

## IDEAL Cable Tie Catalog Numbering System

**IT - 2 - S - MH - C - 0**

IT	2	S	MH	C	0
<b>IT = IDEAL Powr-Tie™ Cable Ties</b>	<b>Size</b> Approximate Bundle Diameter for ties	<b>TENSILE Strength</b> M = Miniature (18 lbs.) I = Intermediate (40 lbs.) S = Standard (50 lbs.) LH = Light-Heavy Duty (120 lbs.) H = Heavy Duty (175 lbs.) EH = Extra-Heavy Duty (250 lbs.)	<b>Style</b> _ = Standard Tie MH = Mounting ID = Identification MB = Mounting Base LPMB = Low Profile Mounting Base MP = Mounting Pad CCL = Cable Clamp	<b>Qty. Per Package</b> L = 50 C = 100 D = 500 M = 1000	<b>Color</b> _ = Natural 0 = UV Black 8 = Gray 30 = Heat Stabilized Black 35 = Maroon 702 = Halar

### Cable Tie Bag



- Keep your cable ties right where you need them, eliminate loss with this convenient easy-to-use bag that clips securely onto your belt
- Includes a bag for 8 in. cable ties and a bag for 11 in. cable ties, they easily clip together or can be used separately
- Elastic cord quickly and easily cinches to keep ties securely in place

Description	Cat. No.
Cable Tie Bag	<b>IT-BAG</b>

### Cable-Tie Installation Tool

- Consistent, positive tension
- Flush cut-off leaves no projections to damage nearby wires or components
- Lightweight economy model for smaller jobs
- Standard and heavy-duty models feature rugged, construction with comfortable, cushioned grips



Description	Cat. No.
Economy – use w/intermediate & standard ties*	<b>BCTT-200</b>
Standard – use w/intermediate & standard ties**	<b>41-990</b>
Heavy-Duty – use w/standard & heavy-duty ties**	<b>41-995</b>

\*Color may vary  
\*\*Not Shown

### Cable Tie Assortment with Cable Tie Bag

- 500 of the most popular sized cable ties packaged with an easy-to-use bag that clips securely onto your belt
- UL Listed Nylon 6/6 cable ties are suitable for use in Air Handling Spaces (Plenums) in accordance with Section 300-22(C) & (D) of the National Electrical Code and Rules 12-010 (3), (4) & (5) and 12-020 of the Canadian Electrical Code, Part 1.

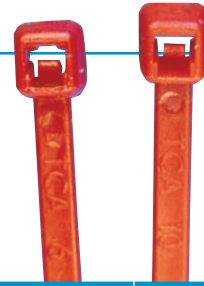
Description	Qty.	Cat. No.
Cable Tie Assortment		<b>IT-COMBO</b>
<b>IT-COMBO Includes:</b>		
7-1/2 in. Natural Air Handling Cable Ties	300	<b>IT2S-C</b>
11 in. Natural Air Handling Cable Ties	200	<b>IT3S-C</b>
Cable Tie Bag	1	<b>IT-BAG</b>



## Plenum Ties

### Halar® Ties

- For use in air handling/plenum environments
- Easily recognized maroon color
- Low smoke density and excellent flammability rating, non-flammable UL 94V-0
- Superior chemical resistance
- 300°F temperature use



Description	Length	Width	Thickness	Max. Bundle	Tensile Strength	Qty./Bag	Cat. No.
Maroon Halar	8.0 in./203mm	.178 in./4.5mm	.053 in./1.35mm	1/16 - 2 in.	50 lbs.	100	<b>IT2S-C702</b>
Maroon Halar	11.0 in./279mm	.178 in./4.5mm	.053 in./1.35mm	1/16 - 3 in.	50 lbs.	100	<b>IT3S-C702</b>

Approximate dimensions.

Halar® is a trademark of Ausimont Chemical Co.

### UL Listed for Air Handling Ties - Plenum

- UL Listed nylon 6/6 cable ties are suitable for use in Air Handling Spaces (Plenum) in accordance with Section 300-22(C) & (D) of the National Electrical Code and Rules 12-010 (3), (4) and (5) and 12-020 of the Canadian Electrical Code, Part 1



### Standard Ties

Description	Length	Width	Thickness	Max. Bundle	Tensile Strength	Mil-Spec Reference	Qty./Bag	Cat. No.
Burgandy Nylon	7.5 in./190mm	.178 in./4.52mm	.053 in./1.34mm	1/16 - 1-7/8 in.	50 lbs.	MS3367-1-9	100	<b>IT2S-C35</b>
Natural Nylon							100	<b>IT2S-C</b>
Natural Nylon							1000	<b>IT2S-M</b>
UV Black Nylon							100	<b>IT2S-C0</b>
UV Black Nylon	11.2 in./284mm	.178 in./4.52mm	.053 in./1.34mm	1/16 - 3-1/16 in.	50 lbs.	MS3367-1-0	1000	<b>IT2S-M0</b>
Burgandy Nylon							100	<b>IT3S-C35</b>
Natural Nylon							100	<b>IT3S-C</b>
Natural Nylon							500	<b>IT3S-D</b>
UV Black Nylon	14.5 in./368mm	.178 in./4.52mm	.053 in./1.34mm	1/16 - 4-1/8 in.	50 lbs.	MS3367-7-9	100	<b>IT3S-C0</b>
UV Black Nylon							500	<b>IT3S-D0</b>
Natural Nylon							100	<b>IT4S-C</b>
Natural Nylon							500	<b>IT4S-D</b>
UV Black Nylon	14.5 in./368mm	.178 in./4.52mm	.053 in./1.34mm	1/16 - 4-1/8 in.	50 lbs.	MS3367-2-9	100	<b>IT4S-C0</b>
UV Black Nylon							500	<b>IT4S-D0</b>

### Mounting Ties

Description	Length	Width	Strap Thickness	Max. Bundle	Tensile Strength	Screw Size	Qty./Bag	Cat. No.
Natural Nylon	8.1 in./206mm	.178 in./4.52mm	.053 in./1.35mm	1/16 - 1-3/4 in.	50 lbs.	No. 10	100	<b>IT2SMH-C</b>
Natural Nylon							1000	<b>IT2SMH-M</b>
UV Black Nylon							100	<b>IT2SMH-C0</b>

### Definition of "Air Handling Spaces"

Air Handling Spaces - Ducts or plenums used for environmental air and other spaces used for environmental air, such as above hung ceilings or below raised floors. This does not include plenums used for the removal of dust, loose stock or vapor, or ventilation of commercial-type cooking equipment.<sup>1</sup>

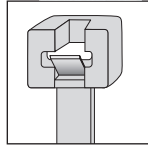
<sup>1</sup>UL 1565 CSA C22.2 4th Edition



## Powr-Tie™ Cable Ties

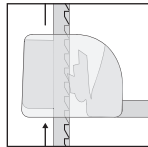
### Quality Construction

- One-piece design for added strength
- Superior locking mechanism
- Exceeds industry tensile strength ratings



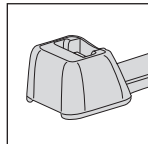
### Low Insertion Force

- Tapered thin tip reduces initial friction
- Lowest insertion force with the highest tensile strength
- Reduces installation fatigue



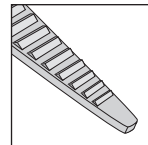
### No Burrs or Sharp Edges

- Smooth corners provide added safety
- Rounded edges eliminate insulation damage



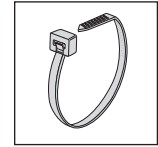
### Stepped Tail Gripper

- Tapered tail grip assures positive threading
- Stepped tail allows for easier grabbing and tightening once engaged



### Angled Tail

- Provides quicker initial insertion
- Lowers installation costs



### Material Selection

#### ■ ROHS Compliant

#### ■ Natural General Purpose 6/6 Nylon

- Suitable for most applications
- Meets UL 94V-2 flammability ratings
- 85°C/185°F working temperature

#### ■ UV Black Nylon 6/6

- Suitable for most applications with continuous or extended exposure to outdoor elements
- Weather-resistant grade, able to endure ultraviolet (UV) light
- Meets UL 94V-2 flammability ratings
- 85°C/185°F working temperature

#### ■ Heat Stabilized Black Nylon 6/6

- Suitable for most applications with continuous or extended exposure to high temperatures
- Meets UL standards for electrical applications
- Meets UL 94V-2 flammability ratings
- 125°C/254°F working temperature

### Miniature (18 lb.) Ties Natural & UV Black

Description	Length	Width	Thickness	Max. Bundle	Tensile Strength	Mil-Spec Reference	Qty./Bag	Cat. No.
Natural Nylon	4.0 in./102mm	.094 in./2.39mm	.042 in./1.06mm	1/16 - 7/8 in.	18 lbs.	MS3367-4-9	100	IT1M-C
Natural Nylon							1000	IT1M-M
UV Black Nylon						100	IT1M-C0	
Natural Nylon	6.1 in./154mm	.094 in./2.39mm	.042 in./1.06mm	1/16 - 1-1/2 in.	18 lbs.	—	100	IT1_5M-C
UV Black Nylon							100	IT1_5M-C0
Natural Nylon	8.1 in./206mm	.094 in./2.39mm	.042 in./1.06mm	1/16 - 2-3/16 in.	18 lbs.	—	100	IT2M-C
Natural Nylon							1000	IT2M-M
UV Black Nylon							100	IT2M-C0

\*IM, 1\_5M & 2M Series



### Intermediate (40 lb.) Ties Natural & UV Black

Description	Length	Width	Thickness	Max. Bundle	Tensile Strength	Mil-Spec Reference	Qty./Bag	Cat. No.
Natural Nylon	5.7 in./145mm	.140 in./3.56mm	.049 in./1.24mm	1/16 - 1-7/16 in.	40 lbs.	MS3367-5-9	100	IT1_5I-C
Natural Nylon							1000	IT1_5I-M
UV Black Nylon						100	IT1_5I-C0	
UV Black Nylon	8.8 in./224mm	.140 in./3.56mm	.049 in./1.24mm	1/16 - 2-3/8 in.	40 lbs.	MS3367-5-0	1000	IT1_5I-M0
Natural Nylon							100	IT2I-C
Natural Nylon						1000	IT2I-M	
UV Black Nylon						100	IT2I-C0	
UV Black Nylon						1000	IT2I-M0	
Natural Nylon	11.5 in./292mm	.142 in./3.60mm	.055 in./1.40mm	1/16 - 3-3/8 in.	40 lbs.	—	100	IT3I-C
UV Black Nylon							100	IT3I-C0
Natural Nylon	14.5 in./368mm	.142 in./3.60mm	.055 in./1.40mm	1/16 - 4 in.	40 lbs.	—	100	IT4I-C
UV Black Nylon							100	IT4I-C0

\*1\_5 & 2I Series



## Standard (50 lb.) Ties Natural, UV Black & Heat Stabilized Black

Description	Length	Width	Thickness	Max. Bundle	Tensile Strength	Mil-Spec Reference	Qty./Bag	Cat. No.
Natural Nylon	7.5 in./190mm	.178 in./4.52mm	.053 in./1.34mm	1/16 - 1-7/8 in.	50 lbs.	MS3367-1-9	100	IT2S-C
Natural Nylon							1000	IT2S-M
UV Black Nylon						MS3367-1-0	100	IT2S-C0
UV Black Nylon							1000	IT2S-M0
Heat Stabilized Black Nylon						—	100	IT2S-C30
Natural Nylon	11.2 in./284mm	.178 in./4.52mm	.053 in./1.34mm	1/16 - 3-1/16 in.	50 lbs.	MS3367-7-9	100	IT3S-C
Natural Nylon							500	IT3S-D
UV Black Nylon						MS3367-7-0	100	IT3S-C0
UV Black Nylon							500	IT3S-D0
Natural Nylon	14.5 in./368mm	.178 in./4.52mm	.053 in./1.34mm	1/16 - 4-1/8 in.	50 lbs.	MS3367-2-9	100	IT4S-C
Natural Nylon							500	IT4S-D
UV Black Nylon						MS3367-2-0	100	IT4S-C0
UV Black Nylon							500	IT4S-D0
Natural Nylon	17.0 in./432mm	.190 in./4.82mm	.053 in./1.34mm	1/16 - 4-3/4 in.	50 lbs.	—	100	IT5S-C
UV Black Nylon							100	IT5S-C0

\*2S, 3S & 4S Series

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## Light Heavy-Duty, Heavy-Duty & Extra Heavy-Duty Ties Natural, UV Black & Heat Stabilized Black

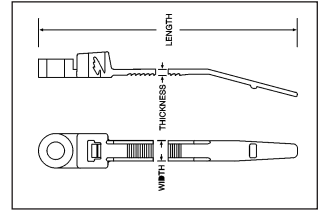
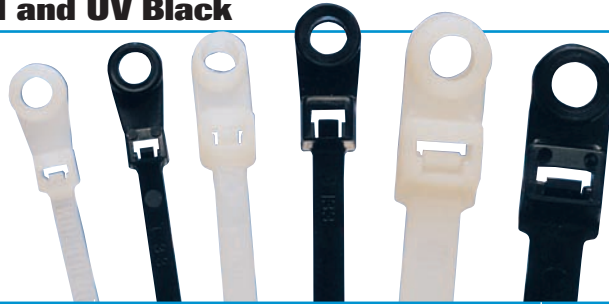
Description	Length	Width	Thickness	Max. Bundle	Tensile Strength	Mil-Spec Reference	Qty./Bag	Cat. No.	
Natural Nylon	8.7/220.9mm	.300 in./7.62mm	.076 in./1.93mm	2-1/16 in.	120 lbs.	—	100	IT2LH-C	
UV Black Nylon							100	IT2LH-C0	
Natural Nylon	15.1 in./384mm	.300 in./7.62mm	.075 in./1.90mm	3/16-4-1/16 in.	120 lbs.	MS3367-3-9	50	IT4LH-L	
UV Black Nylon							MS3367-3-0	50	IT4LH-L0
Natural Nylon	17.8 in./451mm	.300 in./7.62mm	.075 in./1.90mm	3/16-5-1/4 in.	120 lbs.	—	50	IT5LH-L	
UV Black Nylon							50	IT5LH-L0	
Natural Nylon	24.2 in./614mm	.300 in./7.62mm	.075 in./1.90mm	3/16-7 in.	120 lbs.	—	50	IT7LH-L	
UV Black Nylon							50	IT7LH-L0	
Natural Nylon	25.3 in./642mm	.340 in./8.64mm	.090 in./2.29mm	3/16-7-3/16 in.	175 lbs.	MS3367-10-9	50	IT7H-L	
UV Black Nylon							MS3367-10-0	50	IT7H-L0
Natural Nylon	33.1 in./841mm	.340 in./8.64mm	.090 in./2.29mm	3/16-9-3/4 in.	175 lbs.	MS3367-12-9	50	IT10H-L	
UV Black Nylon							MS3367-12-0	50	IT10H-L0
Natural Nylon	37.1 in./942mm	.340 in./8.64mm	.090 in./2.29mm	3/16-11 in.	175 lbs.	MS3367-13-9	50	IT11H-L	
UV Black Nylon							MS3367-13-0	50	IT11H-L0
Natural Nylon	47.8 in./1214mm	.340 in./8.64mm	.090 in./2.29mm	3/8-14-1/2 in.	175 lbs.	MS3367-16-9	50	IT14H-L	
Gray Nylon							MS3367-16-8	50	IT14H-L8
UV Black Nylon							MS3367-16-0	50	IT14H-L0
UV Black Nylon	22.8 in./579mm	.50 in./12.7mm	.080 in./2.03mm	3/16-6 in.	250 lbs.	—	100	IT6EH-C0	

\*4LH, 7H, 10H, 11H, 14H Series



## Mounting Head Ties Natural and UV Black

- Secures and positions wire bundles, cables, hoses, etc. to panels or other surfaces with one fastener to reduce time and cost
- Allows bundling before and after mounting



Description	Length	Width	Strap Thickness	Max. Bundle	Tensile Strength	Screw Size	Qty./Bag	Cat. No.
Natural Nylon	6.0 in./152mm	.140 in./3.55mm	.048 in./1.21mm	1/16 - 1-1/4 in.	30 lbs.	No. 8	100	<b>IT1_5IMH-C</b>
UV Black Nylon							100	<b>IT1_5IMH-C0</b>
Natural Nylon	8.1 in./206mm	.178 in./4.52mm	.053 in./1.35mm	1/16 - 1-3/4 in.	50 lbs.	No. 10	100	<b>IT2SMH-C</b>
Natural Nylon							1000	<b>IT2SMH-M</b>
UV Black Nylon							100	<b>IT2SMH-C0</b>
Natural Nylon	11.8 in./300mm	.189 in./4.80mm	.050 in./1.27mm	1/16 - 3 in.	50 lbs.	No. 10	100	<b>IT3SMH-C</b>
UV Black Nylon							100	<b>IT3SMH-C0</b>
Natural Nylon	14.5 in./370mm	.189 in./4.80mm	.060 in./1.52mm	1/16 - 4 in.	50 lbs.	No. 10	100	<b>IT4SMH-C</b>
Natural Nylon	15.7 in./398mm	.300 in./7.62mm	.075 in./1.90mm	3/16 - 4-1/16 in.	120 lbs.	1/4 in.	100	<b>IT4LHMH-C</b>
UV Black Nylon							100	<b>IT4LHMH-C0</b>

\*4LH Series; \*\*2S Series

UL Listed Nylon 6/6 cable ties are suitable for use in air handling spaces in accordance with Section 300-22(C) & (D) of the National Electrical Code.

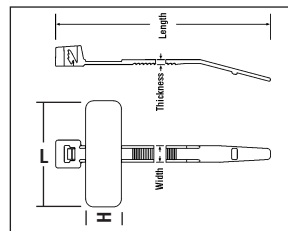


## Identification Ties

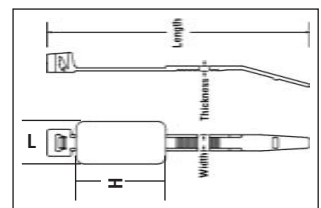
- Write-on surface
- Bundle and identify at the same time



**IT1MID-C**



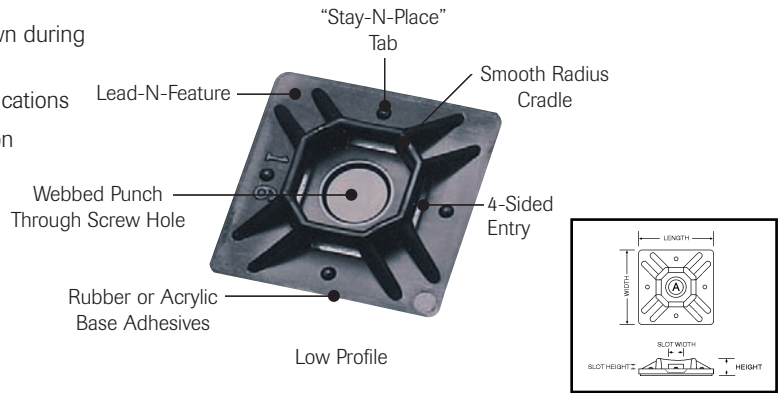
**IT2SID-C & IT4SID-C**



Description	Length	Width	Thickness	Max. Bundle	Tensile Strength	Pad Size (H X L)	Qty./Bag	Cat. No.
Natural Nylon	4.0 in./102mm	.100 in./2.54mm	.044 in./1.12mm	1/16 - 7/8 in.	18 lbs.	5/16 in. x 1 in.	100	<b>IT1MID-C</b>
Natural Nylon	7.8 in./200mm	.181 in./4.59mm	.055 in./1.40mm	1/16 - 1-7/8 in.	50 lbs.	1-1/8 in. x 1/2 in.	100	<b>IT2SID-C</b>
Natural Nylon	14.1 in./358mm	.187 in./4.75mm	.055 in./1.40mm	3/8 - 4 in.	50 lbs.	1-1/8 in. x 1/2 in.	100	<b>IT4SID-C</b>

## Mounting Pads

- Patented stay-in-place tab keeps cable ties from sliding down during vertical applications
- Lead-N-Feature allows easy insertion for hard to reach applications
- Four-sided entry slots save time during placement orientation
- Smooth radius cradle eliminates possible damage to cable while providing stable support
- Webbed punch through screw hole allows maximum adhesive surface area, along with easy insertion of mechanical fasteners
- Low Profile is essential in confined spaces
- UL recognized, rubber adhesive positioning device

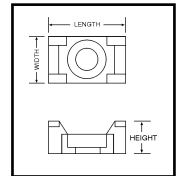
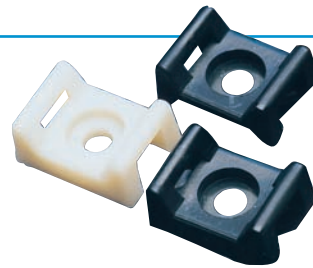


Description	Width	Height	Slot Height	Slot Width	Screw Size	Qty./Bag	Cat. No.
Natural Nylon	.74 in./19mm	.19 in./4.8mm	.05 in./1.2mm	.20 in./5.1mm	No. 4	100	<b>IT750MP-C</b>
UV Black Nylon						100	<b>IT750MP-C0</b>
Natural Nylon	.99 in./25mm	.20 in./5.0mm	.06 in./1.5mm	.20 in./5.1mm	No. 6	100	<b>IT1000MP-C</b>
UV Black Nylon						100	<b>IT1000MP-C0</b>



## Screw Mounting Bases - Standard

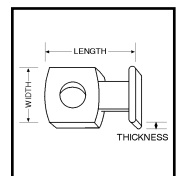
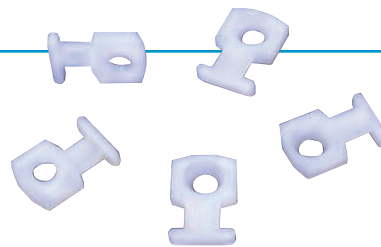
- Deep cradle design provides minimum support for larger bundles and tubing
- Recessed screw hole allows cable ties to easily pass over screw head



Description	Length	Width	Height	Slot Height	Slot Width	Screw Size	Qty./Bag	Cat. No.
Screw Mount Natural Nylon	.590 in./15mm	.370 in./9.40mm	.270 in./6.86mm	.062 in./1.59mm	.190 in./4.83mm	No. 6	100	<b>IT1SMB-C</b>
Screw Mount UV Black Nylon							100	<b>IT1SMB-C0</b>
Screw Mount Natural Nylon	.870 in./22mm	.640 in./16.26mm	.380 in./9.65mm	.125 in./3.18mm	.300 in./7.62mm	1/4 in.	100	<b>IT2SMB-C</b>
Screw Mount UV Black Nylon							100	<b>IT2SMB-C0</b>

## Screw Mounting Bases - Low Profile

- Perfect for confined space, control panels or other areas where space is limited



Description	Length	Width	Height	Slot Height	Slot Width	Screw Size	Qty./Bag	Cat. No.
Low Profile Mount	.750 in./19mm	.500 in./12.70mm	.120 in./3.04mm	.062 in./1.57mm	.180 in./4.57mm	No. 8	100	<b>IT1LPMB-C</b>

## Material Specifications

### Nylon 6/6 - General Purpose

General purpose nylon 6/6 features lightweight, high-strength and a wide-temperature range. Even at higher than recommended temperatures or exposure to flame, nylon does not give off toxic or irritating by-products. Nylon 6/6 is hydroscopic and, therefore, absorbs or releases moisture depending on its environment. Moisture level of the material will affect tensile strength, stiffness and elongation of the product.

### Nylon 6/6 - UV Stabilized

General purpose nylon 6/6 with increased resistance to ultraviolet light. Carbon black is one of the most effective stabilizers known today. A uniform dispersion of carbon black provides good ultraviolet light resistance without adversely affecting physical properties. The addition of carbon black, or any other ultraviolet light stabilizer, prolongs the useful life of plastic products used outdoors, but it does not totally eliminate the destructive effects of the light.

### Halar®

Although weaker than general-purpose nylon 6/6 (about 37%), Halar is resistant to a wide range of chemicals such as concentrated hydrofluoric and sulfuric acids. It is radiation resistant. Halar also withstands high temperatures, ultraviolet light exposure and meets U.L. flammability requirement 94V-0. 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.

### Nylon 6/6 - Heat Stabilizer

Used for continuous or extended exposure to high temperatures (up to 250°F). They contain specially formulated heat stabilizers to provide additional thermal endurance to prevent reduction in physical properties and fatigue as a result of high temperatures. Heat stabilized nylon meets the UL standard for electrical applications.

## Military Cross Reference

Material	Continuous Operating Temp.		Tensile AT 73F ASTM D-638	UL Flame Rating	Radiation Resistance	UV Resistance
	Max.	Min.				
Nylon 6/6 – General Purpose	185° F 85° C	-40° F -40° C	12,000	94V-2	1 X 10 Rads	Poor
Nylon 6/6 – UV Stabilized	185° F 85° C	-40° F -40° C	12,000	94V-2	1 X 10 Rads	Very Good
Nylon 6/6 – Heat Stabilized	220° F 105° C	-40° F -40° C	12,000	94V-2	1 X 10 Rads	Very Good
Halar®	284° F 140° C	-50° F -46° F	7,500	94V-0	1 X 10 Rads	Excellent

Current MIL Std. Part Number*	Cable Tie Part Number
MS3367-1-*	IT2S-*
MS3367-2-*	IT4S-*
MS3367-3-*	IT4LH-*
MS3367-4-*	IT1M-*
MS3367-5-*	IT1.5I-*
MS3367-5-*	IT2I-*
MS3367-7-*	IT3S-*
MS3367-10-*	IT7H-*
MS3367-13-*	IT11H-*
MS3367-16-*	IT14H-*

\*Color and package denotation

### Material Suitability Chart (10 = most suitable, 1 = least suitable)

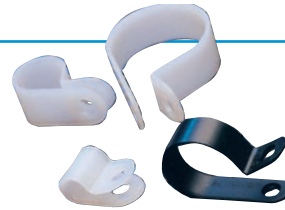
Design Criteria	Weather Natural 6.6 Nylon	Heat Stabilized Resistant 6.6 Nylon	Black 6.6 Nylon	Halar®
Part # Suffix Material Designation		-0	-30	-702
Loop Tensile Strength	7	7	7	5
Low Temperature Service	6	6	6	7
High Temperature Service	5	5	6	7
Flammability	6	6	6	9
Ultraviolet Resistance	1	6	4	9
Radiation Resistance	3	3	3	9
Overall Chemical Resistance	6	6	6	10
- Hydrocarbons	9	9	9	10
- Chlorinated Hydrocarbons	7	7	7	10
- Acids	2	2	2	10
- Bases	7	7	7	10
- Salts	3	3	3	10
Relative Price	Low	Low	Low	High

\*Halar® is a trademark of Ausimont Chemical Co.



## Clamps

- Use to secure wires, cables, pipes, tubing and fiber optics
- Ultraviolet black nylon clamps available for internal and external use
- Use with #10 mounting screw



Description	Closed Diameter	Center to Center	Width	Thickness	Mounting Hole	Qty./Bag	Cat. No.
Natural Nylon	.125 in./3.18mm	.343 in./8.71mm	3/8 in.	.050 in./1.27mm	.203 in./5.16mm	100	<b>IT125CCL-C</b>
Natural Nylon	.250 in./6.35mm	.421 in./10.69mm	3/8 in.	.050 in./1.27mm	.203 in./5.16mm	100	<b>IT250CCL-C</b>
UV Black Nylon						100	<b>IT250CCL-CO</b>
Natural Nylon	.375 in./9.52mm	.500 in./12.70mm	1/2 in.	.060 in./1.52mm	.203 in./5.16mm	100	<b>IT375CCL2-C</b>
UV Black Nylon						100	<b>IT375CCL2-CO</b>
Natural Nylon	.500 in./12.70mm	.553 in./14.05mm	1/2 in.	.060 in./1.52mm	.203 in./5.16mm	100	<b>IT500CCL2-C</b>
Natural Nylon	.625 in./15.88mm	.625 in./15.88mm	1/2 in.	.060 in./1.52mm	.203 in./5.16mm	100	<b>IT625CCL2-C</b>
Natural Nylon	.750 in./19.05mm	.699 in./17.75mm	1/2 in.	.060 in./1.52mm	.203 in./5.16mm	100	<b>IT750CCL2-C</b>
Natural Nylon	1.000 in./25.40mm	.825 in./20.96mm	1/2 in.	.060 in./1.52mm	.203 in./5.16mm	100	<b>IT1000CCL2-C</b>

## Flange-Type Plastic Anchors



- Multi-purpose use in solid materials or hollow walls, will not fall through
- For use with sheet-metal or wood screws
- High-impact plastic construction resists moisture, corrosion and deterioration

Description	Screw Size	Drill Size (In.)	Quantity	Cat. No.
Yellow – 7/8 in. long	6-8-10	3/16	100	<b>90-041</b>
Red – 1 in. long	10-12	1/4	100	<b>90-042</b>
White – 1-1/2 in. long	14-16	5/16	50	<b>90-044</b>

## Flange-Type Plastic Anchor Kits



- Kits include flange-type anchors, slotted/Phillips head screws and masonry bit
- Convenient plastic storage container

Contents	Cat. No.
100 #6-8-10 x 7/8 in. Flange-type anchors, 100 #8 x 1 in. combo-head, sheet-metal screws & 1-3/16 in. masonry bit (carbide-tipped)	<b>90-051</b>
100 #10-12 x 1 in. Flange-type anchors, 100 #10 x 1-1/4 in. combo-combo-head, sheet-metal screws & 1-1/4 in. masonry bit (carbide-tipped)	<b>90-052</b>
100 #10-12 x 1 in. Flange-type anchors, 100 #12 x 1 in. combo-head, sheet-metal screws & 1-1/4 in. masonry bit (carbide-tipped)	<b>90-053</b>
40 #14-16 x 1-1/2 in. Flange-type anchors, 40 #14 x 1-1/2 in. combo-head, sheet-metal screws 1-5/16 in. masonry bit (carbide-tipped)	<b>90-054</b>
100 #10-12 x 1 in. Flange-type anchors, 100 #10 x 1 in. combo-head, sheet-metal screws & 1-1/4 in. masonry bit (carbide-tipped)	<b>90-055</b>

## Flexible Tubing\*

- Flexible polyethylene cuts easily to desired length
- Splits open for neat “bundling” of wiring jobs
- Snaps shut to create a continuous protective cover

Description	Qty.	Cat. No.
3/8 in. Flexible Tubing	10 ft.	<b>772240</b>
3/8 in. Flexible Tubing	1,200 ft.	<b>772245</b>
1/2 in. Flexible Tubing	1 ft.	<b>772241</b>
1/2 in. Flexible Tubing	900 ft.	<b>772244</b>
1 in. Flexible Tubing	5 ft.	<b>772242</b>
1 in. Flexible Tubing	250 ft.	<b>772243</b>

\*Buchanan branded



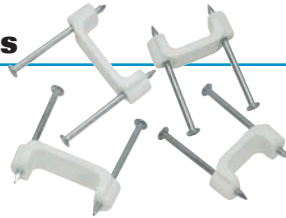
## Cable Staples

- Full line of quality insulated and non-insulated staples to fit all cabling applications
- Packaged to answer electrician's need for clean, dry, rust-free staples
- Convenient reclosable containers keep staples organized in the truck and on the job-site



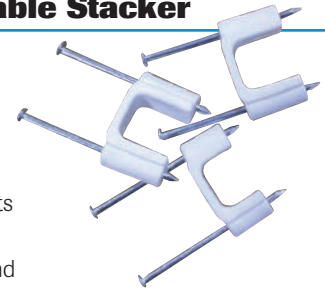
## Plastic Insulated Staples

- Use with wider cable such as Romex®, NM and UF
- Smooth plastic saddle prevents damage to cable
- Zinc-plated nails resist rust and corrosion



## Plastic Insulated Cable Stacker

- Use with wider cable such as Romex®, NM and UF
- High-grade carbon steel construction
- Smooth plastic saddle prevents damage to cable
- Zinc-plated nails resist rust and corrosion



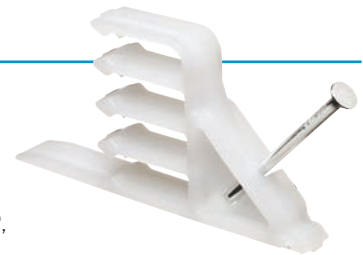
Description	Qty./Package	Cat. No.
1/2 in. Insulated	50/Bag	<b>BPS2-50</b>
	100/Bag	<b>BPS2-1</b>
	225/Jar	<b>BPS2-JRL</b>
	400/Jar	<b>BPS2B-JR</b>
	500/Bag	<b>BPS2-5</b>
	5,000/Bucket	<b>BPS2-5M</b>
	30,000/Barrel	<b>BPS2-30K</b>
3/4 in. Insulated	50/Bag	<b>BPS3-50</b>
	100/Bag	<b>BPS3-1</b>
	200/Jar	<b>BPS3-JRL</b>
	250/Bag	<b>BPS3-2</b>

Description	Qty./Package	Cat. No.
1/2 in. 2 Cable Stacker	50/Bag	<b>BPS2/2-50</b>
1/2 in. 3 Cable Stacker	50/Bag	<b>BPS2/3-50</b>
1/2 in. 4 Cable Stacker	50/Bag	<b>BPS2/4-50</b>

Romex® is a registered trademark of General Cable Co.

## Cable Stacker

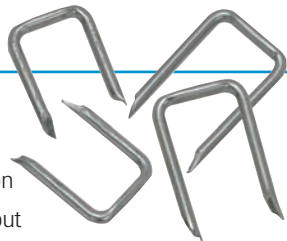
- Perfect for centering multiple cables on 2 x 4 framing members in compliance with NEC 300.4.(2)
- Use with cable such as Romex®, NM and UF



Romex® is a registered trademark of General Cable Co.

## Carbon Steel Staples

- Use with wider cable such as Romex®, NM and UF
- High-grade carbon steel construction
- Sharp-point legs drive straight without splitting wood
- Resist rust and corrosion



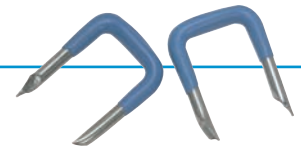
Description	Qty./Package	Cat. No.
Cable Stacker	15	<b>BPSTCKR-15</b>

Romex® is a registered trademark of General Cable Co.

Description	Qty./Package	Cat. No.
1/2 in. x 1 in.	100/Box	<b>BCS1-1</b>
	500/Jar	<b>BCS1-JR</b>
	500/Box	<b>BCS1-5</b>
	5,000/Bucket	<b>BCS1-5M</b>
9/16 in. x 1-1/4 in.	100/Box	<b>BCS2-1</b>
	400/Jar	<b>BCS2-JR</b>
	500/Box	<b>BCS2-5</b>
	5,000/Bucket	<b>BCS2-5M</b>

## Insulated Staples

- Use with wider cable such as Romex®, NM and UF
- High-grade carbon steel with flexible PVC insulation
- Sharp-point legs drive straight without splitting wood
- Resist rust and corrosion



Description	Qty./Package	Cat. No.
1/2 in. x 1 in.	125	<b>BICS1-125</b>
9/16 in. x 1-1/4 in.	125	<b>BICS2-125</b>

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Romex® is a registered trademark of General Cable Co.

## Coaxial Cable Straps

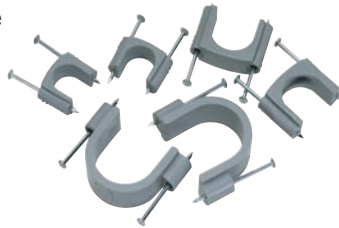
- Use with round cable such as CATV/VCR, RG-5, RG-6 and phone cables or with plastic and metal tubing
- Smooth plastic saddle prevents damage to cable
- Zinc-plated nails resist rust and corrosion



Description	Nail Type	Qty./Package	Cat. No.
1/4 in. White	Standard	25/Clamshell	<b>772808</b>
		100/Clamshell	<b>772809</b>
		250/Jar	<b>BPCXSW-JR</b>
1/4 in. Black	Standard	25/Clamshell	<b>772806</b>
		100/Clamshell	<b>772807</b>
		250/Jar	<b>BPCXSB-JR</b>
	Roofing	25/Clamshell	<b>772891</b>
		200/Jar	<b>BPCSRB-JR</b>
	Masonry	25/Clamshell	<b>772890</b>
200/Jar		<b>BPCXMBJR</b>	
Double 1/4" Black	Standard	200/Jar	<b>BPDCXSBJR</b>
7/16 in. White	Standard	50/Bag	<b>BPS4-50</b>

## Plastic Insulated Service Entrance Straps

- Use with service entrance cable and conduit
- Smooth plastic saddle prevents damage to cable
- Zinc-plated nails resist rust and corrosion



Description	Qty./Package	Cat. No.
#6 SER & 1/2 in. EMT	50/Bag	<b>BSER6-50</b>
#6 & #8 SEU	50/Bag	<b>BSEU6-50</b>
#2 SER & 3/4 in. EMT	25/Bag	<b>BSER2-25</b>
#2 SEU	25/Bag	<b>BSEU2-25</b>
4/0 SER	5/Bag	<b>BSER4/0-5</b>
4/0 SEU	5/Bag	<b>BSEU4/0-5</b>

## Data Cable Staples

- Secures Category 3, 5 and other 4-pair twisted wire
- Blue plastic saddle prevents damage to cable
- Zinc-plated nails resist rust and corrosion



Description	Nail Type	Qty./Package	Cat. No.
Data Staple	Standard	25/Clamshell	<b>772880</b>
	Standard	250/Jar	<b>BPDATAS-JR</b>
	Masonry	250/Clamshell	<b>772881</b>

## Sound Straps

- Use with smaller insulated wire and cord applications such as lamps, thermostats, telephones and sound systems
- Smooth plastic saddle prevents damage to wires
- Zinc-plated nails resist rust and corrosion



Description	Nail Type	Qty./Package	Cat. No.
3/16 in. White	Standard	25/Clamshell	<b>772804</b>
		100/Clamshell	<b>772805</b>
		250/Jar	<b>BPLVSW-JR</b>
3/16 in. Black	Standard	25/Clamshell	<b>772810</b>
		250/Jar	<b>BPLVSB-JR</b>
3/16 in. Tan	Standard	25/Clamshell	<b>772881</b>
3/16 in. White	Masonry	25/Clamshell	<b>772813</b>

## Carbon Steel Service Entrance Staples

- Use with service entrance cable and conduit
- High-grade carbon steel construction
- Sharp-point legs drive straight without splitting wood
- Resist rust and corrosion



Description	Qty./Package	Cat. No.
1-5/16 in. x 3/4 in.	100/Box	<b>BMSE150-1</b>
1-1/2 in. x 1-1/16 in.	100/Box	<b>BMSE175-1</b>

## Heat Shrinkable Tubing

### Thermo-Shrink® UF Splice Kits

- Direct burial rated
- 14/3 with and without ground thru 8/3 without ground, UF cable range
- Stretcher kit repairs a 7 in. to 10 in. section damaged or destroyed by a trencher
- 600V Maximum, 105°C rating
- Meets the requirements of the 2002 NEC Code 110-14(b) and UL486D



Description	Cat. No.
UF Splice Kit - 14-8 AWG, Tubing 1.1 in. x 8 in.	46-400
UF Stretcher Kit* - 14-8 AWG, Tubing 1.1 in. x 18 in.	46-410

\*Stretcher kit connector is 11.5 in.

### Thermo-Shrink® Al/Cu Splice Kits

- Direct burial rated, underground splice kits
- Heavy-wall heat shrink tubing with adhesive liner provides complete insulation and protection
- Connector can be used for aluminum and/or copper cable
- Meets the requirements of the 2005 NEC Code 110-14(B)
- 600V maximum, 105°C rating



Description	Cat. No.
Underground Splice Kit - 8 to 2 AWG, Tubing 3/4 in. x 6 in.	46-401
Underground Splice Kit - 4 AWG to 1/0, Tubing 1.1 in. x 8 in.	46-402
Underground Splice Kit - 1/0 to 250 KCMIL, Tubing 1-1/2 in. x 12 in.	46-403

### Thermo-Shrink® Copper Butt Splice Kits

- UL Listed
- Provides a fully-insulated butt splice
- 600V Maximum, 105°C rating



Description	Cat. No.
Butt Splice Kit - Copper 14-8 AWG	46-404
Butt Splice Kit - Copper 8-2 AWG	46-405

### Thermo-Shrink® Self-Sealing UF Splice Kit

- Fully waterproof, submersible and re-enterable to make future changes or repairs
- Meets the requirements of the 2002 NEC Code 110-14 (b) and UL486D
- Accommodates 14 to 10 AWG wire range
- 600V Maximum, 105°C rating



Description	Cat. No.
Self Sealing UF Splice Kit	46-411

### Thermo-Shrink® Torch

- Self-igniting trigger, starts fast and easy
- Fully adjustable regulator valve and air inlet port to achieve the ideal flame setting
- 1 in. wide brass burn-tip accommodates a variety of heat shrink applications
- Heavy duty, stainless steel burn tube, combined with a cast aluminum body with epoxy finish, creates a durable long lasting tool for almost any environment
- 1 - 20 threads screw directly onto 14 oz. and 16 oz. propane gas tanks



Description	Cat. No.
Heat Shrink Torch	46-420

## Thermo-Shrink® Thin-Wall Heat Shrinkable Tubing

- Polyolefin material electrically insulates and protects in-line components, disconnect terminals and splices with its high strength and excellent resilience
- Use to bundle wires for very flexible light-duty harnesses
- Highly flame-retardant and flexible
- Resistant to common fluids and solvents
- Meets UL 224 125°C VW-1 600V
- Material: No PBB's, PBBE's, conforms to ROHS
- 2:1 shrink ratio
- Minimum shrink temperature: 70°C
- Operating temperature: -55°C to +125°C



Technical Data		
Property	Test Method	Typical Data
Tensile strength	ASTM D 638	14MPa
Elongation at break	ASTM D 638	600%
Elongation after aging at 175°C for 168 hours	UL 224	350%
Flammability	UL 224 VW-1	Pass
Heat shock (250°C/4 hours)	UL 224	No cracking
Cold bend test (-55°C/4 hours)	UL 224	No cracking
Dielectric strength	ASTM D 150	20KV/mm
Volume resistance	ASTM D 876	10 <sup>14</sup> Ω.cm
Copper corrosion	UL 224	Pass
Chemical resistance	UL 224	Pass
Longitudinal shrinkage	UL 224	0±5%
Eccentricity	UL 224	30%

Normal Size (In.)	Expanded I.D. (Min.)	Nominal Recovered I.D. (Max.)	Recovered Wall Thickness +/-10%	Cable Range*	Length	Pkg. Type	Cat. No.
3/64	0.063"/1.6mm	0.024"/0.6mm	0.013"/0.33mm	22-18 AWG	4 ft.	Disk	<b>46-600</b>
1/16	0.079"/2.0mm	0.031"/0.8mm	0.014"/0.36mm	16 AWG	4 ft.	Disk	<b>46-601</b>
3/32	0.122"/3.1mm	0.047"/1.2mm	0.017"/0.44mm	14-12 AWG	4 ft.	Disk	<b>46-602</b>
1/8	0.146"/3.7mm	0.063"/1.6mm	0.017"/0.44mm	24-20 AWG	6 in. 4 ft. 1,000 ft.	Bag Disk Spool	<b>46-310</b> <b>46-603</b> <b>46-312</b>
3/16	0.205"/5.2mm	0.094"/2.4mm	0.020"/0.50mm	20-14 AWG	6 in. 4 ft. 1,000 ft.	Bag Disk Spool	<b>46-313</b> <b>46-604</b> <b>46-315</b>
1/4	0.268"/6.8mm	0.126"/3.2mm	0.022"/0.56mm	14-8 AWG	6 in. 4 ft. 500 ft.	Bag Disk Spool	<b>46-316</b> <b>46-605</b> <b>46-318</b>
5/16	0.346"/8.8mm	0.157"/4.0mm	0.022"/0.56 mm	10-6 AWG	4 ft.	Disk	<b>46-606</b>
3/8	0.421"/10.7mm	0.185"/4.7mm	0.022"/0.56mm	8-4 AWG	6 in. 4 ft. 200 ft.	Bag Disk Spool	<b>46-319</b> <b>46-607</b> <b>46-321</b>
1/2	0.539"/13.7mm	0.252"/6.4mm	0.026"/0.65mm	4-1 AWG	6 in. 4 ft. 200 ft.	Bag Disk Spool	<b>46-322</b> <b>46-608</b> <b>46-324</b>
3/4	0.807"/20.5mm	0.374"/9.5mm	0.027"/0.69mm	2-250 MCM	6 in. 4 ft. 200 ft.	Bag Disk Spool	<b>46-325</b> <b>46-609</b> <b>46-327</b>
1	1.043"/26.5mm	0.500"/12.7mm	0.031"/0.80mm	2/0-500 MCM	6 in. 4 ft. 100 ft.	Bag Disk Spool	<b>46-328</b> <b>46-610</b> <b>46-330</b>

\*Reference only - Consult the wire manufacturer's catalog for specific O.D. of wire and insulation.



## Thermo-Shrink® Heavy-Wall Heat Shrinkable Tubing

- TS-46 irradiated cross-linked polyolefin with 3:1 standard shrink ratio
- Adhesive liner provides complete insulation and protection to electrical splices in above-grade, underground or underwater applications
- Maximum flame retardancy
- Meets UL 486D, CSA C22.2 No. 198.2, ANSI C119.1, Western Underground Guides Nos. 2.4, 2.5, MIL-DTL-23053/15, IEEE 383 Vertical Flame Test, ANSI C37.20.2, ICEA S-19-8 and NEMA insulation thickness requirements
- Continuous operating temperature from -55°C to 110°C
- Rated for 600V, 90°C continuous use
- Shrink temperature of 120°C



Model	Expanded I.D. (Min.) (In.)	Recovered I.D. (Max.) (In.)	Nominal Recovered Wall Thickness (In.)	Cable Range*	Length (In.)	Cat. No.
TS-46-400	.400	.150	.060	12-6 AWG	6	<b>46-343</b>
					9	<b>46-344</b>
					48	<b>46-346</b>
TS-46-750	.750	.240	.090	8-1/0 AWG	6	<b>46-347</b>
					9	<b>46-348</b>
					48	<b>46-350</b>
TS-46-1100	1.100	.350	.120	2-4/0 AWG	6	<b>46-351</b>
					9	<b>46-352</b>
					48	<b>46-354</b>
TS-46-1500	1.500	.470	.160	3/0 AWG-400 KCMIL	9	<b>46-356</b>
					12	<b>46-357</b>
					48	<b>46-358</b>
TS-46-2000	2.000	.630	.160	250-750 KCMIL	9	<b>46-369</b>
					18	<b>46-371</b>
					48	<b>46-372</b>

\*Reference only. Consult the wire manufacturer's catalog for specific O.D. of wire and insulation.

Properties	Heavy Wall
Shrink Temperatures	120°C to 250°C (200°C recommended)
Continuous Operating Temperature	-55°C to 110°C
Tensile Strength (PSI)	2,100 PSI min.
Ultimate Elongation	600% min.
Secant Modulus @ 2% Strain	25,000 PSI max.
Specific Gravity	1.20 max.
Heat Aging, 168 hrs. @ 175°C Tensile Strength Elongation	500%
Heat Shock, 4 hrs. @ 225°C	No cracks, flowing or dripping
Flammability	Self-extinguishing
Low Temperature Brittle Point	-55°C
Volume Resistivity	10 <sup>13</sup> ohm-cm min.
Dielectric Strength	500V/mil (20kV/min.)
Corrosive Effect	Non-corrosive
Solvent Resistance 24 hrs. Immersion per MIL-DTL-23053	Good to excellent
Water Absorption	0.5%
Fungus Resistance	No growth
Longitudinal Change, 3 min.	+1%/-10%

All values are typical performance data and are not to be used as design data.



## Thermo-Shrink® Medium-Wall Heat Shrinkable End Caps

- Creates a watertight seal to protect the ends of power and control cords
- Effectively offers protection against oxidation, ozone, UV radiation, etc.
- Coated with hot melt adhesive to ensure environment seal
- Fits easily over end of cable
- Protect power cables up to 1000V and telecommunication cable
- Recommended for both open air and underground power distribution cables with PVC, lead or XLPE sheaths
- Thermally stabilized cross-linked polyolefin, coated with specially designed hot melt adhesive



Technical Data		
Property	Test Method	Typical Data
Operating Temperature	IEC 216	-55°C to +110°C
Tensile Strength	ASTM D 638	>14 MPa
Elongation at break	ASTM D 638	>400%
Density	ASTM D 792	1.05g/cm <sup>3</sup>
Elongation of break after aging	150°C, 168 hrs.	>300%
Dielectric Strength	IEC 243	>15KV/mm
Volume Resistance	IEC 93	10 <sup>14</sup> Ω.cm

Expanded I.D. (Min.)	Recovered I.D. (Max.)	Recovered Wall Thickness +/-10%	Cable Dia. Range*	Length (In.)	Cat. No.
0.55"/14mm	0.18"/4.5mm	0.079"/2.0mm	0.20"/5mm - 0.47"/12mm	1.77/45mm	<b>46-381</b>
0.98"/25mm	0.31"/8mm	0.091"/2.3mm	0.39"/10mm - 0.71"/18mm	2.76/70mm	<b>46-382</b>
1.38"/35mm	0.59"/15mm	0.118"/3.0mm	0.67"/17mm - 1.18"/30mm	3.35/85mm	<b>46-383</b>
2.95"/75mm	1.38"/35mm	0.138"/3.5mm	1.77"/45mm - 2.76"/70mm	5.12/130mm	<b>46-384</b>
4.72"/120mm	2.36"/60mm	0.157"/4.0mm	2.95"/75mm - 4.33"/110mm	6.10/155mm	<b>46-387</b>

\*Consult the wire manufacturer's catalog for specific O.D. of wire and insulation.

1-800-435-0705 for Customer Service

## Thermo-Shrink® Heat Shrink Kit

Kit includes:

- Heat Elite Pro Heat Gun
- Eleven sizes of thin-wall heat shrinkable tubing disks (3/64 in. – 1 in.)
- Small deflector
- Premium T®-Cutter Wire Cutter



Description	Cat. No.
Kit includes: 46-203, 45-223, 46-941, & 46-600 through 46-610	46-007

## Heat Elite Heat Gun Kit

- Temperature range – 930°F (500°C)
- Two-step switch for heat and air flow adjustments
- Double-insulated power cord
- Ergonomical distribution of weight
- Comfortable non-slip handle for ease of use



Description	Cat. No.
Heat Elite Kit - Includes #46-202 Heat Gun, #46-941 Small Deflector, and #46-954 Wide-Slot Adapter	46-202



## Heat Elite Pro Heat Gun Kit

- Temperature range – 180°F - 1020°F (100 - 550°C)
- Two-step switch for heat and air flow adjustments
- Double-insulated power cord
- Ergonomical distribution of weight
- Comfortable non-slip handle for ease of use
- Potentiometer for infinitely temperature adjustment



Description	Cat. No.
Heat Elite Pro Kit - Includes #46-203 Heat Gun, #46-941 Small Deflector, #46-950 Reduction Adapter and #46-954 Wide-Slot Adapter	46-203



## Heat Elite Plus LCD Heat Gun Kit

- Temperature range – 180°F - 1200°F (80 - 650°C)
- Double-insulated power cord
- Ergonomical distribution of weight
- Comfortable non-slip handle for ease of use
- LCD display with memory functions
- Temperature and airflow adjustments
- Stand-by mode to minimize the energy consumption
- Ceramic heating element ensures long-term coil performance



Description	Cat. No.
Heat Elite Plus LCD Kit - Includes #46-204 Heat Gun, #46-941 Small Deflector, #46-952 Welding Adapter, #46-953 Solder Reflector Adapter, #46-955 Overlap Welding Adapter, #46-956 Pressure Roller	46-204



## Heat Gun Accessories



Description	Cat. No.
Small Deflector, 1-1/4 in. diameter (For use with all Heat Elite Heat Guns)	46-941
Reduction Adapter (For use with 46-203 and 46-204)	46-950
Glass Protection Adapter (For use with all Heat Elite Heat Guns)	46-951
Welding Adapter (For use with 46-203 and 46-204)	46-952
Solder Reflector Adapter (For use with 46-204)	46-953
Wide-Slot Adapter (For use with all Heat Elite Heat Guns)	46-954
Overlap Adapter (For use with 46-203 and 46-204)	46-955
Pressure Roller (For use with 46-204)	46-956

## Wire Marker Booklets



- Convenient pocket-size booklets
- Plastic-impregnated cloth construction for long-lasting durability
- Resists abrasion, moisture, dirt and oil
- Perforated 1/4 in. x 1-1/2 in. markers can be separated into half-length sizes
- Non-smear black legend ensures high visibility
- Self-sticking on wire and cable
- For applications above or below ground

### Specifications:

Temperature Range: -40°F to 180°F (-40°C to 82°C)  
Adhesion: 45 oz./in. width ultimate

## Load Centers

- Contains common household legends – bedroom, living room, dryer, water heater, security system, etc.



Description	Cat. No.
Load Center Wire Marker Booklet	<b>44-154</b>

## Legend Assortments\*

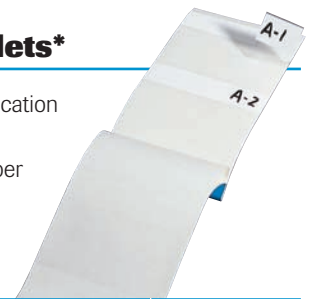
Legend	Qty.	Cat. No.
0-9	45 Markers each	<b>44-101</b>
A-Z 0-15 +, -, /	10 Markers each	<b>44-102</b>
1-45	10 Markers each	<b>44-103</b>
46-90	10 Markers each	<b>44-104</b>
1, 2, 3	150 Markers each	<b>44-105</b>
A, B, C	150 Markers each	<b>44-106</b>
A-Z**	45 Markers each	<b>44-148</b>
T1, T2, T3	150 Markers each	<b>44-107</b>
L1, L2, L3	150 Markers each	<b>44-108</b>
1-15 16-90 A-Z +, -, /, 0	6 Markers each 4 Markers each 2 Markers each 2 Markers each	<b>44-109</b>
1, 2, 3 A, B, C T1, T2, T3 L1, L2, L3	45 Markers each 45 Markers each 30 Markers each 30 Markers each	<b>44-110</b>
+, -, AC, DC POS, NEG, GND NEUT SPARE, BLANK	45 Markers each 33 Markers each 27 Markers each 21 Markers each	<b>44-111</b>

\*Ten pages per booklet with each page bearing the legend assortment indicated. All booklets (except 44-111) contain 450 wire markers and 450 terminal markers. Booklet 44-111 includes 348 wire markers and 348 terminal markers.

\*\*Booklet 44-148 contains 26 pages, one page of 45 markers per letter, 1170 total markers.

## Write-On Marker Booklets\*

- Use for developing personal identification systems
- Surface accepts pen, pencil or rubber stamp



Marker Size* (In.)	Markers per page	Pages per book	Cat. No.
1 x 2-1/2	6	10	<b>44-151</b>
1 x 5	3	10	<b>44-152</b>

\*Write-on area for 2-1/2 in. markers is 3/4 in. x 1 in. Write-on area for 5 in. markers is 1 in. x 1 in. Adhesion: .25 oz./in. width ultimate



## Write-On Marker Cards

- Use for developing personal identification systems
- Cloth write-on surface
- Accepts most writing instruments



Marker Size (In.)	Markers per card	Cat. No.
5/8 x 1-1/2	14	44-753

## Marking Pens



- Fast-drying, permanent ink will not smear
- Use on write-on marker cards and write-on cable-tie marker plates
- Color-coded in red or black

Description	Cat. No.
Marking Pen w/black ink	41-697
Marking Pen w/red ink	41-698

## Wire Marker Cards

- Use for positive identification and keying of wires, terminal blocks, etc.
- Convenient pocket-size cards
- Bold, easy-to-read black characters
- Self-sticking on wire and cable
- Polyester film over laminate/cloth construction for long-term durability
- Resists abrasion, moisture, dirt and oil
- Individual markers measure approximately 1/4 in. x 1-1/2 in.

### Specifications:

Temperature Range: -40°F to 180°F (-40°C to 82°C); Adhesion: 45 oz./in. width ultimate

Legend	Markers per legend	Markers per card	Cat. No.
0-9 (Repeated)	3	30	43-953

## Wire Marker Dispenser



- Convenient pocket-size case holds 10 wire marker rolls
- Dispenser tab holds tapes firmly in place – allows removal of proper tape length without waste
- Flip top for easy access and refill
- Built-in hook for hanging from belt or tool pouch
- High-quality adhesive and 3 mil. thickness provide long-lasting, low-profile application
- Each plastic reel holds Tyvek® tape

### Specifications:

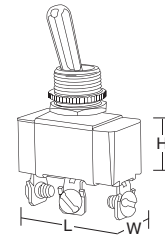
Temperature Range: -40°F to 180°F (-40°C to 82°C)  
Adhesion: 25 oz./in. width ultimate

Description	Cat. No.
Dispenser w/0 through 9 legend rolls	42-301
Refill pack with 1 each of 0-9 legend rolls	42-399







## Standard and Heavy-Duty Toggle Switches

- Great for power tool and motor control switch applications
- Rugged long-wearing solid brass/nickel-plated bushings
- 1/2 in. diameter mounting hole
- Dielectric Strength: 1500V
- Mechanical Life: 100,000 cycles
- Operating Temperature: 32°F to 185°F (0°C to 85°C)
- DC Rating: Factory tested 100,000 cycles to 21 Amp 14.8 VDC
- Bulk packaging of 100 available upon request








Toggle Switches

Product	Description	Poles	Circuitry	Termination Style	No. of Terminals	Rating			Dimensions (L" x W" x H")	Cat. No.
						Amps 125 VAC	Amps 277 VAC	HP 125-250 VAC		
	Toggle Switch with On-Off Faceplate	SPST	On-Off	Screw	2	20	10	3/4	1.13 x .57 x .61	774011
				Spade						774011BK†
	Toggle Switch		On-Off	"O" Ring & Screw						774008
			(On)-Off	Screw						774008BK†
			On-(Off)	Screw						774010
				Screw						774093
				Screw						774088
774088BK†										
	Toggle Switch w/boot	SPST	On-Off	Wire leads w/boot	2	20	20	1-1/2	1.18 x .68 x .75	774111
										774111BK†
	Toggle Switch	SPDT	On-On	Screw	3	20	10	3/4	1.13 x .57 x .61	774012
	Toggle Switch	SPDT	On-On	Spade	3	20	10	3/4	1.13 x .57 x .61	774100
	Toggle Switch	SPDT	On-Off-On	Screw	3	20	10	3/4	1.13 x .57 x .61	774013
	Toggle Switch	SPDT	On-Off-On	Spade	3	20	10	3/4	1.13 x .57 x .61	774013BK†
	Toggle Switch	SPDT	On-Off-(On)	Screw	3	20	10	3/4	1.13 x .57 x .61	774027
	Toggle Switch	SPDT	(On)-Off-(On)	Screw	3	20	10	3/4	1.13 x .57 x .61	774094
	Heavy-Duty Toggle Switch	DPST	On-Off	Screw	4	20	10	1-1/2	1.30 x .76 x .80	774009
	Heavy-Duty Toggle Switch	DPST	On-Off	Screw	4	20	10	1-1/2	1.30 x .76 x .80	774014
	Heavy-Duty Toggle Switch	DPST	On-Off	Spade	4	20	10	1-1/2	1.30 x .76 x .80	774014BK†
	Heavy-Duty Toggle Switch	DPST	(On)-Off	Screw	4	20	10	1-1/2	1.30 x .76 x .80	774005
	Heavy-Duty Toggle Switch	DPST	On-(Off)	Screw	4	20	10	1-1/2	1.30 x .76 x .80	774005BK†
										774103
										774105

( ) denotes momentary action

†Bulk Package of 100

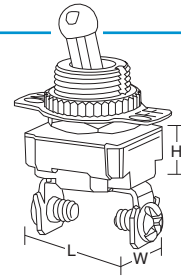
## Standard and Heavy-Duty Toggle Switches

Product	Description	Poles	Circuitry	Termination Style	No. of Terminals	Rating			Dimensions (L" × W" × H" )	Cat. No.
						Amps 125 VAC	Amps 277 VAC	HP 125-250 VAC		
	Heavy-Duty Toggle Switch	DPDT	On-On	Screw	6	20	10	1-1/2	1.30 × .76 × .80	<b>774015</b> <b>774015BK†</b>
	Heavy-Duty Toggle Switch	DPDT	On-On	Spade	6	20	10	1-1/2	1.30 × .76 × .80	<b>774091</b> <b>774091BK†</b>
	Heavy-Duty Toggle Switch	DPDT	(On)-On	Screw	6	20	10	1-1/2	1.30 × .76 × .80	<b>774028</b> <b>774028BK†</b>
	Heavy-Duty Toggle Switch	DPDT	On-Off-On	Screw	6	20	10	1-1/2	1.30 × .76 × .80	<b>774016</b> <b>774016BK†</b>
	Heavy-Duty Toggle Switch	DPDT	On-Off-On	Spade	6	20	10	1-1/2	1.30 × .76 × .80	<b>774003</b> <b>774003BK†</b>
	Heavy-Duty Toggle Switch	DPDT	(On)-Off-On	Screw	6	20	10	1-1/2	1.30 × .76 × .80	<b>774104</b>
	Heavy-Duty Toggle Switch	DPDT	(On)-Off-(On)	Screw	6	20	10	1-1/2	1.30 × .76 × .80	<b>774000</b>
	Heavy-Duty Toggle Switch	DPDT	(On)-Off-(On)	Spade	6	20	10	1-1/2	1.30 × .76 × .80	<b>774115</b> <b>774115BK†</b>
	Toggle Switch	3PST	On-Off	Screw	6	15	10*	3/4	1.31 × 1.09 × .80	<b>774106</b>
	Toggle Switch	3PDT	On-On	Screw	9	15	10*	3/4	1.31 × 1.09 × .80	<b>774089</b> <b>774089BK†</b>
	Toggle Switch	3PDT	On-Off-On	Screw	9	15	10*	3/4	1.31 × 1.09 × .80	<b>774092</b>
	Toggle Switch	4PST	On-Off	Screw	8	15	10*	3/4	1.31 × 1.44 × .80	<b>774108</b>
	Toggle Switch	4PDT	On-On	Screw	12	15	10*	3/4	1.31 × 1.44 × .80	<b>774109</b>
	Toggle Switch	4PDT	On-Off-On	Screw	12	15	10*	3/4	1.31 × 1.44 × .80	<b>774110</b>

\*250VAC, Dielectric strength: 1000V ( ) denotes momentary action †Bulk Package of 100

## Medium and Light-Duty Toggle Switches

- Great for household appliances and equipment
- Bat toggle switch, 774007, is ideal for battery-powered equipment including trimmers and lawn mowers
- Wire leads are #18 AWG, 6 in. stripped wire
- 1/2 in. diameter mounting hole
- Bulk packaging available upon request



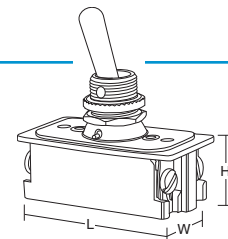
Product	Description	Poles	Circuitry	Termination Style	No. of Terminals	Rating	Dimensions (L" × W" × H")	Cat. No.
	Bat Toggle with On-Off Faceplate	SPST	On-Off	Screw	2	6 Amps 120 VAC, 3 Amps 240 VAC	.69 × .55 × .34	774017 774017BK†
	Bat Toggle with On-Off Faceplate	SPST	On-Off	Wire Leads	2	4 Amps 250VAC/DC, 8 Amps 125VAC/DC, 10 Amps 125 VAC, 1/4 HP 125 VAC	.98 × .64 × .62	774018
	Bat Toggle*	SPST	On-Term Ground	Spade	1	21 Amps 14 VDC	.69 × .55 × .34	774007
	Short Ball Toggle Switch	SPST	On-Off	Screw	2	6 Amps 120 VAC, 3 Amps 240 VAC	.69 × .55 × .34	774001
	Short Ball Toggle Switch	SPST	On-Off	Wire Leads	2	6 Amps 125 VAC, 3 Amps 250 VAC	.89 × .47 × .55	774002 774002BK†

†Bulk Package of 100

\*DC rating not CSA or RU listed

## Extra Heavy-Duty AC/DC Toggle Switches

- The switch that can handle your heavy-duty requirements
- Quick-make/quick-break type switches are ideal for DC voltage applications
- Perfect for industrial motor control, with its sturdy metal construction and stiff actuation force, it will withstand the abuses of virtually any application
- Bulk packaging of 100 available upon request







Product	Description	Poles	Circuitry	Termination Style	No. of Terminals	Rating			Dimensions (L" × W" × H")	Cat. No.
						Amps 125V	Amps 250V	HP 125-250V		
	Heavy-Duty Toggle Switch	SPST	On-Off	Screw	2	16	8	1	1.75 × .84 × .76	774095 774095BK†
	Heavy-Duty Toggle Switch	DPST	On-Off	Screw	4	16	8	1	1.75 × .84 × .76	774096
	Heavy-Duty Toggle Switch	DPST	On-Off	Screw	4	20	10	1-1/2	2.09 × 1.00 × .90	774097

†Bulk Package of 100

## Toggle Switch Accessories

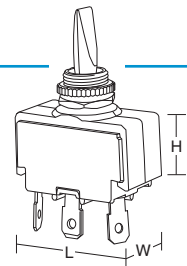
- These neoprene covers are great for outdoor and other environmentally tough conditions. They screw onto toggle switches to protect switches from moisture, dust and dirt.
- Nickel indicator plate fits easily on most toggle switches to identify the On-Off positions





Product	Description	Mounting	Dimensions	Qty./Card	Cat. No.
	Toggle Switch Cover	15/32 - 32 NS-2B	.93 Height x .62 Base Dia.	2	<b>774020</b>
				100	<b>774020BK†</b>
	Push Button Switch Cover (Clear)	3/8 - 27 NS-2B	.59 Height x .60 Base Dia. x .34 ID	2	<b>774117</b>
	Push Button Switch Cover (Gray)	15/32 - 32 NS-2B	.72 Height x .62 Base Dia. x .42 ID	2	<b>774087</b>
	Indicator Plate	15/32 in. Diameter	1.03 x .62 Hole Diameter	10	<b>774099</b>

†Bulk Package of 100

## Double Insulated Plastic Toggle Switches

- Great for outdoor, marine/recreational equipment, automotive and weather resistant applications
- Double-insulated with an internal "O" ring design for moisture and dust resistance
- 1/2 in. diameter mounting hole
- Bulk packaging available upon request



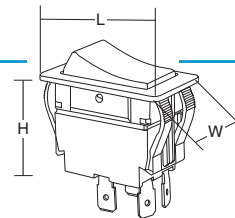
Product	Description	Poles	Circuitry	Termination Style	No. of Terminals	Rating		Dimensions (L" x W" x H")	Cat. No.
						Amps 125 VAC	Amps 250 VAC		
	Double Insulated, Plastic Toggle Switch	SPST	On-Off	Screw	2	20	10	1.37 x .76 x .94	<b>774019</b>
	Double Insulated, Plastic Toggle Switch	SPST	On-Off	Spade	2	20	10	1.37 x .76 x .94	<b>774098</b>
	Double Insulated, Plastic Toggle Switch	SPDT	(On)-Off-(On)	Spade	3	20	10	1.37 x .76 x .94	<b>774004</b> <b>774004BK†</b>
	Double Insulated, Plastic Toggle Switch	DPDT	(On)-Off-(On)	Spade	6	20	10	1.37 x .76 x .94	<b>774006</b>

†Bulk Package of 100

( ) Denotes momentary action

## Full-Size Rocker Switches

- For commercial appliances, industrial controls, automotive and marine applications
- Moisture- and dust-resistant
- Suitable for low-voltage DC applications
- Recommended .830 in. x 1.450 in. mounting hole, .125 in. panel thickness
- Operating temperature: 32°F to 185°F (0°C to 85°C)
- Bulk packaging available upon request

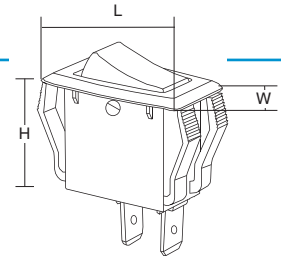






Product	Description	Poles	Circuitry	Termination Style	No. of Terminals	Rating			Dimensions (L" × W" × H")	Cat. No.
						Amps 125 VAC	Amps 277 VAC	HP 110-250 VAC		
	Black Rocker Switch	SPST	On-Off	Spade	2	20	15	2	1.70 × .97 × 1.09	774045
										774045BK†
	Black Rocker Switch	DPST	(On)-Off	Spade	4	20	15	2	1.70 × .97 × 1.09	774120
	Black Rocker Switch	DPST	On-(Off)	Spade	4	20	15	2	1.70 × .97 × 1.09	774121
	Black Rocker Switch	DPDT	On-On	Spade	6	20	15	2	1.70 × .97 × 1.09	774050
	Black Rocker Switch	DPDT	(On)-On	Spade	6	20	15	2	1.70 × .97 × 1.09	774122
	Black Rocker Switch	DPDT	On-Off-On	Spade	6	20	15	2	1.70 × .97 × 1.09	774040
										774040BK†
	Black Rocker Switch	DPDT	(On)-Off-On	Spade	6	20	15	2	1.70 × .97 × 1.09	774123
	Black Rocker Switch***	DPDT	(On)-Off-(On)	Spade	6	15	10*	3/4**	1.70 × .97 × 1.09	774054
										774054BK†
	Red Lighted Rocker*** Switch	DPST	On-Off	Spade	4	15	10*	3/4**	1.70 × .97 × 1.09	774056
	Amber Lighted Rocker*** Switch	DPST	On-Off	Spade	4	15	10*	3/4**	1.70 × .97 × 1.09	774055

( ) Denotes momentary action    \*Amps 250 VAC    \*\*HP 125-250VAC    †Bulk package of 100

## Appliance Rocker Switches

- Great for home appliances, computer equipment, automotive and industrial controls
- Appliance Rockers fit standard .55 in. × 1.12 in. panel cut outs
- Miniature Rockers fit .520 in. × .776 in. panel cut outs
- Plain and lighted versions available
- Operating temperature: 32°F to 185°F (0°C to 85°C)
- Bulk packaging of 100 available upon request



Product	Description	Rocker	Poles	Circuitry	Termination Style	No. of Terminals	Ratings	Dimensions (L" × W" × H")	Cat. No.
	Appliance Rocker Switch	Black	SPST	On-Off	Spade	2	16 Amp 1/3 HP 125 VAC, 10 Amp 1/2 HP 250 VAC	1.24 × 68 × .77	<b>774038</b>
			SPDT	On-On	Spade	3			<b>774049</b>
			SPDT	On-Off-On	Spade	3			<b>774059</b>
									<b>774059BK†</b>
	Appliance Rocker Switch	Red Lighted	SPST	On-Off	Spade	3*	16 Amp 1/3 HP 125 VAC, 10 Amp 1/2 HP 250 VAC	1.24 × 68 × .77	<b>774039</b>
	Appliance Rocker Switch**	Visi-Red, Printed On-Off Vertical	SPST	On-Off	Spade	2	16 Amp 125 VAC, 10 Amp 250 VAC, 3/4 HP 125-250 VAC	1.24 × 68 × .72	<b>774047</b>
	Appliance Rocker Switch**	Visi-Red	SPST	On-Off	Spade	2	16 Amp 125 VAC, 10 Amp 250 VAC, 3/4 HP 125-250VAC	1.24 × 68 × .72	<b>774052</b>
	Miniature Rocker Switch	Red Lighted	SPST	On-Off	Spade	3*	16 Amp 1/3 HP 125 VAC, 10 Amp 1/2 HP 250 VAC	.83 × .59 × .50	<b>774048</b>

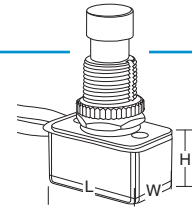
\*\*    

†Bulk Package of 100

\*3rd terminal to power lighted rocker

## Push-Button Switches

- Great for household appliances, lamps and motor controls
- Available in normally open, normally closed and standard On-Off circuitry
- Wire leads are #18 AWG, 6 in. stripped wire
- 1/2 in. diameter mounting hole
- Bulk packaging of 100 available upon request



Product	Description	Actuator	Poles	Circuitry	Termination Style	No. of Terminals	Ratings	Dimensions (L" × W" × H")	Cat. No.
	Miniature Push-Button Switch*	Black Plastic	SPST	On-Off	Wire Lead	2	6 Amp 125VAC, 1 Amp 250VAC, 10 Amp 14VDC	.66 × .53 × .32	<b>774082</b>
	Round Body Push-Button Switch**	Black Plastic	SPST NO	(On)-Off	Screw	2	3/4 Amp 125VAC/DC, 1/4 Amp 250VAC/DC	.66 Dia. × 1.89	<b>774083</b>
	Round Body Push-Button Switch**	Black Plastic	SPST NC	On-(Off)	Screw	2	3/4 Amp 125VAC/DC, 1/4 Amp 250VAC/DC	.66 Dia. × 1.89	<b>774084</b>
	Momentary Contact Push-Button Switch	Black Plastic	SPST NO	(On)-Off	Screw	2	6 Amp 120VAC, 3 Amp 240VAC	.88 × .54 × .35	<b>774022</b>
	Momentary Contact Push-Button Switch	Red Plastic	SPST NC	On-(Off)	Screw	2	3 Amps 120VAC, 1.5 Amp 240VAC	.88 × .54 × .35	<b>774023</b>
	Maintained Contact Push-Button Switch	Black Plastic	SPST	On-Off	Wire Leads	2	8 Amp 125VAC/DC, 4 Amp 250VAC/DC, 10 Amp 125VAC, 1/3 HP 125VAC	.98 × .64 × .62	<b>774021</b>
	Maintained Contact Push-Button Switch*	Nickel Plated	SPST	On-Off	Wire Leads	2	6 Amp 125VAC, 3 Amp 250VAC	.97 × .80 × .36	<b>774024</b>
	Maintained Contact Push-Button Switch*	Brass Plated	SPST	On-Off	Wire Leads	2	6 Amp 125VAC, 3 Amp 250VAC	.97 × .80 × .36	<b>774025</b>
	Maintained Contact Push-Button Switch**	Nickel Plated	SPST	On-Off	Screw	2	6 Amp 125VAC/DC, 3 Amp 250VAC/DC	1.18 × .52 × .54	<b>774080</b>
	Maintained Contact Push-Button Switch**	Nickel Plated	SPST	On-Off	Screw	2	15 Amp 125VAC, 10 Amp 250VAC	.92 × .66 × .46	<b>774081</b>
	Momentary Contact Push-Button Switch**	Nickel Plated	SPST NO	(On)-Off	Screw	2	15 Amp 125VAC, 10 Amp 250VAC	1.38 × .58 × .60	<b>774085</b>
	Momentary Contact Push-Button Switch**	Nickel Plated	SPST NC	On-(Off)	Screw	2	15 Amp 125VAC, 10 Amp 250VAC	1.38 × .58 × .60	<b>774086</b>

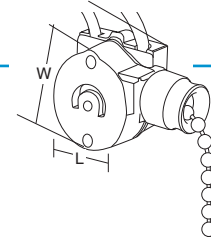
\*\* †Bulk Package of 100

( ) Denotes momentary action



## Lever and Pull Chain Switches

- Use for ceiling fixtures, lamps and fans
- Wire leads are #18 AWG, 6 in. stripped wire
- Push in connectors for #18 AWG wire
- 13/32 in. diameter mounting hole
- Bulk packaging of 100 available upon request

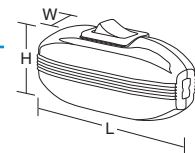


Product	Description	Pull-Chain Color	Poles	Circuitry	Termination Type	Circuit	Rating			Dimensions (L" x W" x H")	Cat. No.
							Amps 125 VAC	Amps 250 VAC	Amps 125 VL		
	All-Angle Lever Switch*	Nickel	SPST	On-Off	Wire Leads	2 Pos - 2 Wire	6	3	—	1.50 x 1.28 x .50	774035
	Pull Chain	Nickel	SPST	On-Off	Wire Leads	2 Pos - 2 Wire	6	3	3	.92 x .88 x .67	774031
	Pull Chain	Brass	SPST	On-Off	Wire Leads	2 Pos - 2 Wire	6	3	3	.92 x .88 x .67	774032
	2-Speed Pull Chain*	Brass	SPDT	Off-On-On	Push-In	3 Pos - 3 Wire	6	3	6	1.43 x 1.25 x .73	774033
	3-Speed Pull Chain*	Brass	SPTT	Off-On-On-On	Push-In	4 Pos - 4 Wire	6	3	—	1.43 x 1.25 x .73	774034
	3-Speed Pull Chain	Brass	SPTT	Off-On(A)-On(B)-On(A+B)	Wire Leads	4 Pos - 3 Wire	6	3	—	.87 x 1.05 x .65	774037
											774037BK†



## Cord Switches

- Place your lighting controls in a convenient location with a lamp cord toggle switch
- Available in brown or ivory
- Bulk packaging available upon request

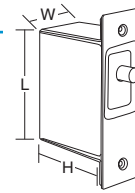


Product	Description	Color	Poles	Circuitry	Termination Style	Rated	Dimensions (L" x W" x H")	Cat. No.
	Cord Switch	Ivory	SPST	On-Off	Pass Thru	6 Amp 125VAC, 3 Amp 250VAC, 3 Amp 125VT	1.38 x .62 x .73	774072 774072BK†
	Cord Switch	Brown	SPST	On-Off	Pass Thru	6 Amp 125VAC, 3 Amp 250VAC, 3 Amp 125VT	1.38 x .62 x .73	774071 774071BK†
	Cord Toggle Switch	Ivory	SPST	On-Off	Pass Thru	10 Amp 125VAC, 5 Amp 250VAC	2.50 x .83 x 1.28	774074 774074BK†
	Cord Toggle Switch	Brown	SPST	On-Off	Pass Thru	10 Amp 125VAC, 6 Amp 250VAC	2.50 x .83 x 1.28	774073

†Bulk Package of 100

## Door and Slide Switches

- Standard slide switch fits 9/16 in. x 7/8 in. opening
- Door switches are great for closets, turning the light on when the door is open and off when it is closed
- Door switch kit comes with metal box, cover plate and mounting hardware

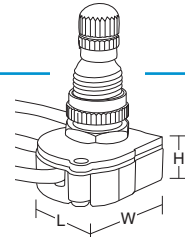


Product	Description	Color	Poles	Circuitry	Termination Style	Ratings	Dimensions (L" x W" x H")	Cat. No.
	Slide Switch	Black Slide	SPST	On-Off	Solder Terminals	10 Amp 125VAC, 5 Amp 250VAC	1.38 x .44 x .30	<b>774051</b>
	AC/DC Door Switch Kit	White Button	SPST	Normally On-(Off)	Wire Leads	10 Amp 1/3 HP 125/250VAC	1.25 x 2.75 x 2.0	<b>774026K</b> <b>774026KBK†</b>
	Door Replacement Switch	White Button	SPST	Normally On-(Off)	Wire Leads	10 Amp 1/3 HP 125/250VAC	1.17 x .69 x .98	<b>774026</b> <b>774026BK†</b>

( ) Denotes momentary action †Bulk package of 25

## Rotary Switches

- Rotary switches are perfect for household appliances, ceiling fixtures and lamps
- Single or three-position switches available
- #18 AWG, 6 in. stripped wire leads
- Bulk packaging available upon request

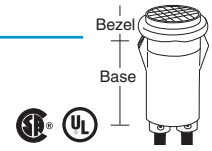


Product	Description	Color	Poles	Circuitry	Termination Style	Ratings	Dimensions (L" x W" x H")	Cat. No.
	Rotary Switch	Black Plastic	SPST	On-Off	Wire Leads	3 Amp 125VAC, 1.5 Amp 250VAC	.60 Dia x .730 overall height	<b>774063B</b> <b>774063BK†</b>
	Rotary Switch	Brass Plated	SPST	On-Off	Wire Leads	6 Amp 125VAC, 3 Amp 250VAC	.97 x .80 x .39	<b>774061</b>
	3-Way Rotary Switch	Brass Plated	SPTT	Off-On(A)-On(B)-On(A+B)	Wire Leads	6 Amp 125VAC, 3 Amp 250VAC	.86 x 1.03 x .34	<b>774062</b>
	Rotary Switch	Black Plastic	SPST	On-Off	Wire Leads	6 Amp 125VAC, 3 Amp 250VAC	.89 x .79 x .31	<b>774069</b>

†Bulk Package of 100

## Flush Indicator Lights

- Nylon body with flush transparent polycarbonate lens and stainless steel bezel, 94V-2 flammability rating
- 6 in. wire leads, 1/2 in. mounting diameter
- Lamp voltage is AC/DC
- Operating Temperature: Nylon Body: 140°C  
Polycarbonate lens: 135°C



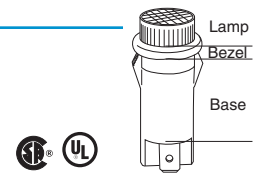
Product	Description	Lens Color	Lamp Voltage	Watts	Amp Rating	Average Life (hrs)	Lamp Type	Termination Style	Height (Base" × Bezel")	Cat. No.
	Flush Indicator Light	Red	14V	1.2	.08	50,000	Incandescent	6" Wire Leads	.91 × .10	775121*
	Flush Indicator Light	Red	28V	1.2	.04	25,000	Incandescent	6" Wire Leads	.91 × .10	776121*
	Flush Indicator Light	Red	125V	1/3	2mA Max.	25,000	Neon	6" Wire Leads	.91 × .10	777121* 777121BK†
	Flush Indicator Light	Green	125V	1/3	2mA Max.	15,000	Neon	6" Wire Leads	.91 × .10	777221* 777221BK†
	Flush Indicator Light	Amber	125V	1/3	2mA Max.	25,000	Neon	6" Wire Leads	.91 × .10	777321* 777321BK†

\*VDE certified

†Bulk Package of 100

## Raised Indicator Lights

- Nylon body with raised transparent polycarbonate lens and stainless steel bezel, 94V-2 flammability rating
- 1/2 in. mounting diameter
- Lamp voltage is AC/DC
- Operating Temperature: Nylon Body: 140°C  
Polycarbonate lens: 135°C



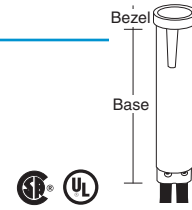
Product	Description	Lens Color	Lamp Voltage	Watts	Amp Rating	Average Life (hrs)	Lamp Type	Termination Style	Height (Base" × Bezel")	Cat. No.
	Raised Indicator Light	Red	14V	1.2	.08	50,000	Incandescent	6" Wire Leads	.91 × .10 × .20	775111*
	Raised Indicator Light	Red	28V	1.2	.04	25,000	Incandescent	6" Wire Leads	.91 × .10 × .20	776111*
	Raised Indicator Light	Green	28V	1.2	.04	25,000	Incandescent	6" Wire Leads	.91 × .10 × .20	776211*
	Raised Indicator Light	Amber	28V	1.2	.04	25,000	Incandescent	6" Wire Leads	.91 × .10 × .20	776311*
	Raised Indicator Light	Red	125V	1/3	2mA Max.	25,000	Neon	6" Wire Leads	.91 × .10 × .20	777111* 777111BK†
	Raised Indicator Light	Green	125V	1/3	2mA Max.	15,000	Neon	6" Wire Leads	.91 × .10 × .20	777211* 777211BK†
	Raised Indicator Light	Amber	125V	1/3	2mA Max.	25,000	Neon	6" Wire Leads	.91 × .10 × .20	777311*
	Raised Indicator Light	Blue	125V	1/3	2mA Max.	25,000	Neon	6" Wire Leads	.91 × .10 × .20	777411*
	Raised Indicator Light	Clear	125V	1/3	2mA Max.	25,000	Neon	6" Wire Leads	.91 × .10 × .20	777511*
	Raised Indicator Light	Red	250V	1/2	2mA Max.	25,000	Neon	6" Wire Leads	.91 × .10 × .20	778111*
	Raised Indicator Light	Green	250V	1/2	2mA Max.	15,000	Neon	6" Wire Leads	.91 × .10 × .20	778211*
		Raised Indicator Light	Green	28V	1.2	.04	25,000	Incandescent	.187" Spade	1.09 × .10 × .20
Raised Indicator Light		Red	28V	1.2	.04	25,000	Incandescent	.187" Spade	1.09 × .10 × .20	776112 776112BK†
Raised Indicator Light		Amber	28V	1.2	.04	25,000	Incandescent	.187" Spade	1.09 × .10 × .20	776312BK†
Raised Indicator Light		Red	125V	1/3	2mA Max.	25,000	Neon	.187" Spade	1.09 × .10 × .20	777112 776112BK†
Raised Indicator Light		Green	125V	1/3	2mA Max.	15,000	Neon	.187" Spade	1.09 × .10 × .20	777212 777212BK†
Raised Indicator Light		Amber	125V	1/3	2mA Max.	25,000	Neon	.187" Spade	1.09 × .10 × .20	777312BK†

\*VDE certified

†Bulk Package of 100

## Miniature Indicator Lights

- Nylon body with flush transparent polycarbonate lens
- 6 in. wire leads
- 5/16 in. mounting diameter
- Lamp voltage is AC/DC
- Bulk packaging available upon request



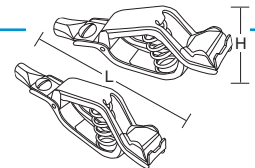
Product	Description	Lens Color	Lamp Voltage	Watts	Amp Rating	Average Life (hrs)	Lamp Type	Termination Style	Height (Base" × Bezel")	Cat. No.
	Miniature Indicator Light	Red	125V	1/3	2mA Max.	25,000	Neon	6 in. Wire Leads	1.43 × .13	<b>777131</b>
	Miniature Indicator Light	Green	125V	1/3	2mA Max.	15,000	Neon	6 in. Wire Leads	1.43 × .13	<b>777231</b>
	Miniature Indicator Light	Amber	125V	1/3	2mA Max.	25,000	Neon	6 in. Wire Leads	1.43 × .13	<b>777331</b>
										<b>777331BK†</b>

## Indicator Light Part No. System

Series	Voltage	Color	Mounting Diameter Lens Style	Terminators
77	5 - 14V	1 - Red	1 - 1/2 in. Raised	1 - 6 in. Wire Leads
	6 - 28V	2 - Green	2 - 1/2 in. Flush	2 - .187 in. Spade
	7 - 125V	3 - Amber	3 - 5/16 in. Flush	—
	8 - 250V	4 - Blue	—	—
	—	5 - Clear	—	—

## Battery Clips

- Great for testing and many other electrical applications
- Insulated grips are color-coded for positive (red) and negative (black) identification
- For screw and/or crimp connections

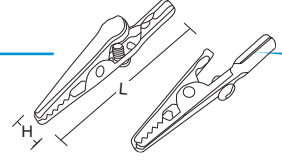





Product	Description	Amps	Dimensions (L" × H")	Jaw Opening	Wire Diameter	Qty.	Cat. No.
	Miniature General Purpose Clip	5	1-17/32 x 15/32	5/16 in.	9/64 in.	2	<b>770218L</b>
	General Purpose Clip	10	2 x 5/8	1/2 in.	3/16 in.	1 Red/1 Black	<b>170207L</b>
	Test and Battery Clip	20	2-1/2 x 5/8	5/8 in.	3/16 in.	1 Red/1 Black	<b>170208L</b>
	Test and Battery Clip	30	2-1/2 x 5/8	5/8 in.	3/16 in.	1 Red/1 Black	<b>170209L</b>
	Copper Test & Battery Clips*	40	2-7/16 x 11/16	5/8 in.	3/16 in.	2	<b>770217L</b>
	Copper Test & Battery Clips*	75	3 x 15/16	3/4 in.	9/32 in.	2	<b>770216L</b>
	Copper Test & Battery Clips*	100	4-7/64 x 19/16	1-1/16 in.	11/30 in.	2	<b>770215L</b>
	Insulated Grips for 770217L	—	3-1/2 x 3/4 ID	—	—	1 Red/1 Black	<b>770223L</b>
	Insulated Grips for 770216L	—	3-7/8 x 11/64 ID	—	—	1 Red/1 Black	<b>770219L</b>
	Insulated Grips for 770215L	—	5 x 1-13/32 ID	—	—	1 Red/1 Black	<b>770221L</b>

\*Insulators sold separately

## Alligator Clips

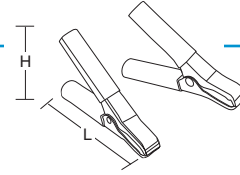
- Great for temporary connections, testing wires and troubleshooting projects
- Spring-loaded, grab-tight jaws make these clips quick and easy-to-use
- For screw and/or crimp connections




Product	Description	Amps	Dimensions (L × H)	Jaw Opening	Wire Gauge	Qty.	Cat. No.
	Non-Insulated	—	2 in. × 7/16 in.	5/16 in.	#22 - #14	4	770200L
	Insulated Barrel	—	2-1/2 in. × 7/16 in.	5/16 in.	#22 - #14	1 Red/1 Black	770204L
	Fully Insulated	—	2-1/2 in. × 7/16 in.	5/16 in.	#22 - #14	1 Red/1 Black	770205L

## Plier-Type Battery Clamps

- Great for battery charging and test equipment
- Insulated grips are color-coded for positive (red) and negative (black) identification
- For crimp or solder connections



Product	Description	Amps	Dimensions (L" × H")	Jaw Opening	Wire Dia.	Qty.	Cat. No.
	Plier-Type Battery Clip, Steel	50	2-7/8 in. x 2 in.	1-1/8 in.	9/32 in.	1 Red/1 Black	770213L
	Plier-Type Battery Clip, Copper	75	2-7/8 in. x 2 in.	1-1/8 in.	9/32 in.	1 Red/1 Black	770212L
	Plier-Type Battery Clip, Copper	400	6 in. x 4-1/2 in.	1-9/16 in.	9/16 in.	1 Red/1 Black	770225L

## How to Select Resurfacer Grade

### Small Motor and Pocket Resurfacers

Grade code letters designate the following grade combinations:

- A** Medium/Finish
- B** Coarse/Finish
- D** Finish/Polish
- G** Coarse/Medium
- H** Medium/Polish

### All Other Resurfacers

Resurfacers for commutators and copper-alloy slip rings are made in five grades:

- X** Extra coarse—very fast cutting, for “hogging” off excessive copper
- C** Coarse—fast cutting
- M** Medium—for general use, high mica, small ridges and burns
- F** Finish—for use after the three grades above, for periodic application and for removing small burns and ridges immediately after their appearance
- P** Polish—very fine grade (220 aggregate grain) for burnish finish

For all resurfacers, specify grade by adding the appropriate letter as a suffix to the catalog number. (Example: 80-475M for medium grade.)

## How to Select Resurfacer Size

Size is always written length x width x thickness (working face area x depth of stone). For handle types, the handle is mounted parallel to the first dimension. Always use a resurfacer with the largest face possible (length x width). Thickness should be governed by clearance around commutator or ring.

### Commutator Resurfacers

The resurfacer should have a width of approximately 3/4 the length of the commutator bar and as long as will conveniently go between the brush riggings. For periodic application, three or four sizes are generally sufficient. After determining approximate dimensions, select nearest standard size and type.

### Slip Ring Resurfacers

When space permits, use a resurfacer about 1 in. wider than the face width of the ring. Length should be at least three times greater than the longest flat spot to bridge over and ensure a true ring.

## Small Motor-Type Resurfacer

- Different grades of stone on each end
- 10 in. handle
- For use on small fractional horsepower motors

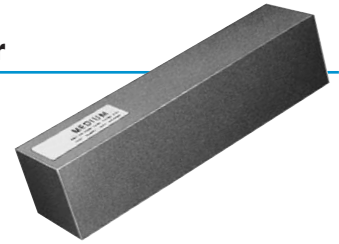


Size (In.)	Grades	Cat. No.
3/4 x 1/2 x 3/8	A, B, D	<b>80-012*</b>

\*Add grade letter suffix to Cat. No. Please allow 2-3 weeks for delivery.

## Tool-Type Resurfacer

- For use in lathe-turning device
- Two resurfacers required for each grinder



Sizes (In.)	Grades	Cat. No.
3/4 x 3/4 x 3	C, M, F	<b>80-504*</b>
1 x 1-1/2 x 6-1/2		<b>80-454*</b>
1 x 2 x 8		<b>80-461*</b>
2 x 2 x 8		<b>80-475*</b>

\*Add grade letter suffix to Cat. No. Please allow 2-3 weeks for delivery.

## Pencil-Type Resurfacer

- For use on fans, signal motors, auto generators, locomotive headlight motors and other fractional horsepower motors



Size (In.)	Grades	Cat. No.
5/8 x 3/8 x 6	C, M, F, P	<b>80-075*</b>

\*Add grade letter suffix to Cat. No. Please allow 2-3 weeks for delivery.

## Tramway-Handle Resurfacer

- Handle shaped to ensure secure grip
- 10-1/2 in. handle permanently mounted at 45° angle

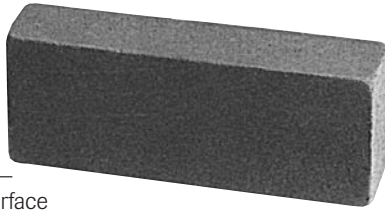


Sizes (In.)	Grades	Cat. No.
2 x 1-1/2 x 2	C, M, F	<b>80-255*</b>
2 x 2 x 2		<b>80-265*</b>

\*Add grade letter suffix to Cat. No. Please allow 2-3 weeks for delivery.

## Powr-Polish™ Flexible Abrasive

- Fine-grain, non-dusting abrasive held together by a flexible bond
- Serves as both commutator cleaner and burnisher
- Removes dirt and grease—imparts super-finished surface
- Non-conductive and non-loading



Sizes (In.)	Cat. No.
3/8 x 1/2 x 5	82-001
3/8 x 3/4 x 5	82-002
5/8 x 1 x 5	82-003
1 x 2 x 5	82-004
1 x 4 x 5	82-005
1/8 x 1 x 5	82-006

Please allow 2-3 weeks for delivery.

## Brush Seater and Commutator Cleaner



- Gentle acting abrasive for seating carbon brushes and cleaning commutators and slip rings
- Soft, loosely bound grain produces a scouring effect when held against commutator
- Will not remove or scratch copper
- Self-cleaning
- Available in soft(S), medium(M) and hard(H) grades

Sizes (In.)	Grades	Cat. No.
1/4 x 1/4 x 4-3/4	M, H	23-001*
1/2 x 1/4 x 4-3/4	M, H	23-002*
3/8 x 3/8 x 4-3/4	M, H	23-003*
1/2 x 3/8 x 4-3/4	M	23-004*
1/2 x 1/2 x 4-3/4	M	23-005*
5/8 x 1/2 x 4-3/4	M	23-006*
3/4 x 1/2 x 4-3/4	S, M, H	23-007*
1-1/8 x 5/8 x 4-3/4	S, M, H	23-008*
1/2 x 1 x 4-3/4	S, M	23-027*
1 x 1 x 4-3/4	—	23-035S
2 x 1 x 4-3/4	—	23-036S
3 x 2 x 4	—	23-039S
3 x 2 x 6	—	23-041S
3 x 2 x 8	—	23-042S

\*Add grade letter suffix to Cat. No.  
Please allow 2-3 weeks for delivery.

## Commutator Smoothie® Resurfacing Tool

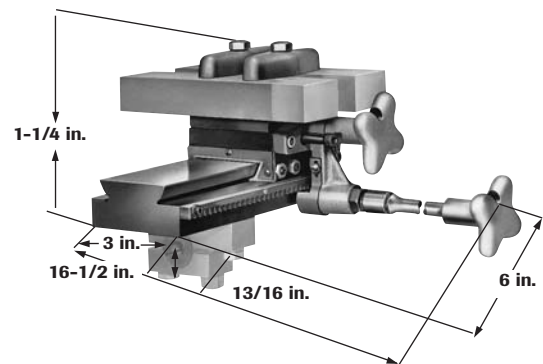


- Designed to smooth commutators of auto generators, starting motors and other similar equipment
- 8-1/2 in. plastic handle with a 5/16 in. x 7/8 in. x 11/16 in. resurfacer on each end
- Features one polish-grade and one finish-grade resurfacer
- Bent handle reaches into any motor frame
- Non-conductive for user safety

Description	Cat. No.
Commutator Smoothie® Resurfacing Tool	80-033

Please allow 2-3 weeks for delivery.

## Midget Precision Grinder



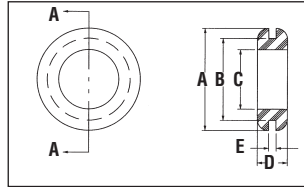
- Right-angle rack and pinion allows for operation in small areas
- 6 in. base — recommended for commutator widths up to 9-1/4 in. (includes extra 1 in. travel obtained by setting resurfacers at slight angle)
- Includes convenient carrying case
- Two tool-type resurfacers required — 80-454 recommended

Description	Cat. No.
Midget Precision Grinder	24-033

Order tool-type resurfacers and brush arm supports separately.

## Grommets\*

- Installs instantly! Flexible PVC grommets side slotted 1/16 in. for quick installation
- Snap into holes in electrical boxes, sheet metal, auto firewalls and more
- Prevents steel and other sharp edge chafing of wire insulation or cording
- Black, PVC, flexible, 60 durometer

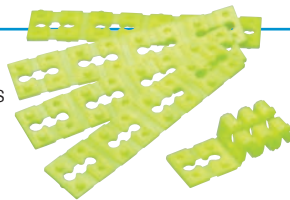


Description	A	B	C	D	E	Qty.	Cat. No.
1/4" Grommets	9/16	.37	1/4	.28	3/32	6	774114
1/4" Grommets	9/16	.37	1/4	.28	3/32	25	774116
1/4" Grommets	9/16	.37	1/4	.28	3/32	1,000	774114BK
3/8" Grommets	43/64	.49	3/8	.28	1/16	5	774138
3/8" Grommets	43/64	.49	3/8	.28	1/16	25	774137
1/2" Grommets	55/64	.69	1/2	.25	1/16	4	774112
1/2" Grommets	55/64	.69	1/2	.25	1/16	25	774113
3/4" Grommets	15/64	1.0	3/4	.31	1/16	3	774134
3/4" Grommets	15/64	1.0	3/4	.31	1/16	25	774136

\*Buchanan branded

## Spacer Shims\*

- Eliminates the need to cut plate screws for "GFCI" decorator devices when installing on tile, marble, etc.
- Supports loose outlets
- Prevents broken face plates
- Snaps over #6, #8, #10 screws
- Also works as a shim

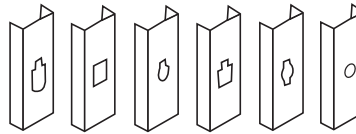
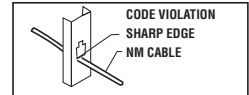
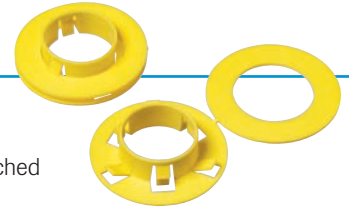


Description	Qty.	Cat. No.
Caterpillar	5	772450
Caterpillar	25	172451
Caterpillar	500	772451

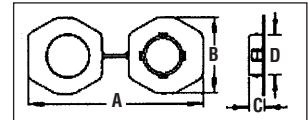
\*Buchanan branded

## Universal Metal Stud Bushings

- Non-metallic stud bushing fits all hole configurations you are likely to encounter in pre-punched steel studs
- Long pulls of cable slide smoothly through the bushing, make a difficult job easier
- Protects wire without falling out of the hole



Common hole configurations in metal studs.



Description	A	B	C	D	Qty.	Cat. No.
Stud Bushing	5.670	2.50	.505	1.30	25	772271

## EZ Mask™ Paint Shields

#20-100  
#20-110



#20-200  
#20-210

- Reusable cover saves masking time and clean up
- Snap-on to protect from paint drips and overspray
- Works in side-by-side (multi-gang) applications
- Protects entire device when rolling, brushing or spraying

Shields are intended to cover most standard outlets, GFCI outlets, standard switches and decorator switches to protect them from paint.



Description	Qty.	Cat. No.
Switch Paint Cover	10	20-110
Switch Paint Cover	100	20-100
Receptacle Paint Cover	10	20-210
Receptacle Paint Cover	100	20-200