts ties: M = miniature, I = Intermediate, S = Standard, HD = Heavy-Duty (18lb - 120lb)

* Add suffix -9 natural, -0 black



Low Profile Mount

Nelco #	Height inch/mm	Length inch/mm	Width inch/mm	Slot Height inch/mm	Slot Width inch/mm	Mount Method
LPM-9	.120/3.10	.733/18.60	.487/12.13	.225/5.72	.300/7.12	#8 Flat Head

Accepts Miniature through Standard Cable Ties (18lb – 50lb)

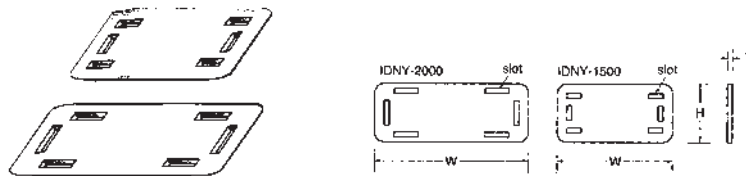
Adhesive Mounting Bases

Nelco #	Length inch/mm	Width inch/mm	Use with Cable Ties
N-AM50	.50/12.70	.50/12.70	18 lb.
N-AM75*	.75/19.10	.75/19.10	18-40 lb.
N-AM100*	1.09/27.7	1.09/27.7	18-50 lb.
N-AM150	1.50/38.10	1.50/38.10	50-120 lb.

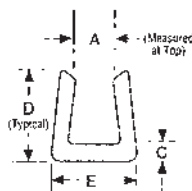
*twin strip design



Identification Tags



Nelco #	Height inch/mm	Width inch/mm	Thickness inch/mm	Slot Height inch/mm	Slot Width inch/mm
IDNY-1500	.787/20.0	1.57/40.0	.039/1.0	.08/2.03	.18/4.57
IDNY-2000	.984/25.0	2.36/60.0	.039/1.0	.08/2.03	.18/4.57



Extruded Grommets

Nelco #		Material	Panel Thickness Range	"GAP" Ref.	"A" Ref.	"B" Ref.	"C" Ref.
Solid Lengths	Serrated Lengths						
GSNY-1	GRNY-1	UL94 HB Nylon RMS-88	.026-.036 (0.7-0.9)	.018 (0.5)	.125 (3.2)	.031 (0.8)	.031 (0.8)
GSNY-2	GRNY-2		.037-.071 (0.9-1.8)	.037 (0.9)	.172 (4.4)		.109 (2.8)
n/a	GRNY-2.5		.072-.105 (1.8-2.7)	.060 (1.5)			
n/a	GRNY-3		.106-.164 (2.7-4.2)	.106 (2.7)	.188 (4.8)	.047 (1.2)	.156 (4)
n/a	GRNY-4		.165-.187 (4.2-4.7)	.165 (4.2)			.188 (4.8)
n/a	GRNY-5		.188-.250 (4.8-6.4)	.187 (4.8)			.250 (6.4)
PGS-1	SPGS-1	Polyethylene RMS-06	.026-.036 (0.7-0.9)	.018 (0.5)	.125 (3.2)	.031 (0.8)	.031 (0.8)
PGS-2	SPGS-2		.037-.071 (0.9-1.8)	.037 (0.9)	.172 (4.4)		.109 (2.8)
PGS-2.5	SPGS-2.5		.072-.105 (1.8-2.7)	.060 (1.5)			
PGS-3	SPGS-3		.106-.164 (2.6-4.2)	.106 (2.7)	.188 (4.8)	.047 (1.2)	.156 (4)

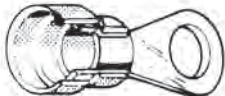


Non-Insulated Butted Seam

The most economical terminal - used where special performance or installation characteristics are not needed. Beveled mouth facilitates wire insertion. Maximum temperature for bare terminals: 175°C/347°F.

Non-Insulated Brazed Seam

Beveled mouth facilitates wire insertion. Can be crimped anywhere on barrel surface. Silver brazed seam will not open under crimping pressure or operating stresses. Unlike butted seam parts, stranded wire cannot escape barrel confines during or after crimping. Maximum temperature for bare terminals: 175°C/347°F.



Vinyl Insulated Brazed and Butted Seams

Used where insulated barrel is necessary and desirable. Terminal consists of brazed or butted part with flared, rigid molded polyvinyl chloride sleeve securely attached and funneled for easy wire entry. Wire insulation positions itself against funnel portion of vinyl sleeve thus eliminating strand hang-up. Crimping barrel and flared portion of sleeve provide excellent electrical contact plus mechanical stress relief at junction of insulation and barrel. Insulation has a non-slip ridge for ease of positioning crimping tool. Industry standard color coding indicates wire range. Insulators are rated at a continuous operating temperature range from -40°C to 105°C/-40°F to 220°F.

Terminals on tape and reel also available.



Nylon Insulated Butted Seam With Insulation Grip

Used where insulated barrel and positive insulation grip are necessary or desirable. Terminal consists of butted seam part with flared, seamless brass sleeve securely attached and covered with flared, molded nylon sleeve. Wire insulation positions itself against funnel portion of brass sleeve. Crimping barrel and flared portion of sleeve provide excellent electrical contact plus mechanical stress relief at junction of insulation and barrel. Positioning crimp tool is nearly mistake proof due to a "step" in nylon insulation. Industry standard color coding indicates wire range. Insulators are rated at a continuous operating temperature range from -40°C to 105°C/-40°F to 220°F.



Heat Shrink Terminals

Protects against the most challenging of environments making the best moisture protection available. Offers several advantages over conventional unsealed products.

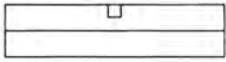
Corrosion Resistance - The adhesive-lined heat shrink material, when properly crimped and shrunk, provides a seal resistant to water, salt, steam and other contaminants.

Improved Mechanical Performance - The adhesive-lined heat shrink tubing adheres, when shrunk, to both the connector and the wire insulation providing improved pullout strength and strain relief.

Durable Heat Shrink Tubing - Tough heat shrink tubing effectively resists abrasion, scoring, cut-through, and the effects of long term aging.

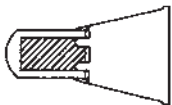
Versatile and Easy to Use - Available in wire sizes 22-10 AWG and can be installed easily with a recommended tool and heat source.

All terminals are UL Listed & CSA Certified.



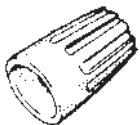
High Temperature Terminals & Connectors

High Temperature Terminals and Connectors are constructed of steel with a nickel plating. Their temperature rating for continuous use at 482°C/900°F and intermittent use at 667°C/1200°F makes them perfect for use in ovens, motors, light fixtures and other applications where other connectors would corrode or melt. **There is no applicable UL or CSA standard for high temperature steel parts.**



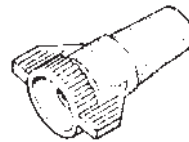
Nylon-Insulated Closed-End Connectors

Feature two-piece construction, a translucent nylon molded insulator and a metal connector insert. The connector's insert is annealed, tin-plated, seamless, pure electrolytic, tough pitch copper. Individual design and performance requirements dictate the use of copper inserts. These connectors are all rated for a maximum of 600 volts. Also available on mylar tape.



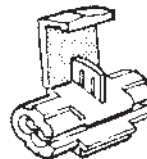
Wire Connectors

A cone shaped, plated steel spring conforms to the inside contour of the insulating shell, which supports the spring as the conductor is driven up into the cone. Requiring no pre-twisting, the wires are automatically twisted together for a secure connection and maximum contact. Fixed spring wire connectors may be used to make branch circuit or fixture wire connections on numerous combinations of solid and/or stranded wire.



Wing Wire Connectors

A square wire, coiled spring expands freely within the tough plastic shell and can accommodate a wide range of wire combinations. The angled edges of the spring attaches to the conductor as the connector is twisted on for an easily secured joint. The spring applies even pressure over the entire contact area, and provides a low resistance connection and mechanical strength against pull and vibration.



Insulation Displacement Connectors (IDCs)

Easy and time saving - to install one, just squeeze - no stripping or twisting. The unique "U" contact provides dependable electrical connections.

- A "live spring" joint is made by driving the "U" contact down into the connector.
- As the "U" contact is pressed into the connector, it grasps conductors as it displaces insulation.
- The contact grips the conductor and holds with a firm, resilient pressure.

A wide variety of styles and sizes are available to meet all your applications. Fluorescent ballast installation and replacement, fixture and appliance wiring, automotive and marine wiring and control circuit wiring are easily accomplished.

All terminals are UL Listed & CSA Certified.

Ring Terminals



Wire Range (AWG)	Stud Size	Nelco #					
		Non-Insulated Butted Seam	Non-Insulated Brazed Seam	Vinyl Insulated Butted Seam	Nylon Insulated w/ Insulation Grip	Heat Shrink Brazed Seam	*High Temp. Butted Seam
*26-24	0	RT-24-0			RTN-24-0		
*26-24	2	RT-24-2			RTN-24-2		
*26-24	4	RT-24-4			RTN-24-4		
*26-24	6	RT-24-6			RTN-24-6		
*26-24	8	RT-24-8			RTN-24-8		
*26-24	10	RT-24-10			RTN-24-10		
22-18	2	RT-18-2	RT-18-2-W	RTV-18-2	RTN-18-2		
22-18	4	RT-18-4	RT-18-4-W	RTV-18-4	RTN-18-4		
22-18	6	RT-18-6	RT-18-6-W	RTV-18-6	RTN-18-6	RTHS-18-6	RTHT-18-6
22-18	8	RT-18-8	RT-18-8-W	RTV-18-8	RTN-18-8	RTHS-18-8	RTHT-18-8
22-18	10	RT-18-10	RT-18-10-W	RTV-18-10	RTN-18-10	RTHS-18-10	RTHT-18-10
22-18	1/4	RT-18-14	RT-18-14-W	RTV-18-14	RTN-18-14	RTHS-18-14	RTHT-18-14
22-18	5/16	RT-18-56	RT-18-56-W	RTV-18-56	RTN-18-56		RTHT-18-56
22-18	3/8	RT-18-38	RT-18-38-W	RTV-18-38	RTN-18-38	RTHS-18-38	RTHT-18-38
16-14	2	RT-14-2	RT-14-2-W	RTV-14-2	RTN-14-2		
16-14	4	RT-14-4	RT-14-4-W	RTV-14-4	RTN-14-4		
16-14	6	RT-14-6	RT-14-6-W	RTV-14-6	RTN-14-6	RTHS-14-6	RTHT-14-6
16-14	8	RT-14-8	RT-14-8-W	RTV-14-8	RTN-14-8	RTHS-14-8	RTHT-14-8
16-14	10	RT-14-10	RT-14-10-W	RTV-14-10	RTN-14-10	RTHS-14-10	RTHT-14-10
16-14	1/4	RT-14-14	RT-14-14-W	RTV-14-14	RTN-14-14	RTHS-14-14	RTHT-14-14
16-14	5/16	RT-14-56	RT-14-56-W	RTV-14-56	RTN-14-56	RTHS-14-56	RTHT-14-56
16-14	3/8	RT-14-38	RT-14-38-W	RTV-14-38	RTN-14-38	RTHS-14-38	RTHT-14-38
12-10	4	RT-10-4	RT-10-4-W	RTV-10-4	RTN-10-4		
12-10	6	RT-10-6	RT-10-6-W	RTV-10-6	RTN-10-6		RTHT-10-6
12-10	8	RT-10-8	RT-10-8-W	RTV-10-8	RTN-10-8	RTHS-10-8	RTHT-10-8
12-10	10	RT-10-10	RT-10-10-W	RTV-10-10	RTN-10-10	RTHS-10-10	RTHT-10-10
12-10	1/4	RT-10-14	RT-10-14-W	RTV-10-14	RTN-10-14	RTHS-10-14	RTHT-10-14
12-10	5/16	RT-10-56	RT-10-56-W	RTV-10-56	RTN-10-56	RTHS-10-56	RTHT-10-56
12-10	3/8	RT-10-38	RT-10-38-W	RTV-10-38	RTN-10-38	RTHS-10-38	RTHT-10-38
12-10	7/16	RT-10-716	RT-10-716-W	RTV-10-716	RTN-10-716		
12-10	1/2	RT-10-500	RT-10-500-W	RTV-10-500	RTN-10-500	RTHS-10-500	

*Not UL Listed or CSA Certified

Ring Terminals Cont'd



Wire Range (AWG)	Stud Size	Nelco #					
		Non-Insulated Butted Seam	Non-Insulated Brazed Seam	Vinyl Insulated Butted Seam	Nylon Insulated w/ Insulation Grip	Heat Shrink Brazed Seam	*High Temp. Butted Seam
8	6		RT-8-6-W	RTV-8-6	RTN-8-6		
8	8		RT-8-8-W	RTV-8-8	RTN-8-8		
8	10		RT-8-10-W	RTV-8-10	RTN-8-10		RTHT-8-10
8	1/4		RT-8-14-W	RTV-8-14	RTN-8-14		RTHT-8-14
8	5/16		RT-8-56-W	RTV-8-56	RTN-8-56		RTHT-8-56
8	3/8		RT-8-38-W	RTV-8-38	RTN-8-38		RTHT-8-38
8	7/16		RT-8-716-W	RTV-8-716	RTN-8-716		
8	1/2		RT-8-500-W	RTV-8-500	RTN-8-500		
8	5/8		RT-8-58-W	RTV-8-58	RTN-8-58		
8	3/4		RT-8-34-W		RTN-8-34		
6	8		RT-6-8-W	RTV-6-8	RTN-6-8		
6	10		RT-6-10-W	RTV-6-10	RTN-6-10		
6	1/4		RT-6-14-W	RTV-6-14	RTN-6-14		
6	5/16		RT-6-56-W	RTV-6-56	RTN-6-56		
6	3/8		RT-6-38-W	RTV-6-38	RTN-6-38		RTHT-6-38
6	7/16		RT-6-716-W	RTV-6-716	RTN-6-716		
6	1/2		RT-6-500-W	RTV-6-500	RTN-6-500		
6	5/8		RT-6-58-W	RTV-6-58	RTN-6-58		
6	3/4		RT-6-34-W	RTV-6-34	RTN-6-34		
4	10		RT-4-10-W	RTV-4-10	RTN-4-10		
4	1/4		RT-4-14-W	RTV-4-14	RTN-4-14		
4	5/16		RT-4-56-W	RTV-4-56	RTN-4-56		
4	3/8		RT-4-38-W	RTV-4-38	RTN-4-38		RTHT-4-38
4	7/16		RT-4-716-W	RTV-4-716	RTN-4-716		
4	1/2		RT-4-500-W	RTV-4-500	RTN-4-500		
4	5/8		RT-4-58-W	RTV-4-58	RTN-4-58		
4	3/4		RT-4-34-W	RTV-4-34	RTN-4-34		
2	10		RT-2-10-W	RTV-2-10	RTN-2-10		
2	1/4		RT-2-14-W	RTV-2-14	RTN-2-14		
2	5/16		RT-2-56-W	RTV-2-56	RTN-2-56		
2	3/8		RT-2-38-W	RTV-2-38	RTN-2-38		
2	7/16		RT-2-716-W		RTN-2-716		
2	1/2		RT-2-500-W	RTV-2-500	RTN-2-500		
2	5/8		RT-2-58-W	RTV-2-58	RTN-2-58		
2	3/4		RT-2-34-W		RTN-2-34		

*Not UL Listed or CSA Certified

Ring Terminals Cont'd



Wire Range (AWG)	Stud Size	Nelco #					
		Non-Insulated Butted Seam	Non-Insulated Brazed Seam	Vinyl Insulated Butted Seam	Nylon Insulated w/ Insulation Grip	Heat Shrink Brazed Seam	*High Temp. Butted Seam
1/0	1/4		RT-1/0-14-W	RTV-1/0-14	RTN-1/0-14		
1/0	5/16		RT-1/0-56-W	RTV-1/0-56	RTN-1/0-56		
1/0	3/8		RT-1/0-38-W	RTV-1/0-38	RTN-1/0-38		
1/0	7/16		RT-1/0-716-W	RTV-1/0-716	RTN-1/0-716		
1/0	1/2		RT-1/0-500-W	RTV-1/0-500	RTN-1/0-500		
1/0	5/8			RTV-1/0-58	RTN-1/0-58		
1/0	3/4		RT-1/0-34-W	RTV-1/0-34	RTN-1/0-34		
2/0	1/4		RT-2/0-14-W	RTV-2/0-14	RTN-2/0-14		
2/0	5/16		RT-2/0-56-W	RTV-2/0-56	RTN-2/0-56		
2/0	3/8		RT-2/0-38-W	RTV-2/0-38	RTN-2/0-38		
2/0	7/16		RT-2/0-716-W	RTV-2/0-716	RTN-2/0-716		
2/0	1/2		RT-2/0-500-W	RTV-2/0-500	RTN-2/0-500		
2/0	5/8		RT-2/0-58-W	RTV-2/0-58	RTN-2/0-58		
2/0	3/4		RT-2/0-34-W	RTV-2/0-34	RTN-2/0-34		
3/0	5/16		RT-3/0-56-W		RTN-3/0-56		
3/0	3/8		RT-3/0-38-W		RTN-3/0-38		
3/0	7/16				RTN-3/0-716		
3/0	1/2		RT-3/0-500-W	RTV-3/0-500	RTN-3/0-500		
3/0	5/8		RT-3/0-58-W	RTV-3/0-58	RTN-3/0-58		
3/0	3/4		RT-3/0-34-W	RTV-3/0-34	RTN-3/0-34		
4/0	3/8		RT-4/0-38-W		RTN-4/0-38		
4/0	7/16				RTN-4/0-716		
4/0	1/2		RT-4/0-500-W		RTN-4/0-500		
4/0	5/8		RT-4/0-58-W		RTN-4/0-58		
4/0	3/4				RTN-4/0-34		

*Not UL Listed or CSA Certified

Spade (Fork) Terminals



Wire Range (AWG)	Stud Size	Nelco #				
		Non-Insulated Butted Seam	Non-Insulated Brazed Seam	Vinyl Insulated Butted Seam	Nylon Insulated w/ Insulation Grip	*High Temp. Butted Seam
*26-24	0	ST-24-0			STN-24-0	
*26-24	4	ST-24-4			STN-24-4	
*26-24	6	ST-24-6			STN-24-6	
22-18	6	ST-18-6	ST-18-6-W	STV-18-6	STN-18-6	STHT-18-6
22-18	8	ST-18-8	ST-18-8-W	STV-18-8	STN-18-8	STHT-18-8
22-18	10	ST-18-10	ST-18-10-W	STV-18-10	STN-18-10	STHT-18-10
16-14	6	ST-14-6	ST-14-6-W	STV-14-6	STN-14-6	STHT-14-6
16-14	8	ST-14-8	ST-14-8-W	STV-14-8	STN-14-8	STHT-14-8
16-14	10	ST-14-10	ST-14-10-W	STV-14-10	STN-14-10	STHT-14-10
12-10	6	ST-10-6	ST-10-6-W	STV-10-6	STN-10-6	STHT-10-6
12-10	8	ST-10-8	ST-10-8-W	STV-10-8	STN-10-8	STHT-10-8
12-10	10	ST-10-10	ST-10-10-W	STV-10-10	STN-10-10	STHT-10-10

* Not UL Listed or CSA Certified.

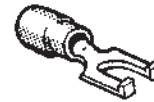
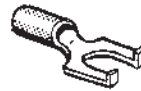
Block Spade (Fork) Terminals



Wire Range (AWG)	Stud Size	Nelco #				
		Non-Insulated Butted Seam	Non-Insulated Brazed Seam	Vinyl Insulated Butted Seam	Nylon Insulated w/ Insulation Grip	*High Temp. Butted Seam
22-18	4	BST-18-4	BST-18-4-W	BSTV-18-4	BSTN-18-4	
22-18	6	BST-18-6	BST-18-6-W	BSTV-18-6	BSTN-18-6	BSHT-18-6
22-18	8	BST-18-8	BST-18-8-W	BSTV-18-8	BSTN-18-8	
22-18	10	BST-18-10	BST-18-10-W	BSTV-18-10	BSTN-18-10	
16-14	4	BST-14-4	BST-14-4-W	BSTV-14-4	BSTN-14-4	
16-14	6	BST-14-6	BST-14-6-W	BSTV-14-6	BSTN-14-6	BSHT-14-6
16-14	8	BST-14-8	BST-14-8-W	BSTV-14-8	BSTN-14-8	
16-14	10	BST-14-10	BST-14-10-W	BSTV-14-10	BSTN-14-10	
12-10	6	BST-10-6	BST-10-6-W	BSTV-10-6	BSTN-10-6	
12-10	8	BST-10-8	BST-10-8-W	BSTV-10-8	BSTN-10-8	
12-10	10	BST-10-10	BST-10-10-W	BSTV-10-10	BSTN-10-10	BSHT-10-10

* Not UL Listed or CSA Certified.

Flanged Block Spade (Fork) Terminals



Wire Range (AWG)	Stud Size	Nelco #			
		Non-Insulated Butted Seam	Non-Insulated Brazed Seam	Vinyl Insulated Butted Seam	Nylon Insulated w/ Brazed Seam
22-18	6	FST-18-6	FST-18-6-W	FSTV-18-6	FSTN-18-6
22-18	8	FST-18-8	FST-18-8-W	FSTV-18-8	FSTN-18-8
22-18	10	FST-18-10	FST-18-10-W	FSTV-18-10	FSTN-18-10
16-14	6	FST-14-6	FST-14-6-W	FSTV-14-6	FSTN-14-6
16-14	8	FST-14-8	FST-14-8-W	FSTV-14-8	FSTN-14-8
16-14	10	FST-14-10	FST-14-10-W	FSTV-14-10	FSTN-14-10
12-10	6	FST-10-6	FST-10-6-W	FSTV-10-6	FSTN-10-6
12-10	8	FST-10-8	FST-10-8-W	FSTV-10-8	FSTN-10-8
12-10	10	FST-10-10	FST-10-10-W	FSTV-10-10	FSTN-10-10

Snap Spade (Locking Fork) Terminals



Wire Range (AWG)	Stud Size	Nelco #			
		Non-Insulated Butted Seam	Vinyl Insulated Butted Seam	Nylon Insulated w/ Brazed Seam	Heat Shrink Brazed Seam
22-18	4	SST-18-4	SSTV-18-4	SSTN-18-4	
22-18	6	SST-18-6	SSTV-18-6	SSTN-18-6	SSTHS-18-6
22-18	8	SST-18-8	SSTV-18-8	SSTN-18-8	SSTHS-18-8
22-18	10	SST-18-10	SSTV-18-10	SSTN-18-10	SSTHS-18-10
16-14	4	SST-14-4	SSTV-14-4	SSTN-14-4	
16-14	6	SST-14-6	SSTV-14-6	SSTN-14-6	SSTHS-14-6
16-14	8	SST-14-8	SSTV-14-8	SSTN-14-8	SSTHS-14-8
16-14	10	SST-14-10	SSTV-14-10	SSTN-14-10	SSTHS-14-10
16-14	1/4	SST-14-14	SSTV-14-14	SSTN-14-14	SSTHS-14-14
12-10	6	SST-10-6	SSTV-10-6	SSTN-10-6	
12-10	8	SST-10-8	SSTV-10-8	SSTN-10-8	SSTHS-10-8
12-10	10	SST-10-10	SSTV-10-10	SSTN-10-10	SSTHS-10-10
12-10	1/4	SST-10-14	SSTV-10-14	SSTN-10-14	SSTHS-10-14

Female Quick Disconnects



Wire Range (AWG)	Tab Size	Nelco #				
		Non-Insulated Butted Seam	Vinyl Insulated Butted Seam	Nylon Insulated w/ Insulation Grip	Heat Shrink Nylon Insulated	*High Temp. Butted Seam
26-20	.110 X .020	FD-20-110-020*		IFDN-20-110-020*		
26-20	.110 X .032	FD-20-110-032*		IFDN-20-110-032*		
22-18	.187 X .020	FD-18-187-020	IFDV-18-187-020	IFDN-18-187-020		
22-18	.250 X .032	FD-18-250-032	IFDV-18-250-032	IFDN-18-250-032	FDHS-18-250-032	FDHT-18-250-032
16-14	.110 x .020	FD-14-110-020*	IFDV-14-110-020	IFDN-14-110-020*		
16-14	.187 X .020	FD-14-187-020*	IFDV-14-187-020	IFDN-14-187-020		FDHT-14-187-020
16-14	.250 X .032	FD-14-250-032	IFDV-14-250-032*	IFDN-14-250-032	FDHS-14-250-032	FDHT-14-250-032
12-10	.250 X .032	FD-10-250-032	IFDV-10-250-032	IFDN-10-250-032	FDHS-10-250-032	FDHT-10-250-032
12-10	.375 X .050	FD-10-375-050*	IFDV-10-375-050*	IFDN-10-375-050*		

* Not UL Listed or CSA Certified.

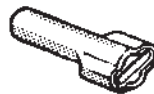
Male Quick Disconnects



Wire Range (AWG)	Tab Size	Nelco #				
		Non-Insulated Butted Seam	Vinyl Insulated Butted Seam	Nylon Insulated w/ Insulation Grip	Heat Shrink Nylon Insulated	*High Temp. Butted Seam
22-18	.187 X .020	MD-18-187-020	IMDV-18-187-020	IMDN-18-187-020		
22-18	.250 X .032	MD-18-250-032	IMDV-18-250-032	IMDN-18-250-032	MDHS-18-250-032	
16-14	.187 X .020	MD-14-187-020*	IMDV-14-187-020	IMDN-14-187-020		MDHT-14-187-020
16-14	.250 X .032	MD-14-250-032	IMDV-14-250-032*	IMDN-14-250-032	MDHS-14-250-032	MDHT-14-250-032
12-10	.250 X .032	MD-10-250-032	IMDV-10-250-032	IMDN-10-250-032	MDHS-10-250-032	MDHT-10-250-032

* Not UL Listed or CSA Certified.

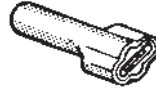
Fully Insulated Female Quick Disconnects



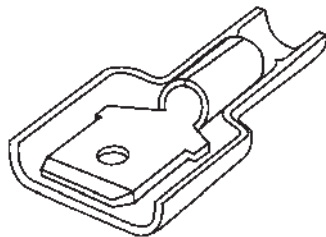
Wire Range (AWG)	Tab Size	Nelco #		
		Fully Nylon Insulated Butted Seam	Fully Nylon Insulated with Insulation Grip*	Heat Shrink Insulation
26-20	.110 X .020	FIFDN-20-110-020*	FIFDNI-20-110-020*	
22-18	.187 X .020	FIFDN-18-187-020	FIFDNI-18-187-020	FIFDHS-18-187-020
22-18	.250 X .032	FIFDN-18-250-032	FIFDNI-18-250-032	FIFDHS-18-250-032
16-14	.187 X .020	FIFDN-14-187-020	FIFDNI-14-187-020	FIFDHS-14-187-020
16-14	.250 X .032	FIFDN-14-250-032	FIFDNI-14-250-032	FIFDHS-14-250-032
12-10	.250 X .032	FIFDN-10-250-032	FIFDNI-10-250-032	FIFDHS-10-250-032

* Not UL Listed or CSA Certified.

Fully Insulated Male Quick Disconnects

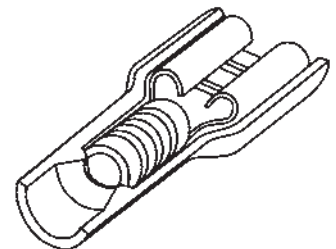


Wire Range (AWG)	Tab Size	Nelco #		
		Fully Nylon Insulated Butted Seam	Fully Nylon Insulated with Insulation Grip*	Heat Shrink Insulation
22-18	.187 X .020	FIMDN-18-187-020	FIMDNI-18-187-020	FIMDHS-18-187-020
22-18	.250 X .032	FIMDN-18-250-032	FIMDNI-18-250-032	FIMDHS-18-250-032
16-14	.187 X .020	FIMDN-14-187-020	FIMDNI-14-187-020	FIMDHS-14-187-020
16-14	.250 X .032	FIMDN-14-250-032	FIMDNI-14-250-032	FIMDHS-14-250-032
12-10	.250 X .032	FIMDN-10-250-032	FIMDNI-10-250-032	FIMDHS-10-250-032



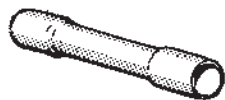
Male Couplers

Wire Range (AWG)	Tab Size	Nelco #
		Fully Insulated Nylon
22-18	.250 X .032	FIMC-18-250-032
16-14	.250 X .032	FIMC-14-250-032
12-10	.250 X .032	FIMC-10-250-032



Female Couplers

Wire Range (AWG)	Tab Size	Nelco #
		Fully Insulated Nylon
22-18	.250 X .032	FIFC-18-250-032
16-14	.250 X .032	FIFC-14-250-032
12-10	.250 X .032	FIFC-10-250-032



Butt Splice Connectors

Wire Range (AWG)	Nelco #					
	Non-Insulated Butted Seam	Non-Insulated Brazed Seam	Vinyl Insulated Butted Seam	Vinyl Insulated Brazed Seam	Nylon Insulated w/ Insulation Grip	*High Temp. Butted Seam
*26-24	BS-24				BSN-24	
22-18	BS-18		BSV-18		BSN-18	BSCHT-18
16-14	BS-14		BSV-14		BSN-14	BSCHT-14
12-10	BS-10		BSV-10		BSN-10	BSCHT-10
8		BS-8-W		BSV-8-W		
6		BS-6-W		BSV-6-W		
4		BS-4-W		BSV-4-W		

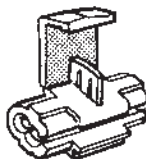
* Not UL Listed or CSA Certified.

Seamless Butt Splice Connectors



Wire Range (AWG)	Nelco #			
	Non-Insulated Seamless	Vinyl Insulated Seamless	Nylon Insulated Seamless	Heat Shrink Seamless
22-18	BSS-18	BSVS-18	BSNS-18	BSHSS-18
16-14	BSS-14	BSVS-14	BSNS-14	BSHSS-14
12-10	BSS-10	BSVS-10	BSNS-10	BSHSS-10

Insulation Displacement Connectors (Quick Splice Connectors)

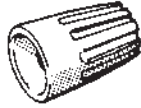


Color	Nelco #	Common AWG Cu to Cu Wire Combinations Solid or Stranded
Red	QS-2218	22-18 Tap; 18-14 Run
Blue	QS-1814	18-16 Stranded & Solid 14 Stranded Only
Yellow	QS-1210	12 Stranded & Solid 10 Stranded Only

Nylon Insulated Closed End Connectors

Nelco #	Wire Range (AWG)
CEC-2214	22-14
CEC-2212	22-12
CEC-1610	16-10
CEC-8	8

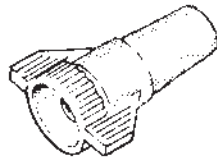




Wire Connectors

Nelco #	Model	Color	Wire Combination Range (Inches)	Wire Combination Range (mm)
WN-1	71B	Gray	300V No. 22 to 16 AWG Min. 2 No. 22 Str Max. 2 No. 16	300V .64 mm DIA to 1.29 mm DIA Min. .65mm ² Max. 2.62mm ²
WN-2	72B	Blue	300V No. 22 to 14 AWG Min. 2 No. 22 Str Max. 3 No. 16	300V .64 mm DIA to 1.63 mm DIA Min. .65mm ² Max. 3.93mm ²
WN-3	73B	Orange	600V* No. 22 to 14 AWG Min. 1 No. 18 & 1 No. 20 Max. 4 No. 16 & 1 No. 20	600V .64 mm DIA to 1.63 mm DIA Min. 1.34mm ² Max. 5.76mm ²
WN-4	74B	Yellow	600V* No. 18 to 12 AWG Min. 2 No. 18 Max. 4 No. 14 & 1 No. 18	600V 1.02 mm DIA to 2.05 mm DIA Min. 1.64mm ² Max. 9.14mm ²
WN-6	76B	Red	600V* No. 18 to 10 AWG Min. 2 No. 14 Max. 2 No. 10 & 2 No. 12	600V 1.02 mm DIA to 2.59 mm DIA Min. 4.16mm ² Max. 17.14mm ²

*1,000V maximum in fixtures and signs.



Wing Wire Connectors

Nelco #	Color	Wire Combination Range (Inches)	Wire Combination Range (mm)
WWN-Yellow	Yellow	600V* No. 18 to 10 AWG Min. 2 No. 18 Max. 3 No. 12	600V 1.02 mm DIA to 2.59 mm DIA Min. 1.64mm ² Max. 9.93mm ²
WWN-Red	Red	600V* No. 18 to 8 AWG Min. 2 No. 14 Max. 5 No. 12	600V 1.02 mm DIA to 3.26 mm DIA Min. 4.16mm ² Max. 16.55mm ²
WWN-Blue	Blue	600V* No. 14 to 6 AWG Min. 3 No. 12 Max. 2 No. 6 & 1 No. 12	600V 1.63 mm DIA to 4.12 mm DIA Min. 9.93mm ² Max. 29.9mm ²

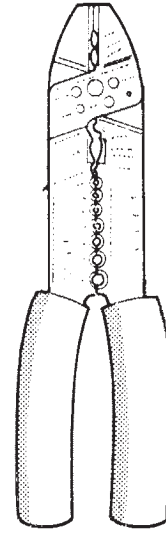
*1,000V maximum in fixtures and signs.

Crimping Tools

NCT-1 (Scissors Style)

Features

1. Anvil-type wire cutter.
2. Crimp dies for 26-10 AWG insulated terminals and closed-end connectors.
3. Cut-off dies for mild steel and non-ferrous screws.
4. Crimp dies for 12-6 AWG non-insulated terminals, connectors, flags, disconnects, crimp sleeves and high-temperature terminals.
5. Crimp dies for 6-8 AWG insulated terminals and butt connectors.
6. Crimp die for 26-14 AWG non-insulated terminals, connectors, flags, disconnects and crimp sleeves.
7. Wire-stripping stations for circumferential cut-less effort.
8. Strip length guide.



NCT-2 (Ratchet Style)

Tool Capability

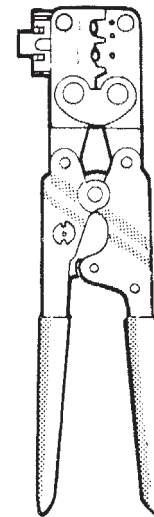
Crimps barrel and insulation grip simultaneously on No. 22-10 AWG (0.35-6.0 mm²) insulated terminals and connectors: nylon or vinyl insulated, butted or brazed seam.

Crimping Dies

No. 22-14 AWG (0.35-2.5 mm²) red and blue color coded. No. 12-10 AWG (4.0-6.0 mm²) yellow color coded.

Quality Control Marks

Embossed marks on the insulator for inspection of proper die used. No. 22-14 AWG - one Q.C. mark. No. 12-10 AWG - two Q.C. marks.



NCT-3 (Heavy-Duty Ratchet)

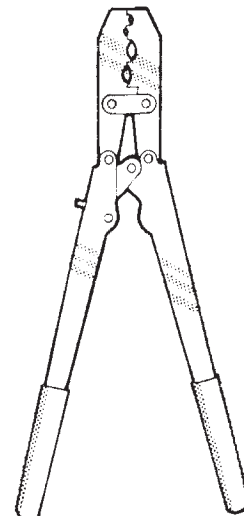
Hand-held precision crimping tool.

Handles insulated and non-insulated terminals in wire sizes 8-2 AWG.

Perfect for maintenance and lower volume requirements.

A ratchet feature is standard.

Long handles give maximum mechanical advantage.



ASK US ABOUT AUTOMATED CRIMPING MACHINES!

Nylobrade® Braid Reinforced PVC Hose

Features:

- Open mesh polyester braiding permanently encapsulated in walls of clear, flexible PVC tubing
- Reinforced PVC hose offers far higher pressure capabilities than un-reinforced PVC tubing
- PVC hose made from non-toxic ingredients conforming to USP Class VI and FDA standards
- Crystal clear compound provides full visual flow
- Mirror smooth PVC hose interior permits outstanding flow characteristics
- Reinforced PVC hose offers corrosion and abrasion resistance with flexibility similar to rubber but with much longer life



Nelco #	ID	OD	Wall Thickness	Wall Type	Available Lengths	Working PSI (at 70°F)	Burst PSI (at 70°F)
1000076	.125 (1/8)	.315	.095	Standard	100, 500	465	1395
1000230	.188 (3/16)	.394	.103	Standard	50, 100, 500	315	945
1000307	.250 (1/4)	.453	.102	Standard	50, 100, 500	300	900
1000461	.313 (5/16)	.531 (17/32)	.094	Standard	50, 100, 500	280	840
1000538	.375 (3/8)	.600	.113	Standard	50, 100, 500	230	690
1000692	.500 (1/2)	.728	.114	Standard	50, 100, 200, 500	215	645
1000846	.625 (5/8)	.906 (29/32)	.141	Standard	50, 100, 200, 300, 500	200	600
1000923	.750 (3/4)	1.024	.137	Standard	50, 100, 300, 500	150	450
1001154	1.000	1.299	.150	Standard	50, 100, 300	130	390
1001308	1.250 (1-1/4)	1.732	.241	Standard	50, 100	110	330
1001385	1.500 (1-1/2)	1.929	.215	Standard	50, 100	70	210
1001462	2.000	2.500 (2-1/2)	.250 (1/4)	Standard	50, 100	50	150

*Other sizes are available upon request.

*Nylobrade is a registered trademark of New Age Industries, Inc.

Newflex® Spiral Reinforced Hose

Features:

- 100% PVC construction
- Spiral reinforcement made from rigid PVC to resist impact, crushing, and kinking
- Lighter than ply-wrapped rubber and other similar hoses
- Available in Food and Industrial Grades
- Food Grade made from non-toxic ingredients conforming to FDA and 3A standards
- Smooth interior produces low friction loss permitting maximum flow
- Chemically inert; forms a good barrier to gases, vapors, and moisture



Nelco #	ID	OD	Wall Thickness	Working PSI (at 70°F)	Burst PSI (at 70°F)	Vacuum Rating (in./Hg)	Bend Radius
1200101	1.000	1.295	.148	60	180	28	2
1200178	1.250 (1-1/4)	1.625 (1-5/8)	.188 (3/16)	50	150	28	3
1200255	1.500 (1-1/2)	1.813 (1-13/16)	.157	50	150	28	3
1200332	1.750 (1-3/4)	2.094 (2-3/32)	.172	45	135	28	4
1200409	2.000	2.375 (2-3/8)	.188 (3/16)	45	135	28	4
1200486	2.250 (2-1/4)	2.625 (2-5/8)	.188 (3/16)	40	120	28	5
1200563	2.500 (2-1/2)	2.938 (2-15/16)	.219 (7/32)	40	120	28	6
1200640	3.000	3.438 (3-7/16)	.219 (7/32)	35	105	28	8
1200717	4.000	4.563 (4-9/16)	.282	35	105	28	10

*Other sizes are available upon request

*Newflex is a registered trademark of New Age Industries, Inc.

Clearflo® Clear PVC Tubing

Features:

- Made from non-toxic ingredients conforming to FDA and 3A^
- Clear PVC tube compound meets USP Class VI requirements^
- Certified by the National Sanitation Foundation (NSF 51)^
- PVC tubing has glass-like clarity^ with mirror-smooth surface providing outstanding flow characteristics
- PVC plastic tubing does not impart a taste or odor^
- Lightweight PVC tube is also extremely tough and abrasive resistant
- Clear tubing is as flexible as rubber
- Handles a wide variety of chemicals, gases, and liquids

^ Clear Only



Nelco #	ID	OD	Wall Thickness	Available Lengths	Working PSI (at 70°F)	Burst PSI (at 70°F)
1100456	.125 (1/8)	.250 (1/4)	.063 (1/16)	100, 500	68	272
1100918	.188 (3/16)	.313 (5/16)	.063 (1/16)	100, 500	55	220
1101149	.250 (1/4)	.375 (3/8)	.063 (1/16)	50, 100, 500	55	220
1101380	.313 (5/16)	.438 (7/16)	.063 (1/16)	100, 500	50	200
1101611	.375 (3/8)	.500 (1/2)	.063 (1/16)	100, 500	40	160
1102227	.500 (1/2)	.625 (5/8)	.063 (1/16)	100, 500	30	120
1102920	.625 (5/8)	.750 (3/4)	.063 (1/16)	100	20	80
1103074	.625 (5/8)	.875 (7/8)	.125 (1/8)	50, 100	40	160
1103613	.750 (3/4)	1.000	.125 (1/8)	50, 100	35	140
1103921	.875 (7/8)	1.125 (1-1/8)	.125 (1/8)	100	30	120
1104152	1.000	1.250 (1-1/4)	.125 (1/8)	50, 100	28	112
1104691	1.250 (1-1/4)	1.500 (1-1/2)	.125 (1/8)	100	22	88
1104999	1.500 (1-1/2)	1.750 (1-3/4)	.125 (1/8)	50, 100	19	76
1105307	1.750 (1-3/4)	2.000	.125 (1/8)	50	16	64
1105461	2.000	2.250 (2-1/4)	.125 (1/8)	50	14	56

*Other sizes are available upon request

*Clearflo is a registered trademark of New Age Industries, Inc.

Nylotube® Nylon Tubing

Features:

- Very low moisture absorption: 1.4% maximum (at 73°F)
- Will not become brittle or swell because of water
- Nylon-11, semi-rigid grade, natural color made with FDA-approved ingredients for use with food contact surfaces
- Excellent resistance to flexural fatigue, tube vibration, and movement
- Lightweight with excellent bend radii and pressure ratings
- Resists crushing, abrasion, and cracking
- Standard availability in metric sizes and colors



Nelco #	Note	ID	OD	Wall Thickness	Available Lengths	Working PSI (at 70°F)	Burst PSI (at 70°F)	Bend Radius
2330580	[BB]	.095	.125 (1/8)	.015	500	400	1200	3/8
2330265	[BB]	.075	.125 (1/8)	.025	500	1000	3000	1/4
2331210	[BB]	.106	.156 (5/32)	.025	250	730	2200	3/8
2330895	[BB]	.086	.156 (5/32)	.035	250	1120	3360	1/4
2331840	[BB]	.137	.188 (3/16)	.025	250	530	1600	1/2
2331525	[BB]	.107	.188 (3/16)	.040	250	980	2950	3/8
2332470	[BB]	.190	.250 (1/4)	.030	100, 250	500	1500	1
2332155	[BB]	.150	.250 (1/4)	.050	250	1000	3000	1/2
2333100	[BB]	.242	.313 (5/16)	.035	100	465	1400	1-1/4
2332785	[BB]	.182	.313 (5/16)	.065	100	1165	3500	7/8
2333730	[BB]	.295	.375 (3/8)	.040	100	530	1600	1-1/2
2333415	[BB]	.225	.375 (3/8)	.075	100	1180	3550	1

[BB] Nylon-12 Semi-rigid Grade, Natural

*Other colors available: black, red, yellow, green, blue. Nylon-11 material is also available.

*Nylotube is a registered trademark of New Age Industries, Inc.

Silcon® Silicone Tubing

Features:

- Silicone tubing is made from FDA-sanctioned ingredients
- Silicone tubing is able to resist extreme temperature variation: -100°F to 500°F [U]
- Translucent natural color for visual contact with the flow
- Resilient, stretchable material and resistant to compression set
- Flexible, odorless, tasteless, and inert
- Maintains good electrical and wheatherability properties--resists U.V., ozone, gases and moisture
- Certified by the National Sanitation Foundation (NSF 51) [U]



Nelco #	ID	OD	Wall Thickness	Available Lengths	Working PSI (at 70°F)	Burst PSI (at 70°F)
2800084	.063 (1/16)	.125 (1/8)	.031 (1/32)	100	10	30
2800315	.094 (3/32)	.156 (5/32)	.031 (1/32)	100	10	30
2800469	.125 (1/8)	.188 (3/16)	.031 (1/32)	100	10	30
2800546	.125 (1/8)	.250 (1/4)	.063 (1/16)	100	20	60
2801008	.188 (3/16)	.250 (1/4)	.031 (1/32)	100	5	15
2801162	.188 (3/16)	.375 (3/8)	.094 (3/32)	100	20	60
2801393	.250 (1/4)	.313 (5/16)	.031 (1/32)	100	10	30
2801470	.250 (1/4)	.375 (3/8)	.063 (1/16)	100	5	15
2801932	.375 (3/8)	.500 (1/2)	.063 (1/16)	100	10	30
2802086	.375 (3/8)	.625 (5/8)	.125 (1/8)	100	10	30
2802317	.500 (1/2)	.625 (5/8)	.063 (1/16)	100	5	15
2802471	.500 (1/2)	.750 (3/4)	.125 (1/8)	100	10	30
2802625	.625 (5/8)	.750 (3/4)	.063 (1/16)	100	-	-
2802779	.625 (5/8)	.875 (7/8)	.125 (1/8)	100	5	15
2803087	.750 (3/4)	1.000	.125 (1/8)	50	5	15

[U] When used in an NSF application, the maximum operating temperature is limited to 350° F

*Other sizes are available upon request

*Medical grade also available

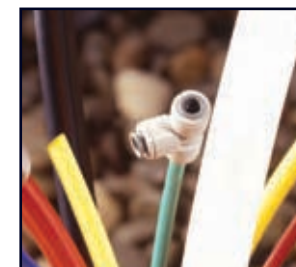
*Silcon is a registered trademark of New Age Industries, Inc.

Zelite® Polyethylene Tubing

Features:

- Made from non-toxic ingredients conforming to FDA standards
- Does not impart a taste or odor to critical streams
- Flexible, lightweight, durable
- Translucent natural or opaque colors

- Made from 100% virgin grade raw materials
- Good dielectric properties
- Offers enhanced resistance to stress cracking
- Chemically inert; forms a good barrier to gases, vapors, and moisture



Nelco #	ID	OD	Wall Thickness	Available Lengths	Working PSI (at 70°F)	Burst PSI (at 70°F)
2510571	.170	.250 (1/4)	.040	100, 500	135	540
2510256	.125 (1/8)	.250 (1/4)	.063 (1/16)	100, 500	180	720
2510886	.188 (3/16)	.313 (5/16)	.063 (1/16)	100, 500	140	560
2511201	.250 (1/4)	.375 (3/8)	.063 (1/16)	100, 500	120	480
2512146	.375 (3/8)	.500 (1/2)	.063 (1/16)	100, 500	90	360
2512398	.625 (5/8)	.750 (3/4)	.063 (1/16)	100	60	240
2513028	1.250	1.500	.125 (1/8)	50	59	236
2513133	1.500	1.750	.125 (1/8)	50	50	200

*Other sizes are available upon request

*Also available in black. Red, yellow, green and blue are available in limited sizes

*Zelite is a registered trademark of New Age Industries, Inc.

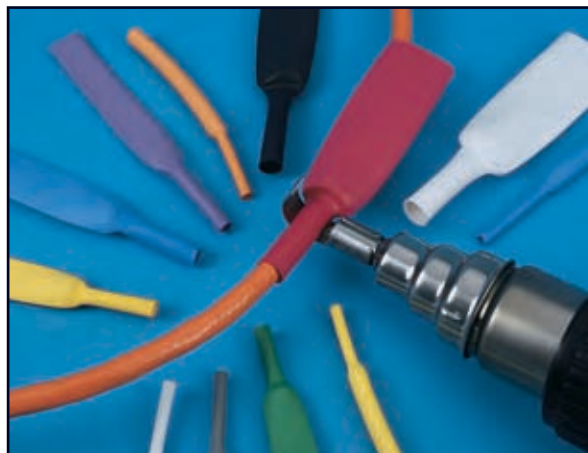
NP-221 Flexible Polyolefin

Standard Sizes & Dimensions

Nelco #	Ordering Size (Nominal)	Expanded I.D. (Minimum) Inches/mm	Recovered I.D. (Maximum) Inches/mm	Recovered Wall Thickness (Nominal) Inches/mm
NP-221-3/64	3/64	.046/1,17	.023/0,58	.016/0,41
NP-221-1/16	1/16	.063/1,60	.031/0,79	.017/0,43
NP-221-3/32	3/32	.093/2,36	.046/1,17	.020/0,51
NP-221-1/8	1/8	.125/3,18	.062/1,57	.020/0,51
NP-221-3/16	3/16	.187/4,75	.093/2,36	.020/0,51
NP-221-1/4	1/4	.250/6,35	.125/3,18	.025/0,64
NP-221-3/8	3/8	.375/9,53	.187/4,75	.025/0,64
NP-221-1/2	1/2	.500/12,70	.250/6,35	.025/0,64
NP-221-3/4	3/4	.750/19,05	.375/9,53	.030/0,76
NP-221-1	1	1.00/25,40	.500/12,70	.035/0,89
NP-221-1-1/2	1-1/2	1.50/38,10	.750/19,05	.040/1,02
NP-221-2	2	2.00/50,80	1.00/25,40	.045/1,14
NP-221-3	3	3.00/76,20	1.50/38,10	.050/1,27
NP-221-4	4	4.00/101,60	2.00/50,80	.055/1,40

Typical Properties

Physical Property	Typical Value-US units (metric)
Tensile Strength	2400 psi
Ultimate Elongation	400%
Longitudinal Change	±5%
Secant Modulus (2%)	13,000 psi
Specific Gravity	1.3 (Opaque)/.93 (Clear)
Operating Temperature	-67° to 275°F (-55° to +135°C)
Shrink Temperature (min.)	212°F (100°C)
Heat Aging (336 hrs. @ 175° C)	Elongation 175%
Heat shock (4 hrs. @ 250° C)	No dripping, flowing, cracking, passes mandrel wrap test
Low Temperature Flexibility (4 hrs @ -55° C)	No cracking
Flammability	Self-extinguish; meets UL 224 All-tubing Flame test (Class 1 Only)
Electrical Property (Test Method)	Typical Value
Dielectric Strength	900 V/mil
Volume Resistivity	10 ¹⁵ ohm/cm
Chemical Property (Test Method)	Typical Value
Corrosion Resistance (Copper mirror)	Non-corrosive
Fungus Resistance	Non-nutrient
Water Absorption	0.20%
Solvent Resistance	Excellent
Applicable Specifications	
SAE-AMS-DTL-23053/5, Class 1,2; AMS-3636, AMS-3637; UL File E39100; CSA LR38227; ABS; RoHS Compliant	



NP-221 tubing is rated for continuous operation from -55°C (-67°F) to 135°C (275°F) and withstands elevated temperatures to 300°C (572°F) for short periods.

The minimum shrink temperature for all NP-221 tubing is 100°C (212°F).

NP-221 polyolefin tubing has a 2:1 shrink ratio. When freely recovered, the tubing will shrink to 50% of its as-supplied internal diameter. The recovered wall thickness of the tubing is proportional to the degree of recovery.

Standard Colors:

NP-221, Class 1 (flame retardant) is available in black, white, red, blue, green and yellow.

NP-221, Class 2 (non-flame retardant) is available in clear. Other colors are available and subject to quotation.

Standard Packaging:

NP-221 tubing is available in 4-foot lengths, large and small spools.

Note: Always order the largest size that will shrink-fit snugly over the item to be covered.

NP-221VW Flexible Polyolefin

NP-221VW tubing is rated for continuous operation from -55°C (-67°F) to 135°C (275°F) and withstands elevated temperatures to 300°C (572°F) for short periods.

The minimum shrink temperature for all NP-221VW tubing is 100°C (212°F).

NP-221VW polyolefin tubing has a 2:1 shrink ratio. When freely recovered, the tubing will shrink to 50% of its as-supplied internal diameter. The recovered wall thickness of the tubing is proportional to the degree of recovery. High expansion ratios are available subject to factory quotation.

Standard Colors:

NP-221VW tubing (flame retardant) is available in black, white, red, blue, and yellow.

Standard Packaging:

NP-221VW tubing is available in 4-foot lengths or large spools.

Note: Always order the largest size that will shrink-fit snugly over the item to be covered.

Standard Sizes & Dimensions

Nelco #	Ordering Size (Nominal)	Expanded I.D. (Minimum) (in./mm)	Recovered I.D. (Maximum) (in./mm)	Recovered Wall Thickness (Nominal)
NP-221VW-3/64	3/64	.046/1,17	.023/0,58	.016/0,41
NP-221VW-1/16	1/16	.063/1,60	.031/0,79	.017/0,43
NP-221VW-3/32	3/32	.093/2,36	.046/1,17	.020/0,51
NP-221VW-1/8	1/8	.125/3,18	.062/1,57	.020/0,51
NP-221VW-3/16	3/16	.187/4,75	.093/2,36	.020/0,51
NP-221VW-1/4	1/4	.250/6,35	.125/3,18	.025/0,64
NP-221VW-3/8	3/8	.375/9,53	.187/4,75	.025/0,64
NP-221VW-1/2	1/2	.500/12,70	.250/6,35	.025/0,64
NP-221VW-3/4	3/4	.750/19,05	.375/9,53	.030/0,76
NP-221VW-1	1	1.00/25,40	.500/12,70	.035/0,89
NP-221VW-1-1/2	1-1/2	1.50/38,10	.750/19,05	.040/1,02
NP-221VW-2	2	2.00/50,80	1.00/25,40	.045/1,14
NP-221VW-3	3	3.00/76,20	1.50/38,10	.050/1,27
NP-221VW-4	4	4.00/101,60	2.00/50,80	.055/1,40

Typical Properties

Physical Property	Typical Value-US units (metric)
Tensile Strength	2400 psi
Ultimate Elongation	400%
Longitudinal Change	+1, -10%
Secant Modulus (2%)	13,000 psi
Specific Gravity	1.5
Heat Aging (168 hrs. @ 175° C)	Elongation 175%
Heat shock (4 hrs. @ 250° C)	No dripping, flowing, cracking, passes mandrel wrap test
Low Temperature Flexibility (4 hrs @ -55° C)	No cracking
Flammability	Self-Extinguish meets UL 224 VW-1 Test
Electrical Property (Test Method)	Typical Value
Dielectric Strength	900 V/mil
Volume Resistivity	10 ¹⁵ ohm/cm
Chemical Property (Test Method)	Typical Value
Corrosion Resistance (Copper mirror)	Non-corrosive
Fungus Resistance	Non-nutrient
Water Absorption	0.20%
Tensile Strength	1000 psi
Dielectric Strength	400 V/mil
Applicable Specifications	
SAE-AMS-DTL-23053/5, Class 3; UL File E39100, VW-1; CSA LR38227, OFT; RoHS Compliant	

NP-203 Very Flexible Polyolefin

Standard Sizes & Dimensions

Nelco #	Ordering Size (Nominal)	Expanded I.D. (Minimum) (in./mm)	Recovered I.D. (Maximum) (in./mm)	Recovered Wall Thickness (Nominal)
NP-203-1/16	1/16	.059/1,5	.020/0,5	.018/0,45
NP-203-1/8	1/8	.118/3,0	.039/1,0	.022/0,55
NP-203-1/4	1/4	.236/6,0	.079/2,0	.026 /0,65
NP-203-3/8	3/8	.354/9,0	.118/3,0	.030/0,75
NP-203-1/2	1/2	.472/12,0	.157/4,0	.030/0,75
NP-203-3/4	3/4	.709/18,0	.236/6,0	.030/0,75
NP-203-1	1	.945/24,0	.315/8,0	.039/1,00
NP-203-1-1/2	1-1/2	1.535/39,0	.512/13,0	.045/1,15

Typical Properties

Physical Property	Typical Value-US units (metric)
Tensile Strength	2600 psi
Ultimate Elongation	400%
Longitudinal Change	±5%
Secant Modulus (2%)	8700 psi
Specific Gravity	1.29
Heat Aging (168 hrs. @ 158° C)	Elongation 350%
Heat shock (4 hrs. @ 250° C)	No dripping, flowing, cracking
Low Temperature Flexibility (4 hrs @ -55° C)	No cracking
Flammability	Self-Extinguishing
Electrical Property (Test Method)	Typical Value
Dielectric Strength	700 V/mil
Volume Resistivity	10 ¹⁵ ohm/cm
Chemical Property (Test Method)	Typical Value
Corrosive Effect	Non-corrosive
Fungus Resistance	Inert
Water Absorption	0.20%
Tensile Strength	1100 psi
Dielectric Strength	400 V/mil
Applicable Specifications	
SAE-AMS-DTL-23053/5, Class 1; UL File E48398; CSA LR38227, RoHS Compliant	

NP-203 tubing is rated for continuous operation from -55°C (-67°F) to 135°C (275°F) and with-stands elevated temperatures to 300°C (572°F) for short periods.

NP-203 polyolefin tubing has a 3:1 shrink ratio. When freely recovered, the tubing will shrink to 33% of its as-supplied internal diameter. The recovered wall thickness of the tubing is proportional to the degree of recovery.

Standard Colors:

Black. Other colors are available and subject to quotation.

Standard Packaging:

NP-203 tubing is available in 4-foot lengths or large spools.

Note: Always order the largest size that will shrink-fit snugly over the item to be covered.

NP-295 Semi-Rigid Polyolefin

Standard Sizes & Dimensions

Nelco #	Ordering Size (Nominal)	Expanded I.D. (Minimum) (in./mm)	Recovered I.D. (Maximum) (in./mm)	Recovered Wall Thickness (Nominal)
NP-295-3/64	3/64	.046/1,17	.023/0,58	.020/0,51
NP-295-1/16	1/16	.063/1,60	.031/0,79	.020/0,51
NP-295-3/32	3/32	.093/2,36	.046/1,17	.020/0,51
NP-295-1/8	1/8	.125/3,18	.062/1,57	.020/0,51
NP-295-3/16	3/16	.187/4,75	.093/2,36	.025/0,64
NP-295-1/4	1/4	.250/6,35	.125/3,18	.025/0,64
NP-295-3/8	3/8	.375/9,53	.187/4,75	.030/0,76
NP-295-1/2	1/2	.500/12,70	.250/6,35	.030/0,76
NP-295-3/4	3/4	.752/19,1	.375/9,53	.027/0,69
NP-295-1	1	1.000/25,40	.500/12,70	.030/0,76
NP-295-1-1/2	1-1/2	1.500/38,10	.800/19,10	.034/0,86
NP-295-2	2	2.000/50,80	1.000/25,40	.038/0,97
NP-295-3	3	3.000/76,20	1.500/38,10	.046/1,17
NP-295-4	4	4.000/101,60	2.000/50,80	.046/1,17
NP-295-5	5	5.000/127,00	2.500/63,50	.046/1,17

NP-295 tubing is rated for continuous operation from -55°C (-67°F) to 135°C (275°F) and withstands elevated temperatures to 300°C (572°F) for short periods. The minimum shrink temperature for all NP-295 tubing is 135°C (275°F).

NP-295 polyolefin tubing has a 2:1 shrink ratio. When freely recovered, the tubing will shrink to 50% of its as-supplied internal diameter. The recovered wall thickness of the tubing is proportional to the degree of recovery.

Standard Colors:

NP-295, Class 1 (flame-retardant) is available in black. Special color-coded sizes are available. NP-295, Class 2 (non-flame retardant) is available in clear.

Standard Packaging:

NP-295 tubing is available in large spools.

Note: Always order the largest size that will shrink-fit snugly over the item to be covered.

Typical Properties

Physical Property	Typical Value-US units (metric)
Tensile Strength	min. 1.38kgf/mm ²
Ultimate Elongation	min. 200%
Longitudinal Change	±5%
Secant Modulus (2%)	max. 173MPa
Heat Aging (168 hrs. @ 158° C)	Elongation min 100%
Heat shock (4 hrs. @ 250° C)	No dripping, flowing, cracking, passes mandrel wrap test
Low Temperature Flexibility (4 hrs @ -55° C)	No cracking
Flammability	Self-Extinguish (Class 1 only)
Electrical Property (Test Method)	Typical Value
Dielectric Strength	min. 2500V
Volume Resistivity	min. 1x100 ¹⁴ Ω-cm
Chemical Property (Test Method)	Typical Value
Corrosive Effect	Non-corrosive
Fungus Resistance	Non-nutrient
Applicable Specifications	
SAE-AMS-DTL-23053/6, Class 1, 2; UL File E319303; RoHS Compliant	

NP-300 Adhesive-Lined, 2.5:1, Semi-Rigid Polyolefin

Standard Sizes & Dimensions

Nelco #	Ordering Size (Nominal)	Expanded I.D. (Minimum) (in./mm)	Recovered I.D. (Maximum) (in./mm)	Total Recovered Wall Thickness (Nominal) Inches/mm	Melttable Recovered Wall Thickness (Nominal) Inches/mm
NP-300-1/8	1/8	.125/3,18	.023/0,58	.038/0,97	.020/0,51
NP-300-3/16	3/16	.187/4,75	.060/1,52	.043/1,09	.025/0,64
NP-300-1/4	1/4	.250/6,35	.080/2,03	.047/1,19	.027/0,69
NP-300-3/8	3/8	.375/9,53	.13/3,43	.050/1,27	.030/0,76
NP-300-1/2	1/2	.500/12,70	.195/4,95	.055/1,40	.035/0,89
NP-300-3/4	3/4	.750/19,05	.313/7,95	.065/1,65	.040/1,02
NP-300-1	1	1.000/25,40	.400/10,16	.075/1,91	.040/1,02



Typical Properties

Physical Property	Typical Value-US units (metric)
Tensile Strength	2200 psi
Ultimate Elongation	400%
Longitudinal Change	+1, -10%
Secant Modulus (2%)	27,000 psi
Specific Gravity	1.0; .95 (clear)
*Heat Aging (168 hrs. @ 175° C)	Elongation 175%
*Heat shock (4 hrs. @ 250° C)	No dripping, flowing, cracking
*Low Temperature Flexibility (4 hrs @ -55° C)	No cracking
Electrical Property (Test Method)	Typical Value
Dielectric Strength	900 V/mil
Volume Resistivity	10 ¹⁵ ohm/cm
Chemical Property (Test Method)	Typical Value
Corrosive Effect	Non-corrosive
Fungus Resistance	Non-nutrient
Water Absorption	0.10%
Fluid Resistance JR4 Skydrol 600 Solution Gasoline Hydraulic Fluid	>1500 psi @ V/mil @600 V/mil
Applicable Specifications	
SAE-AMS-DTL-23053/4; Class 1; AMS-3634; UL File E157227; RoHS Compliant	

*Outer wall only

NP-300 tubing is rated for continuous operation from -55°C (-67°F) to 110°C (230°F) and will withstand higher operating temperatures for short periods. Adhesive reflow will occur at temperatures of 80°C (176°F).

NP-300 polyolefin tubing has a 2:5:1 shrink ratio. When fully recovered, the tubing will shrink to 40% of its original diameter. The recovered wall thickness of the tubing is proportional to the degree of recovery.

Standard Colors:

NP-300 is available in black. It is also available color-coded as follows: 1/8 brown, 3/16 gray, 1/4 white, 3/8 red, 1/2 blue, and 3/4 yellow.

Standard Packaging:

NP-300 tubing is available in 4-foot lengths. Cut pieces and other lengths (including spooled) are available subject to quotation.

Note: Always order the largest size that will shrink-fit snugly over the item to be covered.

NP-750 Adhesive-Lined, 2:1, Flexible Polyolefin

Standard Sizes & Dimensions

Nelco #	Ordering Size (Nominal)	Expanded I.D. (Minimum) (in./mm)	Recovered I.D. (Maximum) (in./mm)	Total Recovered Wall Thickness (Nominal) Inches/mm	Melttable Recovered Wall Thickness (Nominal) Inches/mm
NP-750-1/8	1/8	.125/3,18	.063/1,6	.027/0,68	.004/0,10
NP-750-3/16	3/16	.187/4,75	.093/2,36	.027/0,68	.004/0,10
NP-750-1/4	1/4	.250/6,35	.125/3,18	.030/0,76	.005/0,13
NP-750-3/8	3/8	.375/9,53	.187/4,75	.031/0,79	.005/0,13
NP-750-1/2	1/2	.500/12,70	.250/6,35	.032/0,81	.006/0,15
NP-750-3/4	3/4	.750/19,05	.375/9,53	.037/0,94	.006/0,15
NP-750-1	1	1.000/25,40	.500/12,70	.046/1,17	.008/0,20
NP-750-1-1/2	1-1/2	1.500/38,10	.750/19,05	.049/1,24	.008/0,20
NP-750-2	2	2.000/50,80	1.000/25,40	.060/1,52	.015/0,38

Typical Properties

Physical Property	Typical Value-US units (metric)
Tensile Strength	2100 psi
Ultimate Elongation	450%
Longitudinal Change	+1, -5%
Secant Modulus (2%)	17,000 psi
Specific Gravity	1.3
*Heat Aging (168 hrs. @ 175° C)	Elongation 175%
*Heat shock (4 hrs. @ 250° C)	No dripping, flowing, cracking
*Low Temperature Flexibility (4 hrs @ -55° C)	No cracking
Flammability	Self-Extinguish meets UL 224 All-Tubing Flame Test (jacket)
Electrical Property (Test Method)	Typical Value
Dielectric Strength	800 V/mil
Volume Resistivity	10 ¹⁴ ohm/cm
Chemical Property (Test Method)	Typical Value
Corrosion Resistance (Copper Mirror)	Non-corrosive
Fungus Resistance	Non-nutrient
*Low Temperature Flexibility	0.30%
Fluid Resistance	Excellent
Adhesive	
Peel Strength, pli	
Polyethylene	30
PVC	10
Lead	15
Aluminum	40
Corrosive Effect (Copper Mirror)	Non-corrosive
Applicable Specifications	
SAE-AMS-DTL-23053/4, Class 2; UL File E39100; RoHS Compliant	

NP-750, when heated in excess of 121°C (250°F), rapidly shrinks to a skintight fit, forcing the melted adhesive lining to flow and cover the substrate. The adhesive forms a flexible bond with a wide variety of rubbers, plastics and metals. Upon cooling, the adhesive solidifies forming a permanent, non-drying, flexible and water-resistant barrier. The tubing is rated for operation at -55°C (-67°F) to 110°C (230°F). Adhesive re-flow will occur at temperatures above 80°C (176°F).

NP-750 polyolefin tubing has a 2:1 shrink ratio. When fully recovered, the tubing will shrink to 50% of its original diameter. The recovered wall thickness of the tubing is proportional to the degree of recovery.

Standard Colors:

NP-750 is available in black. Clear and other colors are available subject to factory quotation. The clear tubing is not flame-retardant.

Standard Packaging:

NP-750 tubing is available in 4-foot lengths. Cut pieces and other lengths (including spooled) are available subject to quotation.

Note: Always order the largest size that will shrink-fit snugly over the item to be covered.

*Outer wall only

NP-321 Adhesive-Lined, 3:1, Flexible Polyolefin

Standard Sizes & Dimensions

Nelco #	Ordering Size (Nominal)	Expanded I.D. (Minimum) (in./mm)	Recovered I.D. (Maximum) (in./mm)	Total Recovered Wall Thickness (Nominal) Inches/mm	Melttable Recovered Wall Thickness (Nominal) Inches/mm
NP-321-1/8	1/8	.125/3,18	.040/1,02	.040/1,02	.020/0,51
NP-321-3/16	3/16	.187/4,75	.062/1,57	.040/1,02	.020/0,51
NP-321-1/4	1/4	.250/6,35	.080/2,03	.040/1,02	.020/0,51
NP-321-3/8	3/8	.375/9,53	.120/3,05	.055/1,40	.025/0,62
NP-321-1/2	1/2	.500/12,70	.160/4,06	.070/1,78	.030/0,76
NP-321-3/4	3/4	.750/19,05	.250/6,35	.085/2,16	.035/0,89
NP-321-1	1	1.000/25,40	.320/8,13	.100/2,54	.040/1,02
NP-321-1-1/2	1-1/2	1.500/38,10	.510/12,95	.100/2,54	.040/1,02

Typical Properties

Physical Property	Typical Value-US units (metric)
Tensile Strength	2100 psi
Ultimate Elongation	450%
Longitudinal Change	+1, -15%
Secant Modulus (2%)	17,000 psi
Specific Gravity	1.3
*Heat Aging (168 hrs. @ 175° C)	Elongation 175%
*Heat shock (4 hrs. @ 250° C)	No dripping, flowing, cracking
*Low Temperature Flexibility (4 hrs @ -55° C)	No cracking
Flammability	Self-Extinguish meets UL 224 All-Tubing Flame Test (jacket)
Electrical Property (Test Method)	Typical Value
Dielectric Strength	700 V/mil
Volume Resistivity	10 ¹⁴ ohm/cm
Chemical Property (Test Method)	Typical Value
Corrosion Resistance (Copper Mirror)	Non-corrosive
Fungus Resistance	Non-nutrient
*Low Temperature Flexibility	0.30%
Fluid Resistance	Excellent
Adhesive	
Peel Strength, pli	
Polyethylene	30
PVC	10
Lead	15
Aluminum	40
Corrosive Effect (Copper Mirror)	Non-corrosive
Applicable Specifications	
SAE-AMS-DTL-23053/4, Class 3; UL File E157227; ABS; RoHS Compliant	

*Outer wall only

NP-321, when heated in excess of 121°C (250°F), rapidly shrinks to a skin-tight fit, forcing the melted adhesive lining to flow and cover the substrate. The adhesive forms a flexible bond with a wide variety of rubbers, plastics and metals. Upon cooling, the adhesive solidifies forming a permanent, non-drying, flexible and water-resistant barrier. The tubing is rated for operation at -55°C (-67°F) to 110°C (230°F). Adhesive reflow will occur at temperatures above 80°C (176°F).

NP-321 polyolefin tubing has a 3:1 shrink ratio. When fully recovered, the tubing will shrink to 33% of its original diameter. The recovered wall thickness of the tubing is proportional to the degree of recovery.

Standard Colors:

NP-321 is available in black and clear in all sizes. Red is available in 1/2", 3/4" and 1" only. The clear tubing is not flame-retardant or UL approved.

Standard Packaging:

NP-321 tubing is available in 4-foot lengths. Cut pieces and other lengths (including spooled) are available subject to quotation.

Note: Always order the largest size that will shrink-fit snugly over the item to be covered.

NP-421 Adhesive-Lined, 4:1, Semi-Rigid Polyolefin

Standard Sizes & Dimensions

Nelco #	Ordering Size (Nominal)	Expanded I.D. (Minimum) (in./mm)	Recovered I.D. (Maximum) (in./mm)	Total Recovered Wall Thickness (Nominal) Inches/mm	Melttable Recovered Wall Thickness (Nominal) Inches/mm
NP-421-.300	.300	.300/7,62	.060/1,52	.033/0,84	.028/0,71
NP-421-.350	.350	.350/8,89	.080/2,03	.038/0,97	.033/0,84
NP-421-.450	.450	.450/11,43	.105/2,67	.043/1,09	.053/1,35
NP-421-.700	.700	.700/17,78	.175/4,45	.060/1,52	.055/1,40

Typical Properties

Physical Property	Typical Value-US units (metric)
Tensile Strength	1900 psi
Ultimate Elongation	400%
Longitudinal Change	+1, -10%
Secant Modulus (2%)	33,000 psi
Specific Gravity	1.25
*Heat Aging (168 hrs. @ 175° C)	Elongation 175%
*Heat shock (4 hrs. @ 250° C)	No dripping, flowing, cracking
*Low Temperature Flexibility (4 hrs @ -55° C)	No cracking
Flammability	Self-Extinguish
Electrical Property (Test Method)	Typical Value
Dielectric Strength	700 V/mil
Volume Resistivity	10 ¹⁴ ohm/cm
Chemical Property (Test Method)	Typical Value
Corrosion Resistance (Copper Mirror)	Non-corrosive
Fungus Resistance	Non-nutrient
*Low Temperature Flexibility	0.30%
Fluid Resistance	Excellent
Adhesive	
Peel Strength, pli	
Polyethylene	30
PVC	10
Lead	15
Aluminum	40
Corrosive Effect (Copper Mirror)	Non-corrosive
Applicable Specifications	
UL File E157227; RoHS Compliant	

*Outer wall only

NP-421 tubing, when heated in excess of 121°C (250°F), rapidly shrinks to a skintight fit, forcing the melted adhesive lining to flow and cover the substrate. The adhesive forms a flexible bond with a wide variety of rubbers, plastics and metals. Upon cooling, the adhesive solidifies forming a permanent, non-drying, flexible and water-resistant barrier. The tubing is rated for operation at -55°C (-67°F) to 110°C (230°F). Adhesive re-flow will occur at temperatures above 80°C (176°F).

NP-421 polyolefin tubing has a 4:1 shrink ratio. When fully recovered, the tubing will shrink to 25% of its original diameter. The recovered wall thickness of the tubing is proportional to the degree of recovery.

Standard Colors:

NP-421 is available in black.

Standard Packaging:

NP-421 tubing is available in 4-foot lengths. Cut pieces and other lengths are available subject to quotation.

Note: Always order the largest size that will shrink-fit snugly over the item to be covered.

NP-350 KYNAR®, Modified Polyvinylidene Fluoride

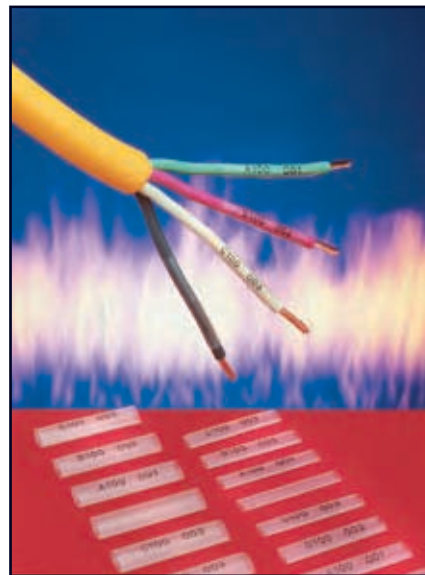
Standard Sizes & Dimensions

Nelco #	Size In.	Expanded I.D. (Minimum) (in./mm)	Recovered I.D. (Maximum) (in./mm)	Recovered Wall Thickness (Nominal)
NP-350-3/64	3/64	.046/1,17	.023/0,58	.010/0,25
NP-350-1/16	1/16	.063/1,60	.031/0,79	.010/0,25
NP-350-3/32	3/32	.093/2,36	.046/1,17	.010/0,25
NP-350-1/8	1/8	.125/3,18	.062/1,57	.010/0,25
NP-350-3/16	3/16	.187/4,75	.093/2,36	.010/0,25
NP-350-1/4	1/4	.250/6,35	.125/3,18	.012/0,30
NP-350-3/8	3/8	.375/9,53	.187/4,75	.012/0,30
NP-350-1/2	1/2	.500/12,70	.250/6,35	.012/0,30
NP-350-5/8	5/8	.625/15,88	.313/7,94	.014/0,36
NP-350-3/4	3/4	.750/19,05	.375/9,53	.017/0,43
NP-350-1	1	1.000/25,40	.500/12,70	.019/0,48
NP-350-1-1/2	1-1/2	1.500/38,10	.750/19,05	.020/0,51
NP-350-2	2	2.000/50,80	1.000/25,40	.022/0,56

*Kynar is a registered trademark of Elf Atochem North America, Inc.

Typical Properties

Physical Property	Typical Value-US units (metric)
Tensile Strength	5500 psi
Ultimate Elongation	350%
Longitudinal Change	+1, -10%
Secant Modulus (2%)	123,000 psi
Specific Gravity	1.7
Operating Temp. Range	-55°C to +175°C
Shrink Temperature (max/min.)	175°C/347°F
Low Temperature Flexibility (4 hrs @ -55° C)	No cracking
Flammability	Self-Extinguish meets UL 224 VW-1 Test
Electrical Property (Test Method)	Typical Value
Dielectric Strength	900 V/mil
Volume Resistivity	10 ¹⁴ ohm/cm
Chemical Property (Test Method)	Typical Value
Corrosive Effect	Non-corrosive
Fuel & Oil Resistance	Excellent
Solvent Resistance	Excellent
Abrasion Resistance	Excellent
Acids & Alkalis Resistance	Excellent
Applicable Specifications	
SAE-AMS-DTL-23053/8; SAE-AMS-DTL-23053/18, Class 1; AMS-3632; UL File E39100, VW-1; CSA LR38227, OFT; RoHS Compliant	



NP-350 tubing, when heated in excess of 175°C (347°F), rapidly shrinks to a skintight fit. The tubing is rated for continuous operation at -55°C (-67°F) to 175°C (347°F).

NP-350 KYNAR tubing has a 2:1 shrink ratio. When fully recovered, the tubing will shrink to 50% of its original diameter. The recovered wall thickness of the tubing is proportional to the degree of recovery.

Standard Colors:

NP-350 is available in clear. Other colors are available subject to quotation.

Standard Packaging:

NP-350 tubing is available in 4-foot lengths.

Note: Always order the largest size that will shrink-fit snugly over the item to be covered.

NP-600 Neoprene®, Modified Chlorinated Polyolefin

Standard Sizes & Dimensions

Nelco #	Size In.	Expanded I.D. (Minimum) (in./mm)	Recovered I.D. (Maximum) (in./mm)	Recovered Wall Thickness (Nominal)
NP-600-1/8	1/8	.125/3,18	.062/1,57	.030/0,76
NP-600-3/16	3/16	.187/4,75	.093/2,36	.035/0,89
NP-600-1/4	1/4	.250/6,35	.125/3,18	.035/0,89
NP-600-3/8	3/8	.375/9,53	.187/4,75	.040/1,02
NP-600-1/2	1/2	.500/12,70	.250/6,35	.048/1,22
NP-600-5/8	5/8	.625/15,88	.312/7,92	.052/1,32
NP-600-3/4	3/4	.750/19,05	.375/9,53	.057/1,45
NP-600-7/8	7/8	.875/22,23	.438/11,11	.065/1,65
NP-600-1	1	1.000/25,40	.500/12,70	.070/1,78
NP-600-1-1/4	1-1/4	1.250/31,75	.625/15,88	.087/2,21
NP-600-1-1/2	1-1/2	1.500/38,10	.750/19,05	.095/2,41
NP-600-1-3/4	1-3/4	1.750/44,45	.875/22,23	.107/2,72
NP-600-2	2	2.000/50,80	1.000/25,40	.110/2,79
NP-600-3	3	3.000/75,20	1.500/38,10	.125/3,18

*Neoprene is a registered trademark of E.I. DuPont Company

NP-600 tubing, when heated in excess of 135°C (275°F), rapidly shrinks to a skintight fit. The tubing is rated for continuous operation at -70°C (-94°F) to 121°C (250°F).

NP-600 tubing has a 2:1 shrink ratio. When fully recovered, the tubing will shrink to 50% of its original diameter. The recovered wall thickness of the tubing is proportional to the degree of recovery.

Standard Colors:

NP-600 is available in black.

Standard Packaging:

NP-600 tubing is available in spools.

Note: Always order the largest size that will shrink-fit snugly over the item to be covered.

Typical Properties

Physical Property	Typical Value-US units (metric)
Tensile Strength	2100 psi
Ultimate Elongation	500%
Longitudinal Change	+1, -10%
Specific Gravity	1.3
Operating Temp. Range	-70°C to +121°C
Shrink Temperature (max/min.)	135°C/275°F
Low Temperature Flexibility (4 hrs @ -70° C)	No cracking
Flammability	Self-Extinguish
Electrical Property (Test Method)	Typical Value
Dielectric Strength	800 V/mil
Volume Resistivity	10 ¹² ohm/cm
Chemical Property (Test Method)	Typical Value
Corrosive Effect	Non-corrosive
Fuel & Oil Resistance	Excellent
Solvent Resistance	Good
Abrasion Resistance	Excellent
Acids & Alkalis Resistance	Excellent
Applicable Specifications	
MIL-R-46846, Type 1, Class 1; SAE-AMS-DTL-23053/1, Class 1, 2; AMS 3623; RoHS Compliant	

NP-650 Modified Fluoroelastomer

Standard Sizes & Dimensions

Nelco #	Size In.	Expanded I.D. (Minimum) (in./mm)	Recovered I.D. (Maximum) (in./mm)	Recovered Wall Thickness (Nominal)
NP-650-1/8	1/8	.125/3,18	.062/1,57	.030/0,76
NP-650-3/16	3/16	.187/4,75	.093/2,36	.035/0,89
NP-650-1/4	1/4	.250/6,35	.125/3,18	.035/0,89
NP-650-3/8	3/8	.375/9,53	.187/4,75	.035/0,89
NP-650-1/2	1/2	.500/12,70	.250/6,35	.035/0,89
NP-650-5/8	5/8	.625/15,88	.312/7,92	.042/1,07
NP-650-3/4	3/4	.750/19,05	.375/9,53	.042/1,07
NP-650-7/8	7/8	.875/22,23	.438/11,11	.049/1,24
NP-650-1	1	1.000/25,40	.500/12,70	.049/1,24
NP-650-1-1/4	1-1/4	1.250/31,75	.625/15,88	.055/1,40
NP-650-1-1/2	1-1/2	1.500/38,10	.750/19,05	.055/1,40
NP-650-2	2	2.000/50,80	1.000/25,40	.065/1,65

NP-650 tubing, when heated in excess of 175°C (347°F), rapidly shrinks to a skintight fit. The tubing is rated for continuous operation at -55°C (-67°F) to 200°C (392°F).

NP-650 tubing has a 2:1 shrink ratio. When fully recovered, the tubing will shrink to 50% of its original diameter. The recovered wall thickness of the tubing is proportional to the degree of recovery.

Standard Colors:

NP-650 is available in black.

Standard Packaging:

NP-650 tubing is available in spools.

Note: Always order the largest size that will shrink-fit snugly over the item to be covered.

Typical Properties

Physical Property	Typical Value-US units (metric)
Tensile Strength	2400 psi
Ultimate Elongation	450%
Longitudinal Change	+1, -10%
Specific Gravity	1.7
Operating Temp. Range	-55°C to +200°C
Shrink Temperature (max/min.)	175°C/347°F
Low Temperature Flexibility (4 hrs @ -55° C)	No cracking
Flammability	Self-Extinguish
Electrical Property (Test Method)	Typical Value
Dielectric Strength	500 V/mil
Volume Resistivity	10 ¹² ohm/cm
Chemical Property (Test Method)	Typical Value
Corrosive Effect	Non-corrosive
Fuel & Oil Resistance	Excellent
Solvent Resistance	Excellent
Abrasion Resistance	Excellent
Acids & Alkalis Resistance	Excellent
Applicable Specifications	
SAE-AMS-DTL-23053/13; SAE-AMS-R-46846, Type III, Class 1; RoHS Compliant	

NP-700MD Medium-Duty Polyolefin

Standard Sizes & Dimensions

Ordering Size	Cable Range	Expanded I.D. (Minimum) (in./mm)	Recovered I.D. (Maximum) (in./mm)	Recovered Wall Thickness (Nominal)	Length (In.)	Color
NP-700MD-0400	#12 - #6 AWG	.40/10,2	.15/3,8	.09/2,3	48	Red & Black
NP-700MD-0800	#8 - #3 AWG	.80/20,3	.22/5,6	.10/2,5	48	Red & Black
NP-700MD-1100	#2 - 2/0 AWG	1.10/27,9	.37/9,4	.10/2,5	48	Red & Black
NP-700MD-1300	#1 - 4/0 AWG	1.30/33,0	.43/10,9	.10/2,5	48	Black Only
NP-700MD-1500	1/0 - 250 MCM	1.50/38,1	.50/12,7	.10/2,5	48	Black Only
NP-700MD-1700	4/0 - 400 MCM	1.70/43,2	.60/15,2	.10/2,5	48	Black Only
NP-700MD-2000	300 - 500 MCM	2.00/50,8	.75/19,1	.10/2,5	48	Black Only
NP-700MD-3000	600 - 1250 MCM	3.00/76,2	1.00/25,4	.12/3,0	48	Black Only
NP-700MD-4300	1000 - 2500 MCM	4.30/109,2	1.50/38,1	.15/3,8	48	Black Only

Typical Properties

Physical Property	Typical Value-US units (metric)
Tensile Strength	2400 psi
Ultimate Elongation	475%
Longitudinal Change	+1, -10%
Secant Modulus	14,000 psi
Specific Gravity	1.28
*Heat Aging (7 days @ 175° C)	Elongation 225%
*Heat shock (4 hrs. @ 225° C)	No dripping, flowing, cracking
Low Temperature Flexibility (4 hrs @ -55° C)	No cracking
Flammability	Self-Extinguish
Electrical Property (Test Method)	Typical Value
Dielectric Strength	500 V/mil (60 mils)
Volume Resistivity	10 ¹⁴ ohm/cm
Chemical Property (Test Method)	Typical Value
Corrosive Effect	Non-corrosive
Tensile Strength	1500 psi
Dielectric Strength	200 V/mil
Water Absorption	0.20%
Fungus Resistance	Non-nutrient
Applicable Specifications	
SAE-AMS-DTL-23053/15; Class 2, ABS; RoHS Compliant	

*Outer wall only

NP-700MD polyolefin tubing comes with a factory supplied sealant. This sealant is a heat-activated thermoplastic material that remains soft and flexible over long periods under adverse environmental conditions. During heating the sealant softens, bonds to underlying surfaces and fills small voids that might be present. When cool, the sealant forms a barrier against water, moisture, dirt and other environmental contaminants.

Standard Colors:

All sizes of NP-700MD are available in black. Sizes 0400, 0800, & 1100 are also available in red.

Standard Packaging:

NP-700MD is available in 4-foot lengths. Other lengths are available subject to special quotation.

Note: Always order the largest size that will shrink-fit snugly over the item to be covered.

NP-700HD Heavy-Duty Polyolefin

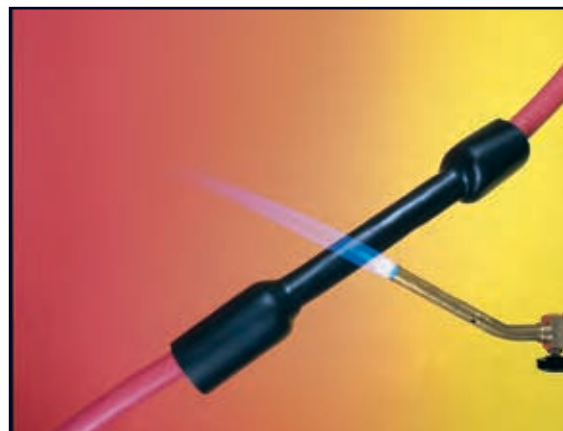
Standard Sizes & Dimensions

Ordering Size	Cable Range	Expanded I.D. (Minimum) (in./mm)	Recovered I.D. (Maximum) (in./mm)	Recovered Wall Thickness (Nominal)	Length (In.)	Color
NP-700HD-0300	#14 - #8 AWG	.30/7,62	.10/2,5	.08/2,0	48	Red & Black
NP-700HD-0400	#12 - #6 AWG	.40/10,2	.15/3,8	.09/2,3	48	Red & Black
NP-700HD-0800	#8 - 1/0 AWG	.80/20,3	.20/5,1	.11/2,8	48	Red & Black
NP-700HD-1100	#2 - 4/0 AWG	1.10/27,9	.37/9,4	.12/3,0	48	Red & Black
NP-700HD-1500	3/0 - 400 MCM	1.50/38,1	.50/12,7	.17/4,3	48	Black Only
NP-700HD-2000	250 - 750 MCM	2.00/50,8	.65/16,5	.17/4,3	48	Black Only
NP-700HD-3000	600 - 1250 MCM	3.00/76,2	1.00/25,4	.17/4,3	48	Black Only
NP-700HD-4500	1500 - 2500 MCM	4.50/114,3	1.50/38,1	.17/4,3	48	Black Only
NP-700HD-6000	2.1" - 4.8" O.D.	6.00/152,4	1.80/45,7	.17/4,3	48	Black Only
NP-700HD-7000	2.5" - 5.6" O.D.	7.00/177,8	2.00/50,8	.17/4,3	48	Black Only

Typical Properties

Physical Property	Typical Value-US units (metric)
Tensile Strength	2400 psi
Ultimate Elongation	475%
Longitudinal Change	+1, -10%
Secant Modulus	14,000 psi
Specific Gravity	1.28
*Heat Aging (7 days @ 175° C)	Elongation 225%
*Heat shock (4 hrs. @ 225° C)	No dripping, flowing, cracking
Low Temperature Flexibility (4 hrs @ -55° C)	No cracking
Flammability	Self-Extinguish
Electrical Property (Test Method)	Typical Value
Dielectric Strength	500 V/mil (60 mils)
Volume Resistivity	10 ¹⁴ ohm/cm
Chemical Property (Test Method)	Typical Value
Corrosive Effect	Non-corrosive
Tensile Strength	1500 psi
Dielectric Strength	200 V/mil
Water Absorption	0.20%
Fungus Resistance	Non-nutrient
Applicable Specifications	
SAE-AMS-DTL-23053/15, Class 1; ABS; RoHS Compliant	

*Outer wall only



NP-700HD polyolefin tubing comes with a factory supplied sealant. This sealant is a heat-activated thermo-plastic material that remains soft and flexible over long periods under adverse environmental conditions. During heating the sealant softens, bonds to underlying surfaces and fills small voids that might be present. When cool, the sealant forms a barrier against water, moisture, dirt and other environmental contaminants.

Standard Colors:

All sizes of NP-700HD are available in black. Sizes 0300, 0400, 0800, & 1100 are also available in red.

Standard Packaging:

NP-700HD is available in 4-foot lengths. Other lengths are available subject to special quotation.

Note: Always order the largest size that will shrink-fit snugly over the item to be covered.

NP-105 PVC Heat Shrink

NP-105 is a low shrink temperature, highly flame retardant vinyl tubing designed to increase productivity in a variety of applications while protecting sensitive substrates and adjacent components. UL VW-1 and CSA OFT.

Shrink Ratio: Full 2:1. Forms a smooth, tight-fitting insulation for most applications with a high degree of flexibility.

Longitudinal Shrinkage: Approximately 15%.

Minimum Recommended Shrink Temperature: Shrinks quickly at 100°C (212°F) to provide outstanding dielectric and mechanical protection without damage to enclosed or adjacent components.

Chemical Resistance: Resists most chemicals including chlorinated cleaners, grease, penetrating oils and electrical insulation oils, as well as sunlight, moisture and fungus.

Operating Temperature Range: -20°C to 105°C.

Standard Colors: Black, white, red, yellow, blue, and clear.

Standard Packaging: NP-105 tubing is available in spools.

Standard Sizes & Dimensions

Nelco #	Expanded I.D. (Minimum) (in./mm)	Recovered I.D. (Maximum) (in./mm)	Recovered Wall Thickness (Nominal)	Standard Packaging	
				Spool	Box
NP-105-3/64	.046/1,17	.023/0,58	.020/0,51	*1000'	2000'
NP-105-1/16	.063/1,60	.032/0,82	.020/0,51	*1000'	2000'
NP-105-3/32	.093/2,36	.046/1,17	.025/0,64	*1000'	2000'
NP-105-1/8	.125/3,18	.063/1,60	.025/0,64	*1000'	2000'
NP-105-3/16	.187/4,75	.093/2,36	.025/0,64	*1000'	2000'
NP-105-1/4	.250/6,35	.125/3,18	.025/0,64	*1000'	2000'
NP-105-5/16	.313/7,94	.157/3,99	.028/0,71	*500'	1,000'
NP-105-3/8	.375/9,53	.187/4,75	.028/0,71	*500'	1,000'
NP-105-1/2	.500/12,70	.250/6,35	.028/0,71	*250'	500'
NP-105-5/8	.625/15,88	.313/7,94	.033/0,84	250'	500'
NP-105-3/4	.750/19,05	.375/9,53	.033/0,84	250'	500'
NP-105-1	1.000/25,40	.500/12,70	.038/0,97	250'	500'
NP-105-1-1/4	1.250/31,75	.625/15,88	.041/1,04	250'	500'
NP-105-1-1/2	1.500/38,10	.750/19,05	.043/1,09	100'	200'
NP-105-2	2.000/50,80	1.000/25,40	.048/1,22	100'	200'
NP-105-3	3.000/76,20	1.500/38,10	.068/1,73	50'	100'
NP-105-4	4.000/101,60	2.000/50,80	.073/1,85	50'	100'
Heavy Wall (1/32)					
NP-105-1/16	.063/1,60	.032/0,82	.032/0,81	*1000'	2000'
NP-105-3/32	.093/2,36	.046/1,17	.032/0,81	*1000'	2000'
NP-105-1/8	.125/3,18	.063/1,60	.032/0,81	*1000'	2000'
NP-105-3/16	.187/4,75	.093/2,36	.032/0,81	*1000'	2000'
NP-105-1/4	.250/6,35	.125/3,18	.032/0,81	*1000'	2000'
NP-105-5/16	.313/7,94	.157/3,99	.032/0,81	*500'	1000'
NP-105-3/8	.375/9,53	.187/4,75	.032/0,81	*500'	1000'
NP-105-1/2	.500/12,70	.250/6,35	.032/0,81	*250'	500'
Terminal Sizes					
NP-105-7/32	.220/5,59	.05/2,41	.035/0,89	*1000'	2000'
NP-105-9/32	.300/7,62	.125/3,18	.035/0,89	*500'	1000'

*Pressurized Reels

Typical Properties

Property	Test Method	Typical Value
Specific Gravity	ASTM D 792	1.32
Durometer Shore A		
Instantaneous		93
10 Seconds		88
Tensile Strength	ASTM D 2671	3,000 psi
Ultimate Elongation	ASTM D 2671	300%
Brittleness Temperature	ASTM D 746	-28°C
Heat Aging:	UL Subject 224	102% 95%
7 days @136°C		
Retention of Tensile		
Retention of Elongation		
Flammability	UL Subject 224 VW-1	Pass
Deformation 1 hour @ 121°C	UL Subject 224	22%
Volume Resistivity	ASTM D 257	0.065
Dielectric Strength	ASTM D 149	1,083 vpm
Application Specifications		
SAE-AMS-DTL-23053/2 Class 2; ASTM D 3150; UL Subject 224 VW-1; CSA OFT rated for 600V; RoHS Compliant		

Environmentally Sealed Shield Terminators (Solder Sleeves)

Materials Selection Guide

Size	Cable Dimensions				Marking Code AS83519/1	Nelco #	Marking Code AS83519/2	Nelco #
	G. Min	F Min.	E Max.	H Max.				
1	.020	.035	.105	.075	S0101S	H-M-1	S02XXS	H-ML-1,6,11,16
2	.030	.055	.145	.105	S0102S	H-M-2	S02XXS	H-ML-2,7,12,17
3	.050	.085	.200	.170	S0103S	H-M-3	S02XXS	H-ML-3,8,13,18
4	.070	.130	.255	.235	S0104S	H-M-4	S02XXS	H-ML-4,9,14,19
5	.100	.170	.300	.275	S0105S	H-M-5	S02XXS	H-ML-5,10,15,20

(NAS 1744, NAS 1745 & NAS 1746 Series also available.)

Marking Code System (See Chart):

SO	AS83519/1 and AS83519/2
X	•With Lead installed: 2
	•Without Lead installed: 1
XX	•Terminator size indicator
	•Numerical portion of H-M or H-ML part number
S	•Manufacturer's designator

Size Selection:

1. Determine cable dimensions, either "center strip" or "end strip", using the diagram figures A & B.
2. Refer to cable dimension table above.

Figure A

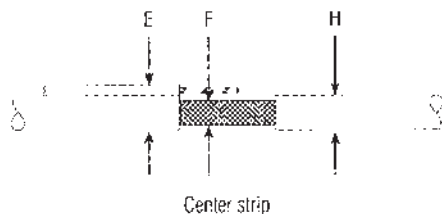
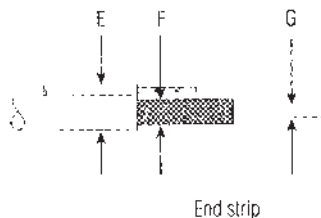


Figure B



PTFE Tubing-2:1

Featuring a high continuous temperature range of -270 to 260° C / -454 to 500° F, PTFE-HS-SW-xx tubing is the ideal heat shrink tubing solution for a broad range of military applications. This tremendously durable shrink tubing also offers an extreme chemical resistance and low friction rating.

Standard Sizes & Dimensions

Nelco #	Expanded ID (inches)	Recovered ID (inches)	Recovered Wall Thickness (inches)		Mil. Spec. AMS-DTL-23053/12
			Nom.	Tol. (+/-)	Class 2
PTFE-HS-SW-1/8	0.215	0.13	0.02	0.004	-215
PTFE-HS-SW-1/4	0.41	0.26	0.02	0.004	-222
PTFE-HS-SW-5/16	0.47	0.329	0.02	0.004	-225
PTFE-HS-SW-3/8	0.56	0.399	0.025	0.006	-228
PTFE-HS-SW-7/16	0.655	0.462	0.025	0.006	-229
PTFE-HS-SW-1/2	0.75	0.524	0.025	0.006	-230
PTFE-HS-SW-5/8	0.93	0.655	0.03	0.006	-231
PTFE-HS-SW-3/4	1.125	0.786	0.035	0.008	-232
PTFE-HS-SW-7/8	1.31	0.911	0.035	0.008	-233
PTFE-HS-SW-1	1.5	1.036	0.035	0.008	-234

Standard PTFE Tube Color:Natural, other colors available subject to quotation.

Standard PTFE Tube Packaging:4' lengths. Shorter or longer lengths are available upon request.

FEP Heat Shrink Tubing (MIL-I-23053/11) also available.

Typical Properties

Property	ASTM	Value
Continuous Service Temperature		500°F
Melting Point	DTA	635-650°F
Tensile Strength	D1708	2,500-4,000 PSI
Specific Gravity	D792	2.13-2.24

UL File #E64007/CSA File #082582

RoHS Compliant

Heat Shrink Selection Guide

Nelco #	Material/Typical Application	Operating Temp. Range	Shrink Temp. (min.)	Shrink Ratio	Standard Sizes Expanded Diam.	Dielectric Strength (V-SAE-AMS)	Volume Resistivity (ohm-cm)	Tensile Strength (PSI)	Ultimate Elongation (%)
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SINGLE-WALL POLYOLEFIN TUBING

NP-221	Flexible Polyolefin - General Purpose flame retardant insulation for UL, CSA and SAE-AMS-DTL-23053/5 applications; cable and component covering. Class 1 = opaque colors; Class 2 = clear.	-55°C to +135°C	212°F 100°C	2:1	3/64" to 4"	900	10 ¹⁵	2400	400
NP-221VW	Highly Flame-Retardant, Flexible Polyolefin - Insulation applications, flame-retardant applications requiring UL VW-1 and CSA OFT, fire resistant wiring.	-55°C to +135°C	212°F 100°C	2:1	3/64" to 4"	900	10 ¹⁵	2400	400
NP-203	Very Flexible Polyolefin - Shrink-fit jacketing and insulation of flexible wire bundles and temperature-sensitive components.	-55°C to +135°C	212°F 100°C	3:1	1/16" to 1-1/2"	700	10 ¹⁵	2600	400
NP-295	Semi-Rigid Polyolefin - Protective covering of fragile components; strain relief, wire markers. Class 1 = opaque colors; Class 2 = clear.	-55°C to +135°C	275°F 135°C	2:1	3/64" to 5"	800	10 ¹⁵	2600	400

ADHESIVE-LINED, POLYOLEFIN TUBING

NP-300	Multiple Wall Polyolefin - Insulation, strain relief and sealing of electrical connections, wire splices and components.	-55°C to +110°C	275°F 135°C	2.5:1	1/8" to 1"	900	10 ¹⁵	2200	400
NP-750	Environmental Protection Sleeve - Insulation, strain relief and environmental protection of electrical wire bundles and components.	-55°C to +110°C	250°F 121°C	2:1	1/8" to 2"	800	10 ¹⁴	2100	450
NP-321	Environmental Protection Sleeve - Insulation, strain relief and environmental protection for automotive and marine wire bundles and splices.	-55°C to +110°C	250°F 121°C	3:1	1/8" to 1-1/2"	700	10 ¹⁴	2100	450
NP-421	Environmental Protection Sleeve - Insulation, strain relief, and environmental protection for sealing voids in multiple wire bundles for automotive and marine applications.	-55°C to +110°C	250°F 121°C	4:1	.300" to .700"	700	10 ¹⁴	1900	400

SPECIAL PURPOSE TUBING

NP-350	Polyvinylidene Fluoride (Kynar®) - Heat-resistant transparent insulation and marking for electronic and appliance applications.	-55°C to +175°C	347°F 175°C	2:1	3/64" to 2"	900	10 ¹⁴	5500	350
NP-600	Modified Neoprene® - Insulation and abrasion resistant covering of wiring and cable harnesses. Oil resistant coverings.	-70°C to +121°C	275°F 135°C	2:1	1/8" to 3"	800	10 ¹²	2100	500
NP-650	Fluoroelastomer (Viton) - Synthetic fuel and hydraulic oil resistant applications, high-temperature coverings.	-55°C to +200°C	347°F 175°C	2:1	1/8" to 2"	500	10 ¹²	2400	450
PTFE-HS	Polytetrafluoroethylene Tubing - standard wall, flame retardant heat shrink tubing designed for high heat-resistance applications.	-75°C to 260°C	654°F +/- 25° 346°C +/- 5° to recover	2:1	1/8" to 1"	500	10 ¹⁸	4500	450
NP-105	PVC Heat Shrinkable Tubing - insulation and strain relief, dielectric and mechanical protection applications.	-20°C to 105°C	212°F 100°C	2:1	3/64" to 4"	1083 vpm	10 ¹²	3000	300

HEAVY-DUTY TUBING

NP-700MD	Medium-Duty - Excellent abrasion, corrosion and environmental protection. Flame retardant.	-55°C to +110°C	250°F 121°C	3:1	.400" to 4.30"	500	10 ¹⁴	2400	475
NP-700HD	Heavy-Duty - Fabricated from specially formulated cross-linked polyolefin, assuring long-term environmental protection. Highly chemical, abrasion and split resistant.	-55°C to +110°C	250°F 121°C	3:1	.300" to 7.00"	500	10 ¹⁴	2400	475

Heat Shrink Selection Guide

Longitudinal Change (±%)	Specific Gravity	Flammability	Corrosive Effect	Abrasion Resistance	Flexibility	Fuel & Oil Resistance	Solvent Resistance	Resistance to Acids & Alkalis	Applicable Specifications
5	1.3	Self-Extinguish meets UL 224 All-Tubing Flame Test (except clear)	Non-Corrosive	Good	3	Good	Exc.	Exc.	SAE-AMS-DTL-23053/5, Class 1, 2; AMS-3636 & 3637; UL File E39100; CSA LR38227; ABS; RoHS compliant
+1, -10	1.5	Self-Extinguish meets UL 224 VW-1 Test	Non-Corrosive	Good	3	Good	Exc.	Exc.	SAE-AMS-DTL-23053/5, Class 3; UL File E39100, VW-1; CSA LR38227, OFT; RoHS compliant
5	1.29	Self-Extinguish	Non-Corrosive	Good	3	Good	Good	Exc.	SAE-AMS-DTL-23053/5, Class 1; UL File E48398; CSA LR38227; RoHS compliant
5	1.25	Self-Extinguish (except clear)	Non-Corrosive	Good	7	Good	Exc.	Exc.	SAE-AMS-DTL-23053/6, Class 1, 2; AMS-3638 & 3639; UL File E319303; RoHS compliant
+1, -10	1.0	Non-Flame Retardant	Non-Corrosive	Good	7	Good	Good	Exc.	SAE-AMS-DTL-23053/4, Class 1; AMS-3634; UL File E157227; RoHS compliant
+1, -5	1.3	Self-Extinguish meets UL 224 All-Tubing Flame Test (jacket)	Non-Corrosive	Good	3	Good	Good	Exc.	SAE-AMS-DTL-23053/4, Class 2; UL File E39100; RoHS compliant
+1, -15	1.3	Self-Extinguish meets UL 224 All-Tubing Flame Test (jacket)	Non-Corrosive	Good	3	Good	Good	Exc.	SAE-AMS-DTL-23053/4, Class 3; UL File E157227; ABS; RoHS compliant
+1, -10	1.25	Self-Extinguish	Non-Corrosive	Good	7	Good	Good	Exc.	UL File E157227; RoHS compliant
+1, -10	1.7	Self-Extinguish Meets UL 224 VW-1 Test	Non-Corrosive	Exc.	10	Exc.	Exc.	Exc.	SAE-AMS-DTL-23053/18, Class 1; SAE-AMS-DTL-23053/8; AMS-3632; UL File E39100, VW-1, E69751; CSA LR38227 OFT; RoHS compliant
+1, -10	1.3	Self-Extinguish	Non-Corrosive	Exc.	1	Exc.	Good	Exc.	MIL-R-46846; Type 1, Class 1; SAE-AMS-DTL-23053/1, Class 1, 2; AMS-3623; RoHS compliant
+1, -10	1.7	Self-Extinguish	Non-Corrosive	Exc.	4	Exc.	Exc.	Exc.	MIL-R-46846, Type III, Class 1; SAE-AMS-DTL-23053/13; RoHS compliant
+1, -10	2.13-2.0	UL 94 VO	Non-Corrosive	Exc.	10	Exc.	Exc.	Exc.	SAE-AMS-DTL-23053/12 Class 2. RoHS compliant
-15	1.3	Meets UL 224 VW-1 Test	Non-Corrosive	Exc.	3	Exc.	Good	Good	Lead free and RoHS compliant. CSA OFT rated for 600 V. ASTM D 3150. SAE-AMS-DTL-23053/2 Class 2; RoHS compliant
+1, -10	1.28	Self-Extinguish	Non-Corrosive	Good	8	Good	Good	Exc.	SAE-AMS-DTL-23053/15, Class 2; ABS; RoHS compliant
+1, -10	1.28	Self-Extinguish	Non-Corrosive	Good	9	Good	Good	Exc.	SAE-AMS-DTL-23053/15, Class 1; ABS; RoHS compliant

Heat Shrink Molded Shapes

Heat Shrink Molded Shapes are available in a variety of materials with a range of options.

Materials Selection Guide

Material Reference	J	B7	G	H	B8	6	9
Description	Flexible Flame-Retardant Polyolefin	Semi-Rigid Flame-Retardant Polyolefin	Fluid Resistant Elastomer	Flexible Limited Fire Hazard Material	Semi-Rigid Flame-Retardant Polyolefin	Flexible Flame-Retardant	Flexible Flame-Retardant Modified
Continuous Operating Temperature °C	-55 to +135	-55 to +135	-75 to +150	-55 to +105	-55 to +100	-55 to 120	-55 to 120
Min. Shrink Temperature °C	+135	+135	+135	+135	+135	+135	+135
Specifications	MIL-I-81765/1 Type II	MIL-I-81765/1 Type I, UL-94	VG 95343 Pt 6	NAVSEA 5617649E	ESI-0911	MIL-I-81765/1 TYPES I AND II	SCX15112
Tensile Strength (PSI)	2030	2610	2900	1450	2120	1700	1700
Ultimate Elongation (%)	610	500	580	450	600	500	500
Electric Strength kv/mil	480	560	560	480	440	600	600
Flammability (Self-extinguishing)	Excellent	Excellent	Excellent	Excellent	Good	Excellent	Excellent
Characteristics	Flexible	Good Physical & chemical resistance	Excellent resistance to fuels	Low smoke, halogen free	Good physical & reasonable chemical resistance	Flexible, Good Physical & chemical resistance	Good physical & chemical resistance
Typical Applications	Military and general high performance harnessing			Ships, submarines & railways	Power/utility breakout boots multi-outlet	General harnessing applications	Military & general high performance harnessing

Material: Parts can be supplied from a choice of seven Materials (above).

Color: Black

Adhesives: Molded Shapes can be ordered with the option of an adhesive lining.

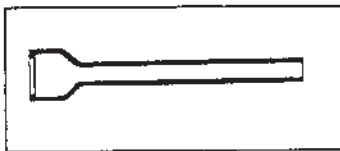
Special Modifications: Fillerport and drainholes are also available where it is desired to inject sealant.



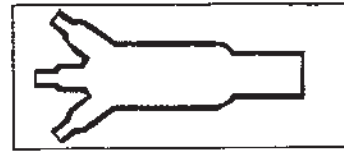
Molded Shapes



Bottle Shapes



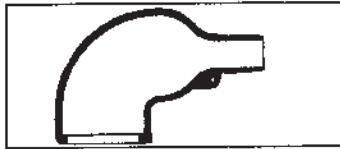
Long Outlet Shapes



2-Way - 4-Way Outlet Shapes
VG Style



2-Way - 6-Way Outlet Shapes
In-Line



Right Angle Shapes



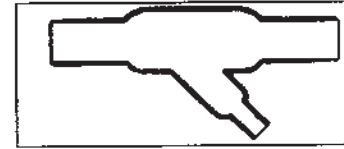
Right Angle Low Profile Shapes



T Shapes



Off Set T Shapes



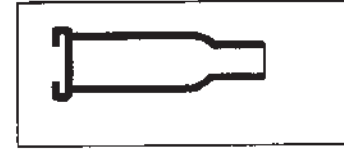
45° Angle T Shapes



30° Angle Double T Shape



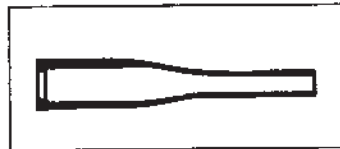
90° Angle Elbow Shapes



Connector Cover - Top Entry



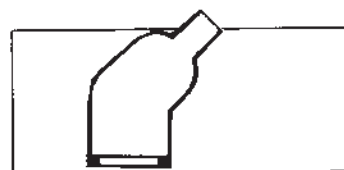
End Caps



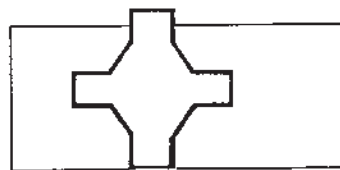
Graduated Strain Relief Shapes



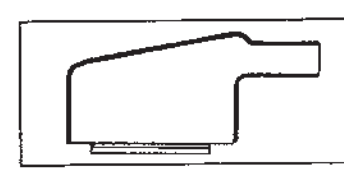
Locating Bushes



30°, 45°, 60° Angle Shapes



Right Angle Cross Shape

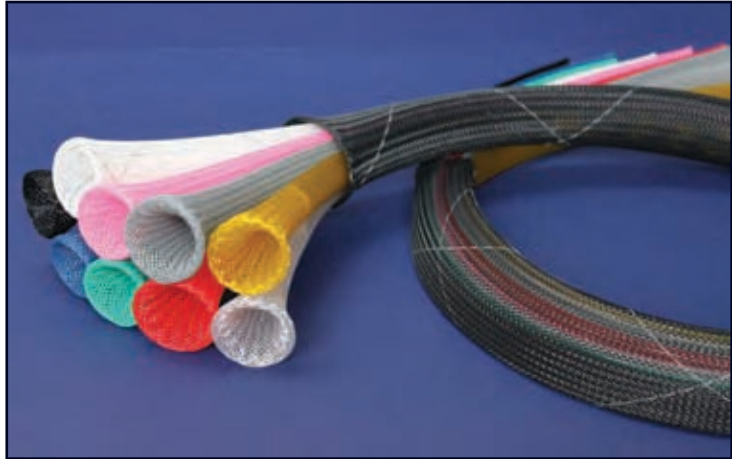


Connector Covers - Side Entry

OTHER STYLES AVAILABLE

PROTECTO PE- Expandable Polyester Monofilament Sleeving PROTECTO FPE-Flame Retardant Polyester

Nelco #	Size Nominal I.D.	Size Range (inches)	Std. Spool put-up
PROTECTO 1/8	1/8"	3/32"-1/8"	1000 ft.
PROTECTO 1/4	1/4"	1/8"-3/8"	1000 ft.
PROTECTO 3/8	3/8"	1/4"-5/8"	500 ft.
PROTECTO 1/2	1/2"	1/4"-3/4"	500 ft.
PROTECTO 3/4	3/4"	1/2"-1-1/4"	250 ft.
PROTECTO 1	1"	5/8"-1-1/2"	250 ft.
PROTECTO 1-1/4	1-1/4"	7/8"-1-3/8"	250 ft.
PROTECTO 1-1/2	1-1/2"	1"-2"	250 ft.
PROTECTO 1-3/4	1-3/4"	1-1/4"-2-3/4"	200 ft.
PROTECTO 2	2"	1-1/4"-2-3/4"	100 ft.
PROTECTO 2-1/2	2-1/2"	1-1/2"-3-1/4"	100 ft.
PROTECTO 3	3"	1-7/8"-4-1/2"	100 ft.



UL Approved

Protecto PE Standard Colors: Clear & Black

Other colors including fluorescents available upon request and may be subject to minimum quantity orders.

Protecto FPE Standard Colors: Black or White with opposite color criss-cross tracer strands.

Special put-ups available upon request.

Available pre-cut and sealed lengths from 4" long.

Also Available:

- HALAR™ Fluoropolymer rated @ 150°C
- Polyester Bi-monofilament rated @ 125°C
- General Purpose Polyester Wrap
- Nylon Braided Sleeving
- Fiberglass Impregnated Sleeving
- KEVLAR™ Braided Sleeving
- Bench Type Hot Knife Cutter
- Heavy-duty construction available for custom quote

PROTECTO PE Properties

Property	Test Method	Performance
Tensile Strength	ASTM D-876	100,000 psi
Elongation	ASTM D-876	20%
Specific Gravity	ASTM D-876	1.31
Moisture Absorption-24 hrs.	ASTM D-570	0.08%
Shrinkage @ 180°C		4%
Max. Operating Temp.	UL 224	125°C
Melt Temperature	ASTM D-2117	250°
Low Temp. Flexibility	MIL I 23053	-70°C
Flexural Modulus - 10 ³ psi @ 73°F	ASTM D-790	400
Fungus Resistance	MIL STD 810 (508)	No Growth
Copper Corrosivity	MIL I 23053	No Effect

FLUID RESISTANCE

Testing verifies that there is virtually no effect on the tensile strength and only a slight reduction in elongation (approx. 5%) of PROTECTO PE when exposed to the following fluids:
Cleaning Fluid, De-Icing Fluid, Fuel Oil, Gasoline, Hydraulic Fluid, Lubricating Oil, Salt Water, and Solvents.

PROTECTO FPE Properties

Property	Test Method	Performance
Tensile Strength	ASTM D-876	55,000 psi
Elongation	ASTM D-876	25%
Specific Gravity	ASTM D-876	1.31
Moisture Absorption-24 hrs.	ASTM D-570	0.08%
Shrinkage @ 180°C		4.2%
Max. Operating Temp.	UL 224	125°C
Melt Temperature	ASTM D-2117	240°
Low Temp. Flexibility	MIL I 23053	-70°C
Flammability	UL 224	VW-1/FR-1
Flexural Modulus - 10 ³ psi @ 73°F	ASTM D-790	410
Fungus Resistance	MIL STD 810 (508)	No Growth
Copper Corrosivity	MIL I 23053	No Effect

FLUID RESISTANCE

Testing verifies that there is virtually no effect on the tensile strength or elongation of PROTECTO FPE when exposed to the following fluids:
Cleaning Fluid, De-Icing Fluid, Fuel Oil, Gasoline, Hydraulic Fluid, Lubricating Oil, Salt Water, and Solvents.

Wire Duct

Nelco #	Nominal Size (W x H)	W	H	E	F	Dimensions W x H (mm)	Standard Carton Length	Qty. (Feet)
N1-0506G	1/2 x 5/8	0.6	0.71	0.2	0.3	15 x 18	20	120
N1-0510G	1/2 x 1	0.6	1.18	0.2	0.3	15 x 30	20	120
N1-0522G	1/2 x 2 1/4	0.6	2.36	0.2	0.3	15 x 60	20	120
N1-1010 *	1 x 1	1	1.18	0.2	0.3	25 x 30	18	108
N1-1015 *	1 x 1 1/2	1	1.57	0.31	0.47	25 x 40	18	108
N1-1022 *	1 x 2 1/4	1	2.36	0.31	0.47	25 x 60	24	144
N1-1030 *	1 x 3	1	3.15	0.31	0.47	25 x 80	24	144
N1-1040 *	1 x 4	1	3.94	0.31	0.47	25 x 100	8	48
N1-1515 *	1 1/2 x 1 1/2	1.57	1.57	0.31	0.47	40 x 40	20	120
N1-1522 *	1 1/2 x 2 1/4	1.57	2.36	0.31	0.47	40 x 60	18	108
N1-1530 *	1 1/2 x 3	1.57	3.15	0.31	0.47	40 x 80	16	96
N1-1540 *	1 1/2 x 4	1.57	3.94	0.31	0.47	40 x 100	8	48
N1-2215G	2 1/4 x 1 1/2	2.36	1.57	0.31	0.47	60 x 40	12	72
N1-2222 *	2 1/4 x 2 1/4	2.36	2.36	0.31	0.47	60 x 60	12	72
N1-2230 *	2 1/4 x 3	2.36	3.15	0.31	0.47	60 x 80	12	72
N1-2240 *	2 1/4 x 4	2.36	3.94	0.31	0.47	60 x 100	4	24
N1-3015G	3 x 1 1/2	3.15	1.57	0.31	0.47	80 x 40	12	72
N1-3022 *	3 x 2 1/4	3.15	2.36	0.31	0.47	80 x 60	12	72
N1-3030 *	3 x 3	3.15	3.15	0.31	0.47	80 x 80	12	72
N1-3040 *	3 x 4	3.15	3.94	0.31	0.47	80 x 100	4	24
N1-3050 *	3 x 5	2.95	4.92	0.31	0.47	75 x 125	6	36
N1-4015G	4 x 1 1/2	3.94	1.57	0.31	0.47	100 x 40	8	48
N1-4022 *	4 x 2 1/4	3.94	2.36	0.31	0.47	100 x 60	8	48
N1-4030 *	4 x 3	3.94	3.15	0.31	0.47	100 x 80	8	48
N1-4040 *	4 x 4	3.94	3.94	0.31	0.47	100 x 100	4	24
N1-4050 *	4 x 5	3.94	4.92	0.31	0.47	100 x 125	4	24
N1-6040 *	6 x 4	5.91	3.94	0.31	0.47	150 x 100	4	24

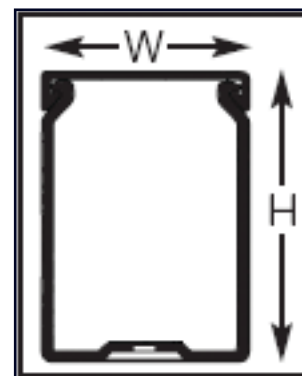
All wire duct comes complete with cover.

Example: N1-0510 G = 1/2" x 1" light GREY duct with cover.

Each standard length is actually 6'6 3/4" but is counted as 6 feet for packaging and pricing

*Color - add suffix "G" for light GREY, "W" for WHITE

ADHESIVE BACKING - add suffix "A" to catalog number - contact sales office for pricing



Wire Duct Technical Characteristics

Materials			PVC Duct	Polymide 6	Polyethylene	Flame Retardant Polyethylene
	Unit of Measure	Standard	Value	Value	Value	Value
Chemical-Physical Properties						
Specific gravity	g/cm ³	ASTM D792	1.55	1.14	0.92	0.97
H ₂ O 73,4° F absorption	%	ISO 62	<0,1	2,5	<0,1	<0,1
Formaldehyde	ppm	-	absent	absent	absent	absent
Cadmium	ppm	-	absent	absent	absent	absent
Mechanical Properties						
Tensile stress at break	MPa	ASTM D638	39	45	17	15
Traction strength	MPa	ASTM D638	44	55	9,5	9
Elongation at break	%	ASTM D638	130	250	400	600
Modulus of elasticity at traction	MPa	ASTM D638	4400	950	-	240
Modulus of elasticity at flexion	MPa	ASTM D790	3200	1100	210	130
Thermal Properties						
Temperature VICAT	°C	ASTM D1525	84	198	89	-
HDT	°C	ASTM D648	72	185	-	-
Coefficient of expansion	K ⁻¹	ASTM D696	6 · 10 ⁻⁵	8-10 · 10 ⁻⁵	22 · 10 ⁻⁵	10 ⁻⁵
Specific heat	kJ/kgK	ASTM C351	0,94	1,7	-	-
Thermal conductivity	W/mK	ASTM C177	0,14	0,29	0,32	0,32
Electrical Properties						
Dielectric constant	-	ASTM D150	3,2 - 4,0	5,0	2,4	2,3
Dielectric strength	kV/mm	IEC 243	70	35	90	90
Surface resistance	Ohm	IEC 93	10 ¹³	5 · 10 ¹¹	10 ¹³	10 ¹³
Self-Extinguishing						
Self-extinguishing 1,6 millimeters	-	UL 94	V0	V2	HB	V2
Self-extinguishing 3,2 millimeters	-	UL 94	V0	V2	HB	V2
Glow wire test (2 mm)	°C	IEC 695-2-1	960	650	650	850
Oxygen number	%	ASTM D2863	43	25	-	25

NP-4900 PVC Extruded Sleeving

Nelco #	AWG No.	Nominal I.D.		Nominal Wall		Standard Pkg.	
		In.	mm	In.	mm	Spool	Box
NP-4900	1/4	.250	6,35	.020	0,51	1000'	2000'
NP-4900	5/16	.313	7,94	.025	0,64	500'	1000'
NP-4900	3/8	.375	9,53	.025	0,64	500'	1000'
NP-4900	7/16	.438	11,11	.025	0,64	500'	1000'
NP-4900	1/2	.500	12,70	.025	0,64	500'	1000'
NP-4900	9/16	.563	14,29	.030	0,76	250'	500'
NP-4900	5/8	.625	15,88	.030	0,76	250'	500'
NP-4900	3/4	.750	19,05	.035	0,89	250'	500'
NP-4900	7/8	.875	22,23	.035	0,89	100'	400'
NP-4900	1	1.000	25,40	.035	0,89	100'	400'
NP-4900	1-1/8	1.125	28,58	.035	0,89	100'	400'
NP-4900	1-1/4	1.250	31,75	.040	1,02	100'	400'
NP-4900	1-3/8	1.375	34,93	.045	1,14	50'	200'
NP-4900	1-1/2	1.500	38,10	.045	1,14	50'	200'
NP-4900	1-3/4	1.750	44,45	.055	1,40	50'	200'
NP-4900	2	2.000	50,80	.060	1,52	50'	200'
NP-4900	2-1/4	2.250	57,15	.065	1,65	50'	200'
NP-4900	2-1/2	2.500	63,50	.070	1,78	50'	200'

Specifications: UL Subject 224 VW-1. CSA OFT,

Size #24 - Size #1 rated for 300 V, Sizes 5/16-2-1/2 rated for 600 V. ASTM D 922. AMS 3631. MIL-I-631D Grade C QPL approved.

Standard Colors: Black, white, red, yellow, & clear (up to 1").

Black, white, & clear (sizes greater than 1").

Operating Temperature Range: -20° C to 105° C.

Nelco #	AWG No.	Nominal I.D.		Nominal Wall		Standard Pkg.	
		In.	mm	In.	mm	Spool	Box
NP-4900	24	.022	0,56	.012	0,30	2500'	5000'
NP-4900	22	.027	0,69	.012	0,30	2500'	5000'
NP-4900	20	.034	0,86	.016	0,41	1000'	4000'
NP-4900	19	.038	0,97	.016	0,41	1000'	4000'
NP-4900	18	.042	1,07	.016	0,41	1000'	4000'
NP-4900	17	.047	1,19	.016	0,41	1000'	4000'
NP-4900	16	.053	1,35	.016	0,41	1000'	4000'
NP-4900	15	.059	1,50	.016	0,41	1000'	4000'
NP-4900	14	.066	1,68	.016	0,41	1000'	4000'
NP-4900	13	.076	1,93	.016	0,41	1000'	4000'
NP-4900	12	.085	2,16	.016	0,41	1000'	4000'
NP-4900	11	.095	2,41	.016	0,41	1000'	4000'
NP-4900	10	.106	2,69	.016	0,41	1000'	4000'
NP-4900	9	.118	3,00	.020	0,51	1000'	4000'
NP-4900	8	.133	3,38	.020	0,51	1000'	4000'
NP-4900	7	.148	3,76	.020	0,51	1000'	4000'
NP-4900	6	.166	4,21	.020	0,51	1000'	2000'
NP-4900	5 (3/16)	.186	4,72	.020	0,51	1000'	2000'
NP-4900	4	.208	5,28	.020	0,51	1000'	2000'
NP-4900	3	.234	5,94	.020	0,51	1000'	2000'
NP-4900	2	.263	6,68	.020	0,51	1000'	2000'
NP-4900	1	.294	7,47	.020	0,51	1000'	2000'
NP-4900	0	.330	8,38	.025	0,64	500'	1000'

Property	Test Method	Typical Value
Specific Gravity	ASTM D 792	1.32
Durometer Shore A	ASTM D 2240	91
Tensile Strength	ASTM D 876	2,800 psi
Elongation	ASTM D 876	288%
Brittleness Temperature	ASTM D 746	-20° C
Heat Aging 7 days @ 136° C	UL Subject 224	80%
Heat Aging 14 days @ 131° C	CSA 22.2 No. 198	Pass
Oil Aging 4 hours @ 70° C SAE 20	CSA 22.2 No. 198	Pass
Insulating Varnish Test 20 hours @ 150° C in Isonel 31	CSA 22.2 No. 198	Pass
Flammability	UL Subject 224 VW-1	Pass
Deformation 1 hour @ 121° C	UL Subject 224	22%
Volume Resistivity	ASTM D 257	5.4 x 10 ¹²
Dielectric Constant @ 1 KHz	ASTM D 150	6.0
Dissipation Factor @ 1 KHz	ASTM D 150	0.09
Dielectric Strength 0.021" Specimen	ASTM D 149	750 vpm

PTFE Extruded Tubing (MIL-I-22129)

Nelco #	AWG Sizes	Inside Diameter			Wall Dimensions					
					Standard Wall ASTM D 3295 Bulletin 1		Thin Wall AMS 3655 Bulletin 2		Lightweight Wall AMS 3654 Bulletin 3	
		Min.	Nom.	Max.	Nom.	Tol.	Nom.	Tol.	Nom.	Tol.
PTFE-30	30	.010	.012	.015	.009	±.002	.009	±.002	.006	±.002
PTFE-28	28	.013	.015	.018	.009	±.002	.009	±.002	.006	±.002
PTFE-26	26	.016	.018	.021	.009	±.002	.009	±.002	.006	±.002
PTFE-24	24	.020	.022	.026	.012	±.002	.010	±.003	.006	±.002
PTFE-23	23	.023	.026	.029	.012	±.002	.010	±.003	.006	±.002
PTFE-22	22	.025	.028	.032	.012	±.002	.010	±.003	.006	±.002
PTFE-21	21	.029	.032	.035	.012	±.002	.010	±.003	.006	±.002
PTFE-20	20	.032	.034	.038	.016	±.003	.012	±.003	.006	±.002
PTFE-19	19	.036	.038	.042	.016	±.003	.012	±.003	.006	±.002
PTFE-18	18	.040	.042	.046	.016	±.003	.012	±.003	.006	±.002
PTFE-17	17	.045	.047	.052	.016	±.003	.012	±.003	.006	±.002
PTFE-16	16	.051	.053	.058	.016	±.003	.012	±.003	.006	±.002
PTFE-15	15	.057	.059	.065	.016	±.003	.012	±.003	.006	±.002
PTFE-14	14	.064	.066	.072	.016	±.003	.012	±.003	.008	±.002
PTFE-13	13	.072	.076	.081	.016	±.003	.012	±.003	.008	±.002
PTFE-12	12	.081	.085	.091	.016	±.003	.012	±.003	.008	±.002
PTFE-11	11	.091	.095	.101	.016	±.003	.012	±.003	.008	±.002
PTFE-10	10	.102	.106	.112	.016	±.003	.012	±.003	.008	±.002
PTFE-9	9	.114	.118	.124	.020	±.004	.015	±.003	.008	±.002
PTFE-8	8	.129	.133	.139	.020	±.004	.015	±.003	.008	±.002
PTFE-7	7	.144	.148	.155	.020	±.004	.015	±.003	.008	±.002
PTFE-6	6	.162	.166	.174	.020	±.004	.015	±.003	.010	±.003
PTFE-5	5	.182	.186	.195	.020	±.004	.015	±.003	.010	±.003
PTFE-4	4	.204	.208	.218	.020	±.004	.015	±.003	.010	±.003
PTFE-3	3	.229	.234	.244	.020	±.004	.015	±.003	.010	±.003
PTFE-2	2	.258	.263	.273	.020	±.004	.015	±.003	.010	±.003
PTFE-1	1	.289	.294	.305	.020	±.004	.015	±.003	.010	±.003
PTFE-0	0	.325	.330	.342	.020	±.004	.015	±.003	.012	±.003

Standard Colors: Natural. Mil. Std. 104 colors on request.

Fractional Sizes 1/8" - 1-1/2", including Heavy Wall, available.

FEP Extruded Tubing also available.

Custom Specifications and tolerances quoted upon request.

Spiral Wrap



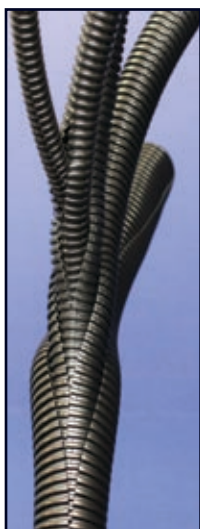
Nelco #	Size (In.)	Outside Diameter O.D.	Nominal Dimensions Wall	Inside Diameter I.D.	Pitch	Max. Bundle Range (In.)
HT 1/8-*	1/8"	.125	.032	.061	.187	1/16 to 1/2
HT 3/16-*	3/16"	.187	.030	.127	.250	1/8 to 1-1/2
HT 1/4-*2	1/4" Thin Wall	.250	.035	.180	.375	3/16 to 2
HT 1/4-*	1/4"	.250	.045	.160	.375	3/16 to 2
HT 3/8-*	3/8"	.375	.052	.271	.438	5/16 to 3
HT 1/2-*2	1/2" Thin Wall	.500	.040	.420	.563	3/8 to 4
HT 1/2-*	1/2"	.500	.062	.375	.563	3/8 to 4
HT 5/8-*	5/8"	.625	.062	.500	.625	1/2 to 4-1/2
HT 3/4-*	3/4"	.750	.065	.620	.750	3/4 to 5
HT 1-*	1"	1.00	.080	.840	1.00	1 to 7
HT 1-1/4*	1-1/4"	1.25	.090	1.07	1.25	1-1/4 to 8
HT 1-1/2*	1-1/2"	1.50	.100	1.30	1.50	1-1/2 to 10

* Add Suffix: C = Clear Polyethylene, UR = Black Polyethylene

Other colors are available and subject to quotation.

Other Available Materials: Polyethylene Colors, Gray Polyethylene, Fire Resistant White & Black, Nylon, Black Nylon, TFE

Convolutd Tubing



Nelco #	Diameter Size	I.D. Inches	O.D. Inches
1/4 X BULK	1/4"	0.260 - 0.280	0.380 - .0400
3/8 X BULK	3/8"	0.410 - 0.430	0.533 - 0.553
1/2 X BULK	1/2"	0.490 - 0.510	0.670 - 0.695
5/8 X BULK	5/8"	0.639 - 0.671	0.816 - 0.836
3/4 X BULK	3/4"	0.752 - 0.785	0.923 - 0.950
1 X BULK	1"	0.910 - 0.930	1.09 - 1.110
1-1/4 X BULK	1-1/4"	1.275 - 1.295	1.500 - 1.520
1-1/2 X BULK	1-1/2"	1.550 - 1.610	1.90 - 1.96

Standard tubing is slit. Solid available upon request.

Available in Black Nylon and Black Polyethylene.

Other sizes available.

Nelco offers a full line of wire and cable identification products to assist with all types of labeling and wire identification applications. Whether you need a hand-held label printer in the field or a higher volume desktop printer, we have the solution for you.

Low Volume Wire Marking Solutions



We offer a wide range of low volume wire and cable marking products from handheld printers to PC-compatible desktop printers.

Our line of handheld portable printers allow you to create industrial-grade labels, bar codes and print on heat shrink tube in the field utilizing thermal transfer printing technology. PC connectivity allows the user to insert customized graphics, logos, symbols and industry terms to customize your labeling jobs.

Medium-High Volume Wire Marking Solutions



For medium to large volume wire marking needs, choose from our selection of high-quality desktop thermal transfer printers. These printers allow for high volume printing of custom labels and wire markers with ease and efficiency and come with easy label creation software.

Our selection of industrial desktop thermal transfer printers give you the flexibility to print on a variety of labels such as self-laminating, Heatex™ thermal labels, heat shrink markers, bar-codes and more. These intelligent printers offer simple, easy to read graphic and alphanumeric LCD displays for easy to access menu options.

High Volume Wire Marking Solutions



We offer industry leading computer controlled, thermal label printing systems that generate large volumes of labels and heat shrink markers for large wire marking tasks.

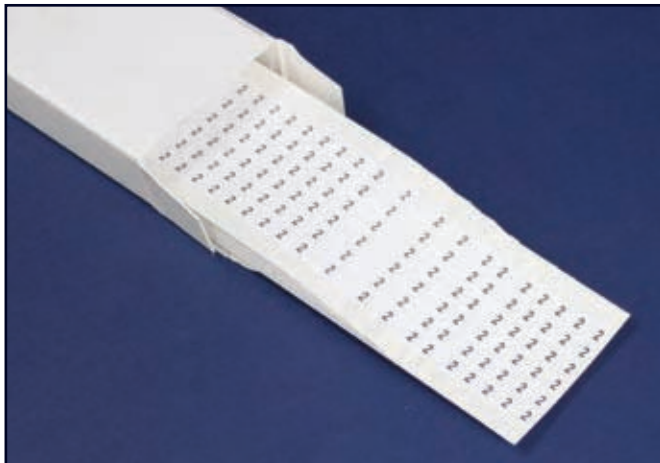
Our largest wire marking system allows you to print on continuous rolls of heat shrink tubing and produces a dry, permanent mark that can be handled immediately after printing. Print on an assortment of tubing materials including polyolefin, fluoropolymer, and dual wall adhesive lined tubing. Design and create custom marker tags, which can be used in the most demanding and extreme work environments.

Pre-Printed Wire Marker Solutions



Wire Marker Dispensers are an extremely user friendly portable wire marking system. Each dispenser contains 10 rolls of marker tape, numbered 0-9. Each roll contains 76 individual markers with a pre-cut length of 1-1/4", providing a total of 760 markers per dispenser in a convenient size to accommodate most commonly identified wire sizes.

Wire Marker Cards & Books



Wire Marker Cards and Books are also very simple and user friendly systems for wire marking. Wire marker cards feature adhesive backed vinyl cloth tape markers mounted on an easy release plastic liner. Choose from solid packs, sequence packs and combination packs.

Wire marker booklets contain 10 pages of pre-cut markers 1-1/4" long, totaling 450 wire markers with 450 terminal markers sized 3/16" x 3/16". Each booklet is available in either standard vinyl cloth material or tear resistant Tyvek™ material. Choose from booklets containing a combination of industry recognized numbers, letters, NEMA colors and legends.

Blank Labels



Nelco offers a large selection of blank labels to accommodate a wide range of wire and cable marking applications. Whether it's wire identification for small office spaces or labeling for large industrial control panels, our products offer outstanding performance in most any environment.

- Printable Self-Laminating Labels: Available for use in thermal transfer, laser, inkjet and dot-matrix printers.
- Blank Printable Labels: Available for use in thermal transfer, laser, inkjet and dot-matrix printers.
- Hand Writeable Labels: Choose from pocket-sized dispensers or booklets with labels that are clear vinyl with a permanent acrylic adhesive.

Custom Printing & Cutting Services



Nelco provides customized printing and cutting services for cable ties, heat shrink tubing, wire identification, wire protection and wire assembly products. Our state of the art equipment and value-added staff have over 20 years of experience in our customized services, ensuring the highest quality and satisfaction you expect from Nelco Products.

Our services include:

- Custom Printed Tubing & Cable Ties.
- Custom imprinting of graphics, logos, barcodes, serial numbers & text using thermal & hot-stamp print technologies.
- Choose the type of heat shrink tubing needed for your application: singlewall, dual-wall, desired shrink ratio, colors, length, etc.
- We print on specialty tubing materials such as Neoprene, Viton and more!
- Cable Ties hot-stamped with logos, sequential numbers, or other customized text or graphics to meet your requirements.

Custom Tube Cutting Services:

- Our high speed cutting equipment creates the exact lengths you need for assembly projects.

Why You Benefit from Nelco's Services:

- Quick turn-around time on both large & small jobs.
- Finished parts arrive ready for immediate assembly.
- Saves you money from incurring in-house equipment & labor costs.



Conversion Tables

Fraction, Decimal and Millimeter equivalents

INCH FRAC.	INCH DEC.	MILLI- METERS	INCH FRAC.	INCH DEC.	MILLI- METERS
1/64	.0156	0,397	33/64	.5156	13,097
1/32	.0312	0,794	17/32	.5312	13,494
3/64	.0468	1,191	35/64	.5468	13,891
1/16	.0625	1,588	9/16	.5625	14,288
5/64	.0781	1,984	37/64	.5781	14,684
3/32	.0937	2,381	19/32	.5937	15,081
7/64	.1093	2,778	39/64	.6093	15,478
1/8	.1250	3,175	5/8	.6250	15,875
9/64	.1406	3,572	41/64	.6406	16,272
5/32	.1562	3,969	21/32	.6562	16,669
11/64	.1718	4,366	43/64	.6718	17,066
3/16	.1875	4,763	11/16	.6875	17,463
13/64	.2031	5,159	45/64	.7031	17,859
7/32	.2187	5,556	23/32	.7187	18,256
15/64	.2343	5,954	47/64	.7343	18,653
1/4	.2500	6,350	3/4	.7500	19,050
17/64	.2656	6,747	49/64	.7656	19,447
9/32	.2812	7,144	25/32	.7812	19,844
19/64	.2968	7,541	51/64	.7968	20,241
5/16	.3125	7,938	13/16	.8125	20,638
21/64	.3281	8,334	53/64	.8281	21,034
11/32	.3437	8,731	27/32	.8437	21,431
26/64	.3593	9,128	55/64	.8593	21,828
3/8	.3750	9,525	7/8	.8750	22,225
25/64	.3906	9,922	57/64	.8906	22,622
13/32	.4062	10,319	29/32	.9062	23,019
27/64	.4218	10,716	59/64	.9218	23,416
7/16	.4375	11,113	15/16	.9375	23,813
29/64	.4531	11,509	64/64	.9531	24,209
15/32	.4687	11,906	31/32	.9687	24,606
31/64	.4843	12,303	63/64	.9843	25,003
1/2	.5000	12,700	1	1,000	25,400

Solid (1) strand copper wire

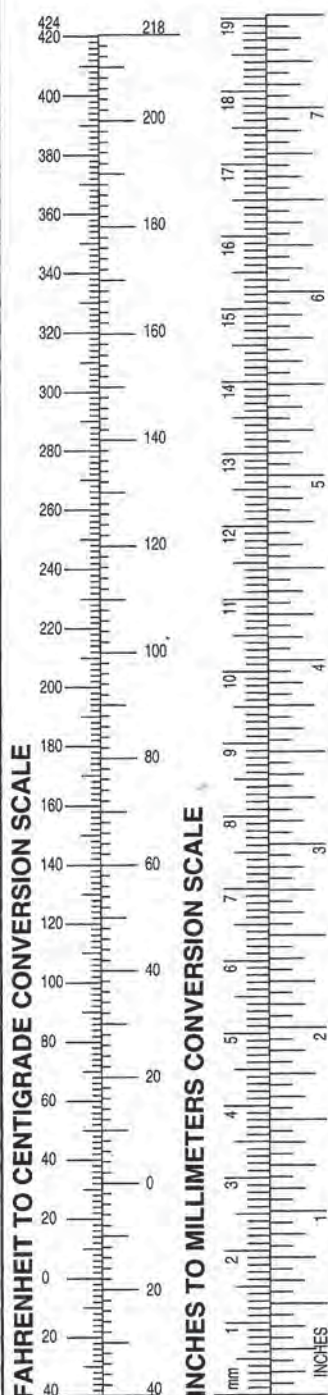
Move decimal point three places to the right to read mills.

AWG	DIAMETER INCHES	CMA	AWG	DIAMETER INCHES	CMA
4/0	.460	212,000	12	.081	6,530
3/0	.410	168,000	13	.072	5,180
2/0	.365	133,000	14	.064	4,110
1/0	.325	106,000	15	.057	3,260
1	.289	83,700	16	.051	2,580
2	.258	66,400	17	.045	2,050
3	.229	52,600	18	.040	1,620
4	.204	41,700	19	.036	1,290
5	.182	33,100	20	.032	1,020
6	.162	26,300	21	.0285	810
7	.144	20,800	22	.0253	642
8	.128	16,500	23	.0226	509
9	.114	13,100	24	.0201	404
10	.102	10,400	25	.0179	320

AWG	mm ²	Standard wires mm ²
26-22	0.1-0.4	0.14 0.20 0.25 0.35
22-16	0.25-1.6	0.25 0.35 0.50 0.75 1.0 1.5
16-14	1.0-2.6	1.0 1.5 2.5
12-10	2.7-6.6	4.0 6.0
8	6.6-10.5	10
6	10.5-16.8	16
4	16.8-26.6	2.5
2	26.6-42.4	35
1/0	42.4-60.5	50
2/0	60.5-76.2	70
3/0	76.2-96.3	95
4/0	96.3-117.0	120

#10 .190 .209 (5,31) M5
3/8" .375 .413 (10,5) M9-10

* All decimals plus or minus .003".
Fractions plus or minus .055".



Stud size with hole sizes.

STANDARD STUD SIZE	SCREW DIA. (")	HOLE DIA. INCH/mm	DIN.
#0	.060		
#1	.073	.094 (2,39)	M1,7-2,2
#2	.086		
#3	.099	.120 (3,025)	M2,6
#4	.112		
#5	.125	.146 (3,71)	M3-3,5
#6	.138		
#8	.164	.173 (4,39)	M4
#10	.190	.198 (5,03)	
#12	.216		
#14	.242	.17/64 (6,75)	M6
1/4"	.250		
5/16"	.312	.21/64 (8,33)	M8
3/8"	.375	.25/64 (9,92)	M9
7/16"	.437	.29/64 (11,51)	M11
1/2"	.500	.33/64 (13,10)	M12
5/8"	.625	.21/32 (16,67)	M16
3/4"	.750	.25/32 (19,84)	M18
7/8"	.875	.29/32 (23,02)	M20
1"	1.000	.1-1/32 (26,19)	M25

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