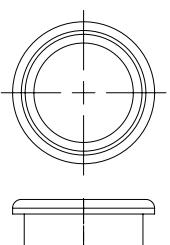


## GROMMETS

GFA  
NAS1368 Flip Grommet



### Specifications:

- Material: UL94 V-2 Nylon 6/6
- Color: Natural

### Features:

- Installed by inserting the "un-flipped" grommet into the hole. Forming dies (not supplied by Essentra) on each side of the hole are pressed together until the grommet "flips" over itself, creating a flange on both sides of the hole
- The dies can be attached to a toggle type clamp, a pneumatic tool, or a bolt and nut through the center
- Meets NAS 1368 Standard
- Protects wires, cable, and tubing passing through holes

Item No.	NAS Part No.	Max Recommended Panel Thickness		NAS1368 Panel Thickness Range		T	A Ref.	B	C Ref.	D	Bulk Pack Qty.							
		In	mm	In	mm													
GFA-N4A	NAS1368-N4A	0.375	9.5	0.030	0.8	0.025-0.080	0.6-2.0	0.235	6.0	0.567	14.4	0.367	9.3	0.251	6.4	0.058	1.5	100
GFA-N4B	NAS1368-N4B	0.375	9.5	0.100	2.5	0.081-0.140	2.1-3.6	0.295	7.5	0.567	14.4	0.367	9.3	0.251	6.4	0.058	1.5	100
GFA-N6A	NAS1368-N6A	0.500	12.7	0.030	0.8	0.025-0.080	0.6-2.0	0.235	6.0	0.692	17.6	0.492	12.5	0.376	9.6	0.058	1.5	100
GFA-N6B	NAS1368-N6B	0.500	12.7	0.090	2.3	0.081-0.140	2.1-3.6	0.295	7.5	0.692	17.6	0.492	12.5	0.376	9.6	0.058	1.5	100
GFA-N6C	NAS1368-N6C	0.500	12.7	0.160	4.1	0.141-0.200	3.6-5.1	0.360	9.1	0.692	17.6	0.492	12.5	0.376	9.6	0.058	1.5	100
GFA-N8A	NAS1368-N8A	0.625	15.9	0.030	0.8	0.025-0.080	0.6-2.0	0.235	6.0	0.815	20.7	0.615	15.6	0.499	12.7	0.058	1.5	100
GFA-N8B	NAS1368-N8B	0.625	15.9	0.090	2.3	0.081-0.140	2.1-3.6	0.295	7.5	0.815	20.7	0.615	15.6	0.499	12.7	0.058	1.5	100
GFA-N10A	NAS1368-N10A	0.781	19.8	0.030	0.8	0.025-0.080	0.6-2.0	0.235	6.0	0.971	24.7	0.771	19.6	0.605	15.4	0.083	2.1	100
GFA-N10B	NAS1368-N10B	0.781	19.8	0.080	2.0	0.081-0.140	2.1-3.6	0.295	7.5	0.971	24.7	0.771	19.6	0.605	15.4	0.083	2.1	100
GFA-N10D	NAS1368-N10D	0.781	19.8	0.210	5.3	0.201-0.250	5.1-6.4	0.420	10.7	0.971	24.7	0.771	19.6	0.605	15.4	0.083	2.1	100
GFA-N12A	NAS1368-N12A	0.906	23.0	0.020	0.5	0.025-0.080	0.6-2.0	0.235	6.0	1.096	27.8	0.896	22.8	0.730	18.5	0.083	2.1	100
GFA-N12B	NAS1368-N12B	0.906	23.0	0.070	1.8	0.081-0.140	2.1-3.6	0.295	7.5	1.096	27.8	0.896	22.8	0.730	18.5	0.083	2.1	100
GFA-N14A	NAS1368-N14A	1.031	26.2	0.020	0.5	0.025-0.080	0.6-2.0	0.235	6.0	1.221	31.0	1.021	25.9	0.855	21.7	0.083	2.1	100
GFA-N14B	NAS1368-N14B	1.031	26.2	0.070	1.8	0.081-0.140	2.1-3.6	0.295	7.5	1.221	31.0	1.021	25.9	0.855	21.7	0.083	2.1	100

**Grommets**  
Hundreds of styles  
in stock to protect  
wires and cables



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## BUSHINGS

### Electrical Cord Damage Potential

Where wires exit an enclosure, they can come in contact with rough or sharp edges that can wear or cut a wire, potentially leading to a short and even complete device failure.

### Cable Bushings are the Solution

A cable bushing inserted into holes in enclosures to protect a wire as it passes through a hole, is the perfect solution. The bushing, or grommet, has an internal hole through which the wire passes, which is designed to be smooth and cause no harm to the wire. Essentra offers many Richco cable bushing options for a variety of holes and panel thicknesses. We have innovative solutions for wire protection through our extensive offering of bushings and grommets. If your wires are already routed and connected, then we offer retro-fit options, such as snap-in bushings, for applying the grommet over the wire, and then applied to the hole. If you have a scenario where there are forces pulling on the wire, endangering the connection, we offer product that features strain-relief protection.

**PGSB / BSI**  
Closed Insulation Bushing

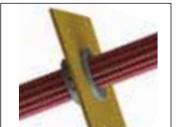
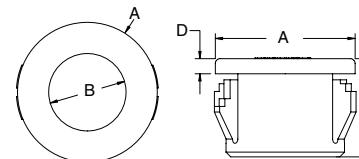


### Specifications:

- Material: UL94 V-2 Nylon 6/6
- Color: Black

### Features:

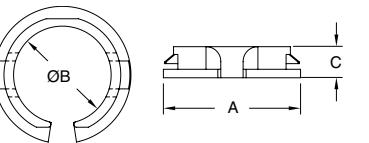
- Easy to snap into common panel thicknesses
- Protects wires, cables and tubing from sharp edges of sheet metal holes



Item No.	Approval	Mounting Hole Ø	Panel Thickness	OD A	ID B	Overall Height C	Head Height D	Bulk Pack Qty.						
		In	mm	In	mm	In	mm							
PGSB-0305	UL	0.189	4.8	0.063 - 0.067	1.6 - 1.7	0.260	6.5	0.125	3.2	0.240	6.0	0.051	1.4	1000
PGSB-1	UL	0.250	6.4	0.062	1.6	0.312	7.9	0.125	3.2	0.312	7.9	0.063	1.6	1000
PGSB-2	UL	0.312	7.9	0.062	1.6	0.375	9.5	0.187	4.7	0.312	7.9	0.063	1.6	1000
PGSB-3	UL	0.312	7.9	0.062	1.6	0.375	9.5	0.240	6.1	0.237	6.0	0.050	1.3	1000
PGSB-4	UL	0.375	9.5	0.031 - 0.125	0.8 - 3.2	0.468	11.9	0.187	4.7	0.406	10.3	0.055	1.4	1000
PGSB-0710	UL	0.375	9.5	0.031 - 0.125	0.8 - 3.2	0.468	11.9	0.250	6.4	0.406	10.3	0.055	1.4	1000
PGSB-6	UL	0.437	11.1	0.031 - 0.125	0.8 - 3.2	0.531	13.5	0.270	6.9	0.406	10.3	0.055	1.4	500
PGSB-7	UL	0.437	11.1	0.031 - 0.125	0.8 - 3.2	0.531	13.5	0.312	7.9	0.406	10.3	0.055	1.4	500
PGSB-8	UL	0.437	11.1	0.031 - 0.125	0.8 - 3.2	0.531	13.5	0.243	6.4	0.406	10.3	0.055	1.4	500
PGSB-9	UL	0.468	11.9	0.062	1.6	0.531	13.5	0.343	8.7	0.250	6.4	0.050	1.3	500
PGSB-10	UL	0.500	12.7	0.031 - 0.125	0.8 - 3.2	0.578	14.7	0.250	6.4	0.406	10.3	0.063	1.6	500
PGSB-11	UL	0.500	12.7	0.031 - 0.125	0.8 - 3.2	0.578	14.7	0.312	7.9	0.406	10.3	0.063	1.6	500
PGSB-12	UL	0.500	12.7	0.062	1.6	0.562	14.3	0.375	9.5	0.250</				

## BUSHINGS

**PGSA**  
Shallow Open Insulation Bushing



### Specifications:

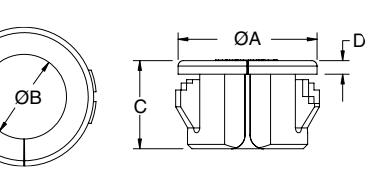
- Material: UL94 V-2 Nylon 6/6
- Color: Black

### Features:

- Molded with shallow overall height for applications with limited space
- Open design allows bushing to be assembled into holes that already contain a bundle
- Protects wires, cables, and tubing from sharp edges of sheet metal holes

Item No.	Approval	Mounting Hole Ø		Panel Thickness Range		OD A Ref.		ID B		Overall Height C		Bulk Pack Qty.
		In	mm	In	mm	In	mm	In	mm	In	mm	
PGSA-0407A	UL	0.276	7.0	0.016 - 0.039	0.4 - 1.0	0.410	10.4	0.190	4.8	0.200	5.0	1000
PGSA-1013A	UL	0.512	13.0	0.039 - 0.059	1.0 - 1.5	0.640	16.2	0.360	9.2	0.210	5.3	500
PGSA-1316A	UL	0.630	16.0	0.039 - 0.059	1.0 - 1.4	0.760	19.4	0.480	12.2	0.210	5.4	500
PGSA-1519A	UL	0.748	19.0	0.039 - 0.059	1.0 - 1.5	0.890	22.7	0.560	14.3	0.220	5.7	500
PGSA-1822A	UL	0.866	22.0	0.031 - 0.063	0.8 - 1.6	1.000	25.5	0.690	17.6	0.220	5.6	500
PGSA-2024A1	UL	0.945	24.0	0.031 - 0.047	0.8 - 1.2	1.060	27.0	0.770	19.5	0.210	5.3	500
PGSA-2024A	UL	0.945	24.0	0.039 - 0.063	1.0 - 1.6	1.060	27.0	0.770	19.5	0.210	5.3	500
PGSA-2327A	UL	1.067	27.1	0.016 - 0.039	0.4 - 1.0	1.380	35.1	0.900	22.9	0.240	6.0	200
PGSA-2529A	UL	1.142	29.0	0.016 - 0.043	0.4 - 1.1	1.380	35.1	0.970	24.5	0.280	7.0	200

**PGSB-A**  
Standard Open Insulation Bushing



### Specifications:

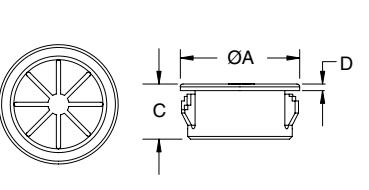
- Material: UL94 V-2 Nylon 6/6
- Color: Black

**Features:**

- Easy to push in design locks into place at common panel thicknesses
- Split design allows bushing to be assembled into holes that already contained a bundle
- Protects wires, cables, and tubing from sharp edges of sheet metal holes

Item No.	Approval	Mounting Hole		Panel Thickness Range		OD A Ref.		ID B		Overall Height C		Head Height D	Bulk Pack Qty.	
		In	mm	In	mm	In	mm	In	mm	In	mm			
PGSB-0609A	UL	0.375	9.5	0.028 - 0.067	0.7 - 1.7	0.450	11.4	0.260	6.6	0.260	6.5	0.051	1.3	1000
PGSB-1A	UL	0.375	9.5	0.031 - 0.125	0.8 - 3.2	0.420	10.7	0.265	6.7	0.390	9.9	0.051	1.3	1000
PGSB-2A	UL	0.437	11.1	0.031 - 0.125	0.8 - 3.2	0.50	12.7	0.312	7.9	0.406	10.3	0.063	1.6	1000
PGSB-1013A	UL	0.512	13.0	0.031 - 0.138	0.8 - 3.5	0.590	14.9	0.350	9.0	0.410	10.5	0.059	1.5	500
PGSB-3A	UL	0.562	14.3	0.031 - 0.125	0.8 - 3.2	0.640	16.3	0.390	9.9	0.406	10.3	0.063	1.6	500
PGSB-1216A	UL	0.650	16.5	0.028 - 0.130	0.7 - 3.3	0.730	18.6	0.480	12.3	0.390	10.0	0.039	1.0	500
PGSB-1316A	UL	0.630	16.0	0.047 - 0.138	1.2 - 3.5	0.710	18.0	0.410	10.5	0.410	10.5	0.063	1.6	500
PGSB-1519A	UL	0.748	19.0	0.047 - 0.130	1.2 - 3.3	0.810	20.6	0.570	14.5	0.430	11.0	0.051	1.3	200
PGSB-1822A	UL	0.866	22.0	0.039 - 0.138	1.0 - 3.5	0.980	24.8	0.680	17.3	0.450	11.5	0.063	1.6	200
PGSB-9A	UL	0.984	25.0	0.031 - 0.118	0.8 - 3.0	1.039	26.4	0.803	20.4	0.406	10.3	0.063	1.6	200
PGSB-4A	UL	1.000	25.4	0.031 - 0.125	0.8 - 3.2	1.047	26.6	0.812	20.6	0.406	10.3	0.063	1.6	200
PGSB-5A	UL	1.093	27.8	0.031 - 0.125	0.8 - 3.2	1.156	29.4	0.875	22.2	0.406	10.3	0.063	1.6	200
PGSB-6A	UL	1.250	31.8	0.031 - 0.125	0.8 - 3.2	1.343	34.1	1.046	26.6	0.406	10.3	0.063	1.6	200
PGSB-7A	UL	1.375	34.9	0.031 - 0.125	0.8 - 3.2	1.468	37.3	1.171	29.7	0.406	10.3	0.063	1.6	200
PGSB-8A	UL	1.500	38.1	0.031 - 0.125	0.8 - 3.2	1.578	40.1	1.250	31.7	0.421	10.7	0.063	1.6	200

**PGSD**  
Universal Bushing



### Specifications:

- Material: UL94 V-2 Nylon 6/6
- Color: Black

**Features:**

- Absorbs vibration and cushions and insulates bundles

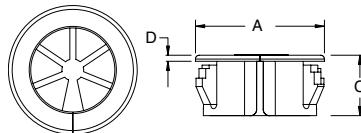
Item No.	Approval	Mounting Hole		Max Panel Thickness		OD A		Max ID		Overall Height C		Head Height D	Bulk Pack Qty.	
		In	mm	In	mm	In	mm	In	mm	In	mm			
PGSD-1	UL	0.500	12.7	0.062	1.8	0.600	15.2	0.312	7.9	0.250	6.4	0.063	1.6	500
PGSD-5	UL	0.500	12.7	0.125	3.2	0.600	15.2	0.312	7.9	0.385	9.8	0.041	1.0	500
PGSD-2	UL	0.625	15.9	0.062	1.8	0.729	18.5	0.437	11.1	0.250	6.4	0.063	1.6	500
PGSD-6	UL	0.625	15.9	0.125	3.2	0.729	18.5	0.437	11.1	0.406	10.3	0.063	1.6	500
PGSD-3	UL	0.750	19.1	0.062	1.8	0.844	21.4	0.500	12.7	0.250	6.4	0.063	1.6	200
PGSD-7	UL	0.750	19.1	0.125	3.2	0.844	21.4	0.500	12.7	0.390	9.9	0.047	1.2	200
PGSD-4	UL	0.875	22.2	0.062	1.8	0.937	23.8	0.560	14.2	0.250	6.4	0.063	1.6	200
PGSD-8	UL	0.875	22.2	0.125	3.2	0.937	23.8	0.560	14.2					

## BUSHINGS

PGSC  
Open Universal Bushing



Richco



### Specifications:

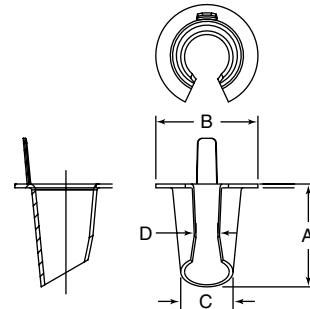
- Material: UL94V-2 Nylon 6/6
- Color: Black

### Features:

- Easy to push in design locks into place at common panel thicknesses
- Open design allows bushing to be assembled into holes that already contain a bundle
- Adjust to accept various diameters and shapes

Item No.	Approval	Mounting Hole		Max Panel Thickness		OD A		Max ID		Overall Height C		Head Height D		Bulk Pack Qty.
		In	mm	In	mm	In	mm	In	mm	In	mm	In	mm	
PGSC-1319A		0.748 - 0.752	19.0 - 19.1	0.031 - 0.118	0.8 - 3.0	0.858	21.8	0.500	12.7	0.390	9.9	0.039	1.0	500
PGSC-1422A		0.874 - 0.882	22.2 - 22.4	0.031 - 0.118	0.8 - 3.0	0.937	23.8	0.563	14.3	0.453	11.5	0.039	1.0	200
PGSC-1926A		1.000 - 1.004	25.4 - 25.5	0.031 - 0.118	0.8 - 3.0	1.063	27.0	0.748	19.0	0.453	11.5	0.039	1.0	200
PGSC-2128A		1.095 - 1.102	27.8 - 28.0	0.031 - 0.118	0.8 - 3.0	1.161	29.5	0.815	20.7	0.453	11.5	0.039	1.0	200

ASB  
Armor Bushing



### Specifications:

- Material: Polypropylene
- Color: Red

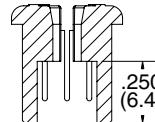
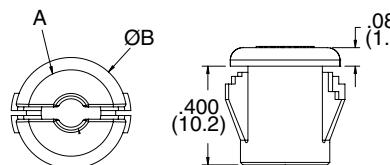
### Features:

- Fits armored cable and flexible metal conduit sizes
- Features high dielectric strength and assures insulation on all sharp edges

Item No.	Approvals	Size	A		B		C		D		Cable Size	Trade Size In	Bulk Pack Qty.
			In	mm	In	mm	In	mm	In	mm			
ASB0A		0	0.560	14.22	0.671	17.04	0.380	9.650	0.312	7.92	14/2, 14/3, 12/2	5/16	30000
ASB1A		1	0.650	16.51	0.671	17.04	0.450	11.43	0.312	7.92	14/4, 12/3, 6/1, 4/1	3/8	20000
ASB2A		2	0.610	15.49	0.859	21.82	0.580	14.73	0.125	3.18	12/4, 10/2, 10/3, 2/1	7/16	15000
ASB3A		3	0.670	17.02	1.046	26.57	0.790	20.07	0.109	2.77	10/4, 8/2, 8/3, 1/1	1/2	7500
ASB4A		4	0.830	21.08	1.266	32.15	1.000	25.40	0.156	3.96	8/4, 6/4, 6/3, 6/2, 4/3, 4/2	3/4	4000

SB  
Snub Bushing

Richco



### Specifications:

- Material: UL94V-2 Nylon 6/6
- Color: Black

### Features:

- Bushing opens to accept cable then closes firmly when installed into hole
- Provides insulation and slight strain relief

Part Number	Panel Hole		Max Panel Thickness		ID		Ø A		Overall OD B		Bulk Pack Qty.
	In	mm	In	mm	In	mm	In	mm	In	mm	
SB-1	0.375	9.5	0.125	3.2	0.150	3.8	0.360	9.1	0.450	11.4	500
SB-2	0.437	11.1	0.125	3.2	0.220	5.6	0.430	10.9	0.550	14.0	500
SB-3	0.500	12.7	0.125	3.2	0.280	7.1	0.490	12.4	0.630	16.0	500

