ETLIN-DANIELS
1850 Wilson Avenue, Toronto,
Ontario, Canada, M9M 1A1
Ph: 416-741-7336 Fax: 416-741-9104

## Strain Relief Bushings / Liquid Tight


| | |
|---|---|
| **Strain Relief Type** | |
| Straight Through Type | H2-H5 |
| 90° Angle | H5 |
| ? Style | H5 |
| **Insulating Type** | |
| Miniature | H6 |
| All-Fit | H6 |
| Standard | H7 |
| **Plugs** | |
| Snap-In Hole Plugs | H8 |
| Snap-In Vent Plugs | H8 |
| Poly Hole Plugs | H9 |
| Poly Vent Plugs | H10 |
| Lampcord Bushings | H10 |
| Anti-Short Bushings | H10 |
| **Liquid Tight** | |
| Dome Style | H11 |
| Flex Style | H12 |
| Dome Elbow Style | H13 |
| Flex Elbow Style | H14 |
| Locking Nut | H15 |


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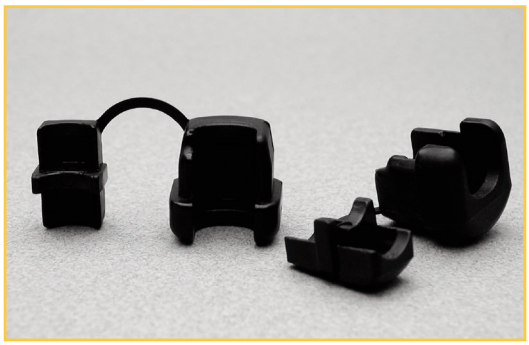
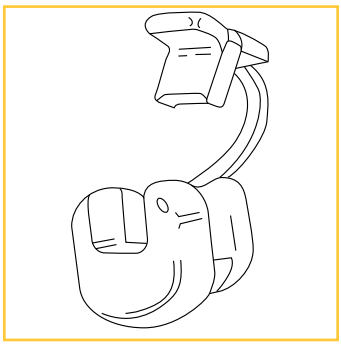
# STRAIN RELIEF BUSHINGS
# STRAIGHT THROUGH TYPE



## Strain Relief Bushings - Straight Through Type

| DESCRIPTION | | | | | | DIMENSIONS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| ITEM NUMBER | UL / CSA DESCRIPTION | CROSS SECTION | CABLE SIZE | CABLE TYPE | GAUGE (AWG) | MOUNTING HOLE | | MAX PANEL THICKNESS | BUSHINGS | |
| | | | | | | DIAMETER | FLATS | | LENGTH | WIDTH |
| ESR2M4 | MP2M4 | ROUND | 0.156 X 0.187 (3.9 X 4.7) | AWN | 14 | 0.375 (9.6) | 0.330 (8.4) | 0.062 (1.6) | 0.410 (10.4) | 0.391 (9.9) |
| ESR2M5 | MP2M5 | ROUND | 0.125 X 0.156 (3.2 X 3.9) | AWN | 16 | 0.375 (9.6) | 0.330 (8.4) | 0.062 (1.6) | 0.410 (10.4) | 0.391 (9.9) |
| ESR3P4 | MP3P4 | FLAT | 0.120 X 0.220 (3.0 X 5.6) | SP1 | 18/2 | 0.437 (11.1) | 0.390 (9.9) | 0.062 (1.6) | 0.410 (10.4) | 0.484 (12.3) |
| | | | 0.120 X 0.220 (3.0 X 5.6) | SPT-1 | 18/2 | 0.437 (11.1) | 0.390 (9.9) | 0.062 (1.6) | 0.410 (10.4) | 0.484 (12.3) |
| ESR4K1 | MP4K1 | FLAT | 0.150 X 0.400 (3.8 X 10.1) | SPT-2 | 18/3 | 0.500 (12.7) | 0.460 (11.7) | 0.095 (2.4) | 0.495 (12.6) | 0.565 (14.4) |
| | | | 0.160 X 0.300 (4.1 X 7.6) | HPN | 16/2 | 0.500 (12.7) | 0.460 (11.7) | 0.095 (2.4) | 0.495 (12.6) | 0.565 (14.4) |
| | | | 0.160 X 0.300 (4.1 X 7.6) | SPT-2 | 16/2 | 0.500 (12.7) | 0.460 (11.7) | 0.095 (2.4) | 0.495 (12.6) | 0.565 (14.4) |
| | | | 0.150 X 0.280 (3.8 X 7.1) | HPN | 18/2 | 0.500 (12.7) | 0.460 (11.7) | 0.095 (2.4) | 0.495 (12.6) | 0.565 (14.4) |
| | | | 0.150 X 0.280 (3.8 X 7.1) | SPT-2 | 18/2 | 0.500 (12.7) | 0.460 (11.7) | 0.095 (2.4) | 0.495 (12.6) | 0.565 (14.4) |
| ESR4K4 | MP4K4 | FLAT | 0.120 X 0.300 (3.0 X 7.6) | SPT-1 | 18/3 | 0.500 (12.7) | 0.465 (11.8) | 0.100 (2.5) | 0.406 (10.3) | 0.578 (14.7) |
| | | | 0.120 X 0.300 (3.0 X 7.6) | SPT-2 | 18/2 | 0.500 (12.7) | 0.465 (11.8) | 0.100 (2.5) | 0.406 (10.3) | 0.578 (14.7) |
| | | | 0.120 X 0.300 (3.0 X 7.6) | HPN | 18/2 | 0.500 (12.7) | 0.465 (11.8) | 0.100 (2.5) | 0.406 (10.3) | 0.578 (14.7) |
| ESR4L4 | MP4L4 | FLAT | 0.120 X 0.300 (3.0 X 7.6) | SPT-1 | 18/3 | 0.500 (12.7) | 0.465 (11.8) | 0.156 (3.9) | 0.406 (10.3) | 0.578 (14.7) |
| | | | 0.120 X 0.300 (3.0 X 7.6) | SPT-2 | 18/2 | 0.500 (12.7) | 0.465 (11.8) | 0.156 (3.9) | 0.406 (10.3) | 0.578 (14.7) |
| | | | 0.120 X 0.300 (3.0 X 7.6) | HPN | 18/2 | 0.500 (12.7) | 0.465 (11.8) | 0.156 (3.9) | 0.406 (10.3) | 0.578 (14.7) |
| ESR4N4 | MP4N4 | FLAT | 0.120 X 0.300 (3.0 X 7.6) | SPT-1 | 18/3 | 0.500 (12.7) | 0.465 (11.8) | 0.062 (1.6) | 0.406 (10.3) | 0.578 (14.7) |
| | | | 0.120 X 0.300 (3.0 X 7.6) | SPT-2 | 18/2 | 0.500 (12.7) | 0.465 (11.8) | 0.062 (1.6) | 0.406 (10.3) | 0.578 (14.7) |
| | | | 0.120 X 0.300 (3.0 X 7.6) | HPN | 18/2 | 0.500 (12.7) | 0.465 (11.8) | 0.062 (1.6) | 0.406 (10.3) | 0.578 (14.7) |





### Strain Relief Bushings – Straight Through Type

Etlin Strain Reliefs securely anchor, absorb and protect cables and wires from push, pull and twist forces and insulate them from irregular or sharp panel edges. They are made of tough heat-stabilized nylon and are fully CSA and UL approved. They are easily and quickly installed using special bushing pliers or other hand tools.

Holes shaped with flats prevent rotation of the bushing if the cable is subject to twist.
1. Position on the wire
2. Compress with pliers
3. Push into panel hole

### Installation Tool – IT100

Adjustable for all strain relief bushings that assemble into holes up to ⅞" diameter. Indispensable for fast, accurate assembly of the bushings.

Certifications:
UR
CSA
VDE

# STRAIN RELIEF BUSHINGS
# STRAIGHT THROUGH TYPE



## Strain Relief Bushings - Straight Through Type (cont'd)

| DESCRIPTION | | | | | | DIMENSIONS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| ITEM NUMBER | UL / CSA DESCRIPTION | CROSS SECTION | CABLE SIZE | CABLE TYPE | GAUGE (AWG) | MOUNTING HOLE | | MAX PANEL THICKNESS | BUSHINGS | |
| | | | | | | DIAMETER | FLATS | | LENGTH | WIDTH |
| ESR5K4 | MP5K4 | FLAT | 0.150 x 0.160 (3.8 x 4.1) | SPT-2 | 18/3 | 0.562 (14.3) | 0.530 (13.5) | 0.125 (3.2) | 0.609 (15.5) | 0.625 (15.9) |
| ESR5KN4 | MP5KN4 | FLAT | 0.150 X 0.400 (3.8 X 10.1) | SPT-2 | 18/3 | 0.562 (14.3) | 0.530 (13.5) | 0.062 (1.6) | 0.609 (15.5) | 0.625 (15.9) |
| | | | 0.160 X 0.300 (4.1 X 7.6) | SPT-2 | 16/3 | 0.562 (14.3) | 0.530 (13.5) | 0.062 (1.6) | 0.609 (15.5) | 0.625 (15.9) |
| ESR5N4 | MP5N4 | ROUND | 0.250 (6.4) | SV | 18/2 | 0.500 (12.7) | 0.450 (11.4) | 0.062 (1.6) | 0.438 (11.1) | 0.578 (14.7) |
| | | | 0.250 (6.4) | SVT | 18/2 | 0.500 (12.7) | 0.450 (11.4) | 0.062 (1.6) | 0.438 (11.1) | 0.578 (14.7) |
| | | | 0.255 (6.5) | SV | 18/3 | 0.500 - 0.515 | 0.450 (11.4) | 0.062 (1.6) | 0.438 (11.1) | 0.578 (14.7) |
| | | | 0.255 (6.5) | SVT | 18/3 | 0.500 - 0.515 | 0.450 (11.4) | 0.062 (1.6) | 0.438 (11.1) | 0.578 (14.7) |
| | | | 0.290 (7.4) | HPD | 16/2 | 0.500 - 0.515 | 0.450 (11.4) | 0.062 (1.6) | 0.438 (11.1) | 0.578 (14.7) |
| ESR5P4 | MP5P4 | ROUND | 0.250 (6.4) | SV | 18/2 | 0.500 (12.7) | 0.450 (11.4) | 0.100 (2.5) | 0.438 (11.1) | 0.578 (14.7) |
| | | | 0.250 (6.4) | SVT | 18/2 | 0.500 (12.7) | 0.450 (11.4) | 0.100 (2.5) | 0.438 (11.1) | 0.578 (14.7) |
| | | | 0.255 (6.5) | SV | 18/3 | 0.500 - 0.515 | 0.450 (11.4) | 0.100 (2.5) | 0.438 (11.1) | 0.578 (14.7) |
| | | | 0.255 (6.5) | SVT | 18/3 | 0.500 - 0.515 | 0.450 (11.4) | 0.100 (2.5) | 0.438 (11.1) | 0.578 (14.7) |
| | | | 0.290 (7.4) | HPD | 16/2 | 0.500 - 0.515 | 0.450 (11.4) | 0.100 (2.5) | 0.438 (11.1) | 0.578 (14.7) |
| ESR5W1 | MP5W1 | FLAT | 0.120 X 0.300 (3.0 X 7.6) | SPT-2 | 18/3 | 0.562 (14.3) | 0.530 (13.5) | 0.125 (3.2) | 0.609 (15.5) | 0.625 (15.9) |
| | | | 0.160 X 0.300 (4.1 X 7.6) | SPT-2 | 16/2 | 0.562 (14.3) | 0.530 (13.5) | 0.125 (3.2) | 0.609 (15.5) | 0.625 (15.9) |
| | | | 0.160 X 0.410 (4.1 X 10.4) | SPT-2 | 16/3 | 0.562 (14.3) | 0.530 (13.5) | 0.125 (3.2) | 0.609 (15.5) | 0.625 (15.9) |
| | | | 0.160 X 0.370 (4.1 X 9.4) | HPN | 16/3 | 0.562 (14.3) | 0.530 (13.5) | 0.125 (3.2) | 0.609 (15.5) | 0.625 (15.9) |
| ESR6N34 | MP6N34 | ROUND | 0.355 (9.0) | SJ | 16/3 | 0.625 (15.9) | 0.550 (14.0) | 0.062 (1.6) | 0.580 (14.7) | 0.703 (17.9) |
| | | | 0.405 (10.3) | SJT | 18/3 | 0.625 (15.9) | 0.550 (14.0) | 0.062 (1.6) | 0.580 (14.7) | 0.703 (17.9) |
| | | | 0.430 (10.9) | SJT | 16/3 | 0.625 (15.9) | 0.550 (14.0) | 0.062 (1.6) | 0.580 (14.7) | 0.703 (17.9) |
| ESR6N35 | MP6N35 | ROUND | 0.390 (9.9) | SJO | 18/2 | 0.625 (15.9) | 0.550 (14.0) | 0.062 (1.6) | 0.580 (14.7) | 0.703 (17.9) |
| | | | 0.390 (9.9) | SJ | 18/2 | 0.625 (15.9) | 0.550 (14.0) | 0.062 (1.6) | 0.580 (14.7) | 0.703 (17.9) |
| | | | 0.405 (10.3) | SJT | 16/2 | 0.625 (15.9) | 0.550 (14.0) | 0.062 (1.6) | 0.580 (14.7) | 0.703 (17.9) |
| | | | 0.405 (10.3) | SJO | 16/2 | 0.625 (15.9) | 0.550 (14.0) | 0.062 (1.6) | 0.580 (14.7) | 0.703 (17.9) |
| | | | 0.390 (9.9) | SJT | 18/2 | 0.625 (15.9) | 0.550 (14.0) | 0.062 (1.6) | 0.580 (14.7) | 0.703 (17.9) |
| ESR6N4 | MP6N4 | ROUND | 0.300 (7.2) | SJT | 18/2 | 0.625 (15.9) | 0.550 (14.0) | 0.062 (1.6) | 0.580 (14.7) | 0.703 (17.9) |
| | | | 0.300 (7.2) | SJO | 18/2 | 0.625 (15.9) | 0.550 (14.0) | 0.062 (1.6) | 0.580 (14.7) | 0.703 (17.9) |
| ESR6N44 | MP6N44 | FLAT | 0.120 X 0.300 (3.0 X 7.6) | SPT-1 | 18/3 | 0.625 (15.9) | 0.570 (14.4) | 0.062 (1.6) | 0.600 (15.2) | 0.690 (17.5) |
| ESR6P34 | MP6P34 | ROUND | 0.325 X 0.360 (8.3 X 9.1) | SJ | 18/3 | 0.625 (15.9) | 0.550 (14.0) | 0.125 (3.2) | 0.580 (14.7) | 0.703 (17.9) |
| | | | 0.325 X 0.360 (8.3 X 9.1) | SJT | 16/3, 18/3 | 0.625 (15.9) | 0.550 (14.0) | 0.125 (3.2) | 0.580 (14.7) | 0.703 (17.9) |
| | | | 0.325 X 0.360 (8.3 X 9.1) | SJO | 18/3 | 0.625 (15.9) | 0.550 (14.0) | 0.125 (3.2) | 0.580 (14.7) | 0.703 (17.9) |
| ESR6P35 | MP6P35 | ROUND | 0.325 X 0.360 (8.3 X 9.1) | SJ | 18/2, 18/3, 16/2 | 0.625 (15.9) | 0.550 (14.0) | 0.125 (3.2) | 0.580 (14.7) | 0.703 (17.9) |
| | | | 0.325 X 0.360 (8.3 X 9.1) | SJT | 16/2, 18/2 | 0.625 (15.9) | 0.550 (14.0) | 0.125 (3.2) | 0.580 (14.7) | 0.703 (17.9) |
| | | | 0.325 X 0.360 (8.3 X 9.1) | SJO | 18/2, 18/3, 16/2 | 0.625 (15.9) | 0.550 (14.0) | 0.125 (3.2) | 0.580 (14.7) | 0.703 (17.9) |

# STRAIN RELIEF BUSHINGS
# STRAIGHT THROUGH TYPE



## Strain Relief Bushings - Straight Through Type (cont'd)

| DESCRIPTION | | | | | | DIMENSIONS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| ITEM NUMBER | UL / CSA DESCRIPTION | CROSS SECTION | CABLE SIZE | CABLE TYPE | GAUGE (AWG) | MOUNTING HOLE | | MAX PANEL THICKNESS | BUSHINGS | |
| | | | | | | DIAMETER | FLATS | | LENGTH | WIDTH |
| ESR6P4 | MP6P4 | ROUND | 0.300 (7.6) | SJ | 18/2 | 0.625 (15.9) | 0.550 (14.0) | 0.125 (3.2) | 0.580 (14.7) | 0.703 (17.9) |
| | | | 0.300 (7.6) | SJT | 18/2 | 0.625 (15.9) | 0.550 (14.0) | 0.125 (3.2) | 0.580 (14.7) | 0.703 (17.9) |
| | | | 0.300 (7.6) | SJO | 18/2 | 0.625 (15.9) | 0.550 (14.0) | 0.125 (3.2) | 0.580 (14.7) | 0.703 (17.9) |
| ESR6L1 | MP6L1 | ROUND | 0.325 X 0.430 (8.3 X 10.9) | SJ | 18/2, 18/3, 16/2 | 0.625 (15.9) | 0.550 (14.0) | 0.125 (3.2) | 0.580 (14.7) | 0.703 (17.9) |
| | | | 0.325 X 0.430 (8.3 X 10.9) | SJT | 18/2, 18/3, 16/2 | 0.625 (15.9) | 0.550 (14.0) | 0.125 (3.2) | 0.580 (14.7) | 0.703 (17.9) |
| | | | 0.325 X 0.430 (8.3 X 10.9) | SJO | 18/2, 18/3, 16/2 | 0.625 (15.9) | 0.550 (14.0) | 0.125 (3.2) | 0.580 (14.7) | 0.703 (17.9) |
| ESR6W1 | MP6W1 | ROUND | 0.300 (7.6) | SJ | 18/2 | 0.500 (12.7) | 0.465 (11.8) | 0.090 (2.3) | 0.437 (11.1) | 0.563 (14.3) |
| | | | 0.300 (7.6) | SJT | 18/2 | 0.500 (12.7) | 0.465 (11.8) | 0.090 (2.3) | 0.437 (11.1) | 0.563 (14.3) |
| | | | 0.300 (7.6) | SJO | 18/2 | 0.500 (12.7) | 0.465 (11.8) | 0.090 (2.3) | 0.437 (11.1) | 0.563 (14.3) |
| ESR7K2 | MP7K2 | ROUND | 0.325 X 0.360 (8.3 X 9.1) | SJ | 18/4, 16/2, 16/3, 14/2 | 0.875 (22.2) | 0.770 (19.6) | 0.125 (3.2) | 0.750 (19.1) | 0.922 (23.4) |
| | | | 0.325 X 0.360 (8.3 X 9.1) | SJT | 18/3, 16/3 | 0.875 (22.2) | 0.770 (19.6) | 0.125 (3.2) | 0.750 (19.1) | 0.922 (23.4) |
| | | | 0.325 X 0.360 (8.3 X 9.1) | SJO | 14/2, 16/3, 18/4 | 0.875 (22.2) | 0.770 (19.6) | 0.125 (3.2) | 0.750 (19.1) | 0.922 (23.4) |
| ESR7K3 | MP7K3 | ROUND | 0.325 X 0.360 (8.3 X 9.1) | SJ | 18/3, 16/2 | 0.875 (22.2) | 0.770 (19.6) | 0.125 (3.2) | 0.750 (19.1) | 0.922 (23.4) |
| | | | 0.325 X 0.360 (8.3 X 9.1) | SJT | 16/2 | 0.875 (22.2) | 0.770 (19.6) | 0.125 (3.2) | 0.750 (19.1) | 0.922 (23.4) |
| | | | 0.325 X 0.360 (8.3 X 9.1) | SJO | 18/3, 16/2 | 0.875 (22.2) | 0.770 (19.6) | 0.125 (3.2) | 0.750 (19.1) | 0.922 (23.4) |
| ESR7P2 | MP7P2 | ROUND | 0.360 (9.1) | SJTO | 18/4 | 0.750 (19.0) | 0.660 (16.8) | 0.125 (3.2) | 0.745 (18.9) | 0.830 (21.0) |
| | | | 0.370 (9.4) | SJT | 14/3 | 0.750 (19.0) | 0.660 (16.8) | 0.125 (3.2) | 0.745 (18.9) | 0.830 (21.0) |
| | | | 0.405 (10.3) | S | 18/3 | 0.750 (19.0) | 0.660 (16.8) | 0.125 (3.2) | 0.745 (18.9) | 0.830 (21.0) |
| | | | 0.430 (10.9) | S | 16/3 | 0.750 (19.0) | 0.660 (16.8) | 0.125 (3.2) | 0.745 (18.9) | 0.830 (21.0) |
| | | | 0.405 (10.3) | DTO | 18/3 | 0.750 (19.0) | 0.660 (16.8) | 0.125 (3.2) | 0.745 (18.9) | 0.830 (21.0) |
| | | | 0.430 (10.9) | STO | 16/3 | 0.750 (19.0) | 0.660 (16.8) | 0.125 (3.2) | 0.745 (18.9) | 0.830 (21.0) |
| | | | 0.405 (10.3) | S | 16/2 | 0.750 (19.0) | 0.660 (16.8) | 0.125 (3.2) | 0.745 (18.9) | 0.830 (21.0) |
| | | | 0.390 (9.9) | S | 18/2 | 0.750 (19.0) | 0.660 (16.8) | 0.125 (3.2) | 0.745 (18.9) | 0.830 (21.0) |
| | | | 0.390 (9.9) | STO | 18/2 | 0.750 (19.0) | 0.660 (16.8) | 0.125 (3.2) | 0.745 (18.9) | 0.830 (21.0) |
| | | | 0.405 (10.3) | STO | 16/2 | 0.750 (19.0) | 0.660 (16.8) | 0.125 (3.2) | 0.745 (18.9) | 0.830 (21.0) |
| ESR7P3 | MP7P3 | FLAT | 0.160 X 0.410 (4.1 X 10.4) | SPT-2 | 16/3 | 0.736 (18.7) | 0.657 (16.7) | 0.125 (3.2) | 0.590 (14.9) | 0.785 (19.9) |
| ESR7W2 | MP7W2 | ROUND | 0.370 X 0.425 (9.4 X 10.8) | SJT | 14/3, 12/3 | 0.875 (22.2) | 0.770 (19.6) | 0.125 (3.2) | 0.750 (19.1) | 0.922 (23.4) |
| | | | 0.390 X 0.430 (9.9 X 10.9) | S | 18/3, 16/3 | 0.875 (22.2) | 0.770 (19.6) | 0.125 (3.2) | 0.750 (19.1) | 0.922 (23.4) |
| | | | 0.390 X 0.430 (9.9 X 10.9) | STO | 16/2, 16/3, 18/3 | 0.875 (22.2) | 0.770 (19.6) | 0.125 (3.2) | 0.750 (19.1) | 0.922 (23.4) |
| ESR8P2 | MP8P2 | ROUND | 0.530 X 0.600 (13.5 X 15.2) | S | 14/2, 14/3 | 0.875 (22.2) | 0.840 (21.3) | 0.125 (3.2) | 0.812 (20.6) | 0.922 (23.4) |
| | | | 0.530 X 0.600 (13.5 X 15.2) | ST | 12/2 | 0.875 (22.2) | 0.840 (21.3) | 0.125 (3.2) | 0.812 (20.6) | 0.922 (23.4) |
| ESR9P2 | MP9P2 | ROUND | 0.570 (14.4) | S | 12/2 | 1.093 (27.7) | 1.000 (25.4) | 0.281 (7.1) | 0.990 (25.1) | 1.215 (30.8) |
| | | | 0.640 (16.3) | S | 12/3 | 1.125 (28.6) | 1.000 (25.4) | 0.281 (7.1) | 0.990 (25.1) | 1.215 (30.8) |
| | | | 0.650 (16.5) | S | 10/2 | 1.093 (27.7) | 1.000 (25.4) | 0.281 (7.1) | 0.990 (25.1) | 1.215 (30.8) |
| | | | 0.700 (17.7) | S | 10/3 | 1.187 (30.1) | 1.000 (25.4) | 0.281 (7.1) | 0.990 (25.1) | 1.215 (30.8) |

# STRAIN RELIEF BUSHINGS
# STRAIGHT THROUGH TYPE



## Strain Relief Bushings - Straight Through Type (cont'd)

| DESCRIPTION | | | | | | DIMENSIONS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| ITEM NUMBER | UL / CSA DESCRIPTION | CROSS SECTION | CABLE SIZE | CABLE TYPE | GAUGE (AWG) | MOUNTING HOLE | | MAX PANEL THICKNESS | BUSHINGS | |
| | | | | | | DIAMETER | FLATS | | LENGTH | WIDTH |
| ESR30-10 | MP30-1 | FLAT | 0.160 X 0.410 (4.1 X 10.4) | SPT-2 | 16/3 | 0.560 (14.2) | 0.730 (18.5) | 0.125 (3.2) | 0.670 (17.0) | 0.750 (19.6) |
| ESR30-20 | MP30-2 | FLAT | 0.120 X 0.300 (3.0 X 7.6) | SPT-1 | 18/3 | 0.625 / 0.375 (15.9 / 9.5) | 0.625 (15.9) | 0.100 (2.5) | 0.460 (11.6) | 0.660 (16.7) |
| | | | 0.150 X 0.400 (3.8 X 10.1) | SPT-2 | 18/3 | 0.625 / 0.375 (15.9 / 9.5) | 0.625 (15.9) | 0.100 (2.5) | 0.460 (11.6) | 0.660 (16.7) |
| | | | 0.160 X 0.410 (4.1 X 10.4) | SPT-2 | 16/3 | 0.625 / 0.375 (15.9 / 9.5) | 0.625 (15.9) | 0.100 (2.5) | 0.460 (11.6) | 0.660 (16.7) |
| ESR31-20 | MP31-2 | FLAT | 0.320 X 0.650 (8.1 X 16.5) | SPT-3 | 12/3 | 0.875 (22.2) | 0.840 (21.3) | 0.125 (3.2) | 0.812 (20.6) | 0.922 (23.4) |
| | | ROUND | 0.425 X 0.475 (10.8 X 12.1) | SJT | 12/3 | 0.875 (22.2) | 0.840 (21.3) | 0.125 (3.2) | 0.812 (20.6) | 0.922 (23.4) |
| ESR33-10 | MP33-10 | FLAT | 0.180 X 0.425 (4.5 X 10.8) | SPT-3 | 16/3 | 0.750 / 0.875 (19.1 / 22.2) | 0.875 (22.2) | 0.125 (3.2) | 0.770 (19.5) | 0.895 (22.7) |
| | | | 0.245 X 0.425 (6.2 X 10.8) | SPT-3 | 14/2 | 0.750 / 0.875 (19.1 / 22.2) | 0.875 (22.2) | 0.125 (3.2) | 0.770 (19.5) | 0.895 (22.7) |
| | | | 0.240 X 0.420 (6.1 X 10.7) | SPT-3 | 14/3 | 0.750 / 0.875 (19.1 / 22.2) | 0.875 (22.2) | 0.125 (3.2) | 0.770 (19.5) | 0.895 (22.7) |
| | | | 0.240 X 0.525 (6.1 X 13.3) | HPN | 14/3 | 0.750 / 0.875 (19.1 / 22.2) | 0.875 (22.2) | 0.125 (3.2) | 0.770 (19.5) | 0.895 (22.7) |
| ESR34-2 | MP34-2 | FLAT | 0.240 X 0.420 (6.1 X 10.7) | SPT-3 | 14/3 | 0.875 (22.2) | 0.840 (21.3) | 0.125 (3.2) | 0.812 (20.6) | 0.922 (23.4) |
| | | | 0.290 X 0.650 (7.4 X 16.5) | SPT-3 | 12/3 | 0.875 (22.2) | 0.840 (21.3) | 0.125 (3.2) | 0.812 (20.6) | 0.922 (23.4) |
| ESR34-2X | MP34-2X | FLAT | 0.240 X 0.420 (6.1 X 10.7) | SPT-3 | 14/3, 12/3 | 0.875 (22.2) | 0.840 (21.3) | 0.125 (3.2) | 0.812 (20.6) | 0.922 (23.4) |

## Strain Relief Bushings - 90° Angle Style

| DESCRIPTION | | | | | | DIMENSIONS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| ITEM NUMBER | UL / CSA DESCRIPTION | CROSS SECTION | CABLE SIZE | CABLE TYPE | GAUGE (AWG) | MOUNTING HOLE | | MAX PANEL THICKNESS | BUSHINGS | |
| | | | | | | DIAMETER | FLATS | | LENGTH | WIDTH |
| ESR13L1 | MP13L1 | FLAT | 0.120 X 0.220 (3.1 X 5.6) | SPT-1 | 18/2 | 0.437 (11.1) | 0.390 (9.9) | 0.062 (1.6) | 0.500 (12.7) | 0.510 (12.9) |
| ESR14L1 | MP14L1 | FLAT | 0.150 X 0.280 (3.8 X 7.1) | SPT-2 | 18/2, 16/2 | 0.500 (12.7) | 0.450 (11.4) | 0.100 (2.5) | 0.687 (17.5) | 0.563 (14.3) |
| | | | 0.160 X 0.300 (4.1 X 7.6) | HPN | 16/2 | 0.500 (12.7) | 0.450 (11.4) | 0.100 (2.5) | 0.687 (17.5) | 0.563 (14.3) |
| ESR15L1 | MP15L1 | ROUND | 0.250 X 0.265 (6.4 X 6.7) | SVT | 18/2, 18/3 | 0.500 (12.7) | 0.450 (11.4) | 0.100 (2.5) | 0.687 (17.5) | 0.563 (14.3) |

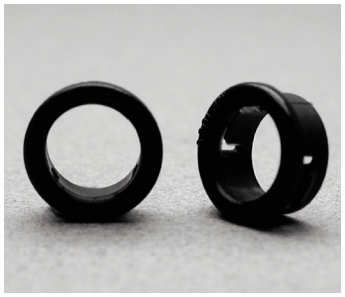
## Strain Relief Bushings - Style ?

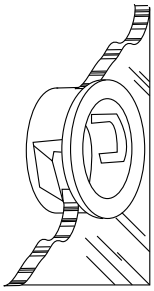
| DESCRIPTION | | | | | | DIMENSIONS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| ITEM NUMBER | UL / CSA DESCRIPTION | CROSS SECTION | CABLE SIZE | CABLE TYPE | GAUGE (AWG) | MOUNTING HOLE | | MAX PANEL THICKNESS | BUSHINGS | |
| | | | | | | DIAMETER | FLATS | | LENGTH | WIDTH |
| ESR1410 | MP14L1 | FLAT | 0.150 X 0.300 (3.8 X 7.6) | SPT-2 | 18/2, 16/2 | 0.500 (12.7) | 0.450 (11.4) | 0.100 (2.5) | 0.687 (17.5) | 0.563 (14.3) |
| ESR1510 | MP15L1 | ROUND | 0.250 X 0.265 (6.4 X 6.7) | SVT | 18/2, 18/3 | 0.500 (12.7) | 0.450 (11.4) | 0.100 (2.5) | 0.687 (17.5) | 0.563 (14.3) |

# INSULATING BUSHINGS



## Insulating Bushings - Miniature Bushings Series





| ITEM NUMBER | INSIDE DIAMETER A | HEAD DIAMETER B | THICKNESS C | PANEL HOLE DIAMETER |
|---|---|---|---|---|
| MB187-125 | .125 (3.2) | .250 (6.4) | .234 (6.2) | .187 (4.8) |
| MB312-250 | .250 (6.4) | .375 (9.5) | .234 (6.2) | .312 (8.0) |
| MB468-343 | .343 (8.8) | .531 (13.5) | .250 (6.4) | .468 (11.9) |
| MB500-375 | .375 (9.5) | .562 (14.3) | .250 (6.4) | .500 (12.7) |
| MB531-406 | .406 (10.3) | .593 (15.2) | .250 (6.4) | .531 (13.5) |
| MB625-500 | .500 (12.7) | .703 (17.9) | .250 (6.4) | .625 (15.9) |
| MB750-625 | .625 (16.0) | .828 (21.0) | .250 (6.4) | .750 (19.0) |
| MB781-625 | .625 (16.0) | .859 (21.5) | .250 (6.4) | .781 (19.9) |
| MB875-750 | .750 (19.0) | .937 (23.8) | .250 (6.4) | .875 (22.2) |

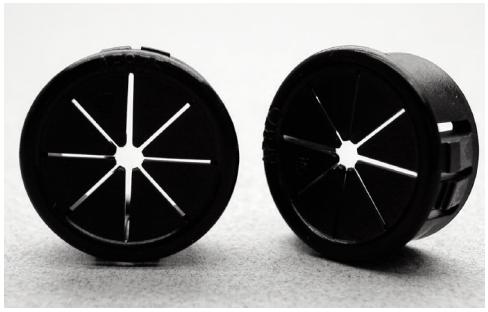
### Insulating Bushings - Miniature Series

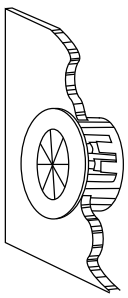
These bushings are the economical solution to insulate wires, cables, etc. from raw edges in compact designs where internal clearances are critical. Miniature bushings accommodate panels up to 1/16" thickness and require only 1/8" clearance. Material: Nylon 6/6 UL 94V2, Temperature Index 105°C. Stocked in Standard Black; colours available upon request.



## Insulating Bushings - All-Fit Adjustable Series

| ITEM NUMBER | CHASSIS DIMENSIONS | | PART DIMENSIONS | | |
|---|---|---|---|---|---|
| | HOLE DIAMETER | MAX THICKNESS | HEAD DIAMETER | THICKNESS | MAXIMUM ID |
| UBE625 | .625 (15.9) | .125 (3.2) | .718 (18.2) | .406 (10.3) | .437 (11.1) |
| UBE750 | .750 (19.0) | .125 (3.2) | .859 (21.8) | .390 (9.9) | .500 (12.7) |
| UBE812 | .812 (20.6) | .125 (3.2) | .890 (22.6) | .390 (9.9) | .500 (12.7) |
| UBE875 | .875 (22.2) | .125 (3.2) | .937 (23.8) | .453 (11.5) | .562 (14.3) |
| UBE1000 | 1.000 (25.4) | .125 (3.2) | 1.062 (26.9) | .453 (11.5) | .750 (19.0) |
| UBE1093 | 1.093 (27.8) | .125 (3.2) | 1.156 (29.3) | .453 (11.5) | .812 (20.6) |





### Insulating Bushings - All-Fit Series

Etlin Nylon "All-Fit" Adjustable Bushings are designed to protect wire, cable, tubing or irregular shaped items from sharp, unfinished edges. The specially designed, resilient multiple supports absorb shock and vibration, and adjust to accept various diameters and shapes.

The All-Fit Bushing is equipped with multiple locks to positively snap in panel thickness' ranging from 1/32" to 1/8". Bushings are molded and stocked in Black heat stabilized nylon.

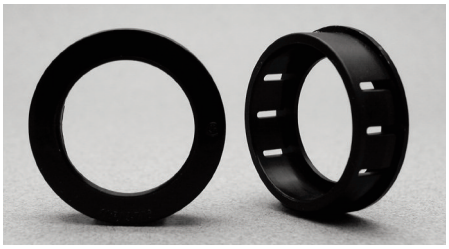
Certifications:
UR
CSA

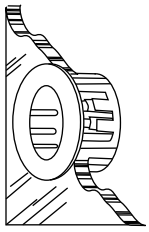
# INSULATING BUSHINGS



## Insulating Bushings - Standard Series

| ITEM NUMBER | PART DIMENSIONS | | | CHASSIS DIMENSIONS | |
|---|---|---|---|---|---|
| | INSIDE DIAMETER A | HEAD DIAMETER B | THICKNESS C | HOLE DIAMETER | MAX THICKNESS |
| SBE250-2 | .125 (3.2) | .312 (8.0) | .312 (8.0) | .250 (6.4) | .062 (1.6) |
| SBE312-3 | .187 (4.8) | .375 (9.5) | .312 (8.0) | .312 (8.0) | .062 (1.6) |
| SBE375-3 | .187 (4.8) | .468 (11.9) | .406 (10.3) | .375 (9.5) | .125 (3.2) |
| SBE375-4 | .250 (6.4) | .468 (11.9) | .406 (10.3) | .375 (9.5) | .125 (3.2) |
| SBE437-4 | .250 (6.4) | .531 (13.5) | .406 (10.3) | .437 (11.1) | .125 (3.2) |
| SBE437-5 | .312 (8.0) | .531 (13.5) | .406 (10.3) | .437 (11.1) | .125 (3.2) |
| SBE437-6 | .243 (6.2) | .531 (13.5) | .406 (10.3) | .437 (11.1) | .125 (3.2) |
| SBE500-4 | .250 (6.4) | .578 (14.7) | .406 (10.3) | .500 (12.7) | .125 (3.2) |
| SBE500-5 | .312 (8.0) | .578 (14.7) | .406 (10.3) | .500 (12.7) | .125 (3.2) |
| SBE500-6 | .375 (9.5) | .578 (14.7) | .406 (10.3) | .500 (12.7) | .125 (3.2) |
| SBE562-5 | .312 (8.0) | .656 (16.7) | .406 (10.3) | .562 (14.3) | .125 (3.2) |
| SBE562-6 | .375 (9.5) | .656 (16.7) | .406 (10.3) | .562 (14.3) | .125 (3.2) |
| SBE562-7 | .437 (11.1) | .656 (16.7) | .406 (10.3) | .562 (14.3) | .125 (3.2) |
| SBE625-4 | .250 (6.4) | .718 (18.2) | .406 (10.3) | .625 (15.9) | .125 (3.2) |
| SBE625-7 | .437 (11.1) | .718 (18.2) | .406 (10.3) | .625 (15.9) | .125 (3.2) |
| SBE625-8 | .500 (12.7) | .718 (18.2) | .406 (10.3) | .625 (15.9) | .125 (3.2) |
| SBE687-8 | .500 (12.7) | .781 (19.8) | .406 (10.3) | .687 (17.4) | .125 (3.2) |
| SBE687-9 | .562 (14.3) | .781 (19.8) | .406 (10.3) | .687 (17.4) | .125 (3.2) |
| SBE750-6 | .375 (9.5) | .843 (21.4) | .406 (10.3) | .750 (19.0) | .125 (3.2) |
| SBE750-8 | .500 (12.7) | .843 (21.4) | .406 (10.3) | .750 (19.0) | .125 (3.2) |
| SBE750-9 | .562 (14.3) | .843 (21.4) | .406 (10.3) | .750 (19.0) | .125 (3.2) |
| SBE750-10 | .625 (15.9) | .843 (21.4) | .406 (10.3) | .750 (19.0) | .125 (3.2) |
| SBE812-9 | .562 (14.3) | .890 (22.6) | .406 (10.3) | .812 (20.6) | .125 (3.2) |
| SBE812-10 | .625 (15.9) | .890 (22.6) | .406 (10.3) | .812 (20.6) | .125 (3.2) |
| SBE875-6 | .375 (9.5) | .953 (24.2) | .453 (11.5) | .875 (20.6) | .125 (3.2) |
| SBE875-7 | .437 (11.1) | .953 (24.2) | .453 (11.5) | .875 (20.6) | .125 (3.2) |
| SBE875-8 | .500 (12.7) | .953 (24.2) | .453 (11.5) | .875 (20.6) | .125 (3.2) |
| SBE875-9 | .562 (14.3) | .953 (24.2) | .453 (11.5) | .875 (20.6) | .125 (3.2) |
| SBE875-10 | .625 (15.9) | .953 (24.2) | .453 (11.5) | .875 (20.6) | .125 (3.2) |
| SBE875-11 | .687 (17.4) | .953 (24.2) | .453 (11.5) | .875 (20.6) | .125 (3.2) |
| SBE1000-12 | .750 (19.0) | 1.125 (28.6) | .453 (11.5) | 1.000 (25.4) | .125 (3.2) |
| SBE1093-13 | .812 (20.6) | 1.218 (30.9) | .453 (11.5) | 1.093 (27.8) | .125 (3.2) |
| SBE1093-14 | .875 (22.2) | 1.218 (30.9) | .453 (11.5) | 1.093 (27.8) | .125 (3.2) |
| SBE1093-15 | .937 (23.8) | 1.218 (30.9) | .453 (11.5) | 1.093 (27.8) | .125 (3.2) |
| SBE1187-15 | .937 (23.8) | 1.312 (33.3) | .453 (11.5) | 1.187 (30.2) | .125 (3.2) |
| SBE1250-15 | .937 (23.8) | 1.468 (37.3) | .453 (11.5) | 1.250 (31.7) | .125 (3.2) |
| SBE1375-16 | 1.000 (25.4) | 1.468 (37.3) | .453 (11.5) | 1.375 (34.9) | .125 (3.2) |
| SBE1500-17 | 1.062 (27.0) | 1.609 (40.9) | .453 (11.5) | 1.500 (38.1) | .125 (3.2) |
| SBE1500-18 | 1.125 (28.5) | 1.609 (40.9) | .453 (11.5) | 1.500 (38.1) | .125 (3.2) |
| SBE1500-21 | 1.312 (30.1) | 1.609 (40.9) | .453 (11.5) | 1.500 (38.1) | .125 (3.2) |
| SBE1750-22 | 1.375 (34.9) | 1.875 (47.6) | .453 (11.5) | 1.750 (44.4) | .125 (3.2) |
| SBE2000-26 | 1.625 (41.2) | 2.125 (54.0) | .453 (11.5) | 2.000 (50.8) | .125 (3.2) |





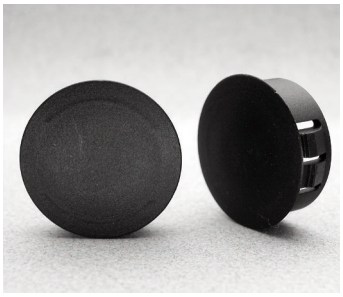
### Insulating Bushings – Standard Series

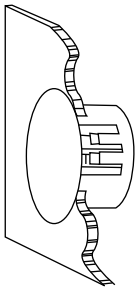
These bushings are available in a large selection of sizes from ¼" to 2" in various inside diameter openings. Standard bushings are designed with multiple locks to positively snap in panels ranging from 1/32" to ⅛" thickness. Standard bushings meet UL and CSA temperature and pull-out tests.

# SNAP-IN HOLE PLUGS



## Snap-In Hole Plugs - Standard Series





| ITEM NUMBER | CHASSIS DIMENSIONS | | PART DIMENSIONS | |
|---|---|---|---|---|
| | HOLE DIAMETER | MAXIMUM THICKNESS | HEAD DIAMETER | THICKNESS |
| DPE-187 | .187 (4.8) | .062 (1.6) | .250 (6.4) | .234 (5.9) |
| DPE-250 | .250 (6.4) | .062 (1.6) | .312 (8.0) | .312 (8.0) |
| DPE-312 | .312 (8.0) | .062 (1.6) | .375 (9.5) | .312 (8.0) |
| DPE-375 | .375 (9.5) | .125 (3.2) | .468 (12.0) | .406 (10.3) |
| DPE-437 | .437 (11.1) | .125 (3.2) | .531 (13.5) | .406 (10.3) |
| DPE-500 | .500 (12.7) | .125 (3.2) | .578 (14.6) | .406 (10.3) |
| DPE-562 | .562 (14.3) | .125 (3.2) | .656 (16.7) | .406 (10.3) |
| DPE-625 | .625 (15.9) | .125 (3.2) | .718 (18.2) | .406 (10.3) |
| DPE-687 | .687 (17.5) | .125 (3.2) | .781 (20.0) | .406 (10.3) |
| DPE-750 | .750 (19.0) | .125 (3.2) | .922 (23.2) | .406 (10.3) |
| DPE-812 | .812 (20.6) | .125 (3.2) | .890 (22.6) | .406 (10.3) |
| DPE-875 | .875 (22.2) | .125 (3.2) | 1.016 (25.8) | .453 (11.5) |
| DPE-1000 | 1.000 (25.4) | .125 (3.2) | 1.203 (30.5) | .453 (11.5) |
| DPE-1093 | 1.093 (28.0) | .125 (3.2) | 1.218 (31.0) | .453 (11.5) |
| DPE-1187 | 1.187 (30.1) | .125 (3.2) | 1.312 (33.3) | .453 (11.5) |
| DPE-1250 | 1.250 (32.0) | .125 (3.2) | 1.375 (34.9) | .453 (11.5) |
| DPE-1375 | 1.375 (35.0) | .125 (3.2) | 1.500 (38.0) | .453 (11.5) |
| DPE-1500 | 1.500 (38.0) | .125 (3.2) | 1.672 (42.7) | .453 (11.5) |
| DPE-1750 | 1.750 (45.0) | .125 (3.2) | 1.906 (48.4) | .453 (11.5) |
| DPE-2000 | 2.000 (51.0) | .125 (3.2) | 2.140 (55.0) | .453 (11.5) |
| DPE-2500 | 2.500 (63.5) | .125 (3.2) | 2.700 (68.6) | .453 (11.5) |

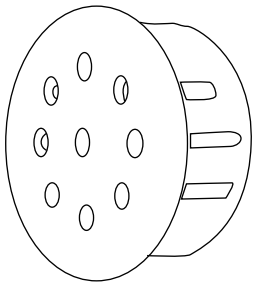
### Snap-In Hole Plugs – Standard Series

Nylon Locking Hole Plugs are available in a large selection of sizes from 3⁄16" to 2½". These hole plugs are designed with multiple locks to positively snap in panel thickness' ranging from 1⁄64" to 1⁄8".

Locking Hole Plugs are used to close excess chassis holes, wiring outlets, and production access holes. These hole plugs are molded of heat stabilized nylon (UL 94V2) and may be more suitable for critical or elevated temperature applications.



## Snap-In Vent Plugs



| ITEM NUMBER | CHASSIS DIMENSIONS | | PART DIMENSIONS | |
|---|---|---|---|---|
| | HOLE DIAMETER | MAXIMUM THICKNESS | HEAD DIAMETER | THICKNESS |
| VP875 | .875 (22.2) | .125 (3.2) | 1.016 (25.8) | .453 (11.5) |
| VP1000 | 1.000 (25.4) | .125 (3.2) | 1.203 (30.6) | .453 (11.5) |

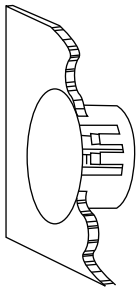
### Snap-In Vent Plugs

Vent Plugs are available in the 7⁄8" and 1" diameters. Locking hole plugs are stocked in Black. Other colours are available in volume requirements.

# SNAP-IN HOLE PLUGS



## Poly Hole Plugs



Etlin economical snap-in Poly Plugs will close unneeded chassis holes, wiring outlets, fill unused accessory openings, cover inspection and production access holes. They can be used as tube end caps and protective bumpers. Poly Plugs are molded in Nylon 6/6, which is abrasion and vibration resistant, making them ideal for drawer glides and small appliance feet. Poly Plugs are designed with special flexible and tapered prongs which snugly lock in place with finger pressure, but can be removed and reused when necessary. Parts can be furnished in natural nylon or dyed in colours. Poly Plugs are available in smooth, gloss finish or dull, matte finish.

**Bold part numbers are stock items. All others are a special order.**

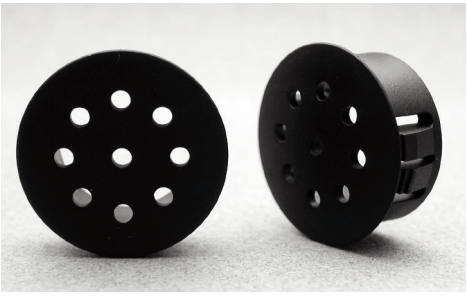
| ITEM NUMBER | HEAD STYLE | FINISH | HOLE SIZE A | PANEL THICKNESS B | HEAD SIZE D | HEAD HEIGHT H |
|---|---|---|---|---|---|---|
| PP187BS | BINDER | SMOOTH | .187 (4.75) | .031/.140 (0.79/3.56) | 11/32 (8.74) | .040 (1.02) |
| PP187BM | BINDER | MATTE | .187 (4.75) | .031/.140 (0.79/3.56) | 11/32 (8.74) | .040 (1.02) |
| PP218DS | DOME | SMOOTH | .218 (5.54) | .031/.062 (0.79/1.58) | 3/8 (9.53) | .250 (6.35) |
| PP250BS | BINDER | SMOOTH | .250 (6.35) | .031/.062 (0.79/1.58) | 27/64 (10.72) | .040 (1.02) |
| PP250BM | BINDER | MATTE | .250 (6.35) | .031/.062 (0.79/1.58) | 27/64 (10.72) | .040 (1.02) |
| PP312BS | BINDER | SMOOTH | .312 (7.93) | .031/.140 (0.79/3.56) | 29/64 (11.51) | .050 (1.27) |
| PP312BM | BINDER | MATTE | .312 (7.93) | .031/.140 (0.79/3.56) | 29/64 (11.51) | .050 (1.27) |
| PP125BS | BINDER | SMOOTH | .125 (3.18) | .031/.094 (0.79/2.39) | 13/64 (5.16) | .040 (1.02) |
| PP150BS | BINDER | SMOOTH | .150 (3.81) | .031/.094 (0.79/2.39) | 1/4 (6.35) | .040 (1.02) |
| PP375BS | BINDER | SMOOTH | .375 (9.53) | .031/.140 (0.79/3.56) | 43/64 (17.07) | .062 (1.58) |
| PP375BS-1 | BINDER | SMOOTH | .375 (9.53) | .031/.140 (0.79/3.56) | 37/64 (14.68) | .050 (1.27) |
| PP375BM | BINDER | MATTE | .375 (9.53) | .031/.140 (0.79/3.56) | 37/64 (14.68) | .050 (1.27) |
| PP437BS | BINDER | SMOOTH | .437 (11.1) | .031/.171 (0.79/4.34) | 39/64 (15.47) | .050 (1.27) |
| PP437BM | BINDER | MATTE | .437 (11.1) | .031/.171 (0.79/4.34) | 39/64 (15.47) | .050 (1.27) |
| PP500BS | BINDER | SMOOTH | .500 (12.7) | .031/.140 (0.79/3.56) | 43/64 (17.07) | .062 (1.58) |
| **PP500BMW** | BINDER | MATTE | .500 (12.7) | .031/.140 (0.79/3.56) | 43/64 (17.07) | .062 (1.58) |
| PP562BS | BINDER | SMOOTH | .562 (14.28) | .031/.140 (0.79/3.56) | 47/64 (18.64) | .062 (1.58) |
| PP562BM | BINDER | MATTE | .562 (14.28) | .031/.140 (0.79/3.56) | 47/64 (18.64) | .062 (1.58) |
| PP625BS | BINDER | SMOOTH | .625 (15.88) | .031/.072 (0.79/1.83) | 51/64 (20.24) | .062 (1.58) |
| **PP625BMW** | BINDER | MATTE | .625 (15.88) | .031/.072 (0.79/1.83) | 51/64 (20.24) | .062 (1.58) |
| PP687BS | BINDER | SMOOTH | .687 (17.45) | .031/.109 (0.79/2.77) | 57/64 (22.63) | .062 (1.58) |
| PP687BM | BINDER | MATTE | .687 (17.45) | .031/.109 (0.79/2.77) | 57/64 (22.63) | .062 (1.58) |
| PP750BS | BINDER | SMOOTH | .750 (19.05) | .031/.109 (0.79/2.77) | 63/64 (25.0) | .062 (1.58) |
| PP750BM | BINDER | MATTE | .750 (19.05) | .031/.109 (0.79/2.77) | 63/64 (25.0) | .062 (1.58) |
| PP787BS | BINDER | SMOOTH | .787 (20.0) | .059/.080 (1.50/2.03) | 63/64 (25.0) | .062 (1.58) |
| PP787BM | BINDER | MATTE | .787 (20.0) | .059/.080 (1.50/2.03) | 63/64 (25.0) | .062 (1.58) |
| PP812BS | BINDER | SMOOTH | .812 (20.63) | .031/.109 (0.79/2.77) | 1-1/32 (26.19) | .062 (1.58) |
| PP812BM | BINDER | MATTE | .812 (20.63) | .031/.109 (0.79/2.77) | 1-1/32 (26.19) | .062 (1.58) |
| PP875BS | BINDER | SMOOTH | .875 (22.23) | .031/.109 (0.79/2.77) | 1-5/64 (27.38) | .062 (1.58) |
| PP875BM | BINDER | MATTE | .875 (22.23) | .031/.109 (0.79/2.77) | 1-5/64 (27.38) | .062 (1.58) |
| PP1000BS | BINDER | SMOOTH | 1.000 (25.4) | .031/.109 (0.79/2.77) | 1-7/32 (30.96) | .062 (1.58) |
| PP1000BM | BINDER | MATTE | 1.000 (25.4) | .031/.109 (0.79/2.77) | 1-7/32 (30.96) | .062 (1.58) |

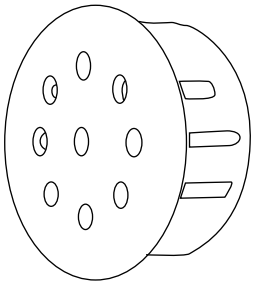
# VENT PLUGS & MISCELLANEOUS BUSHINGS



## Poly Vent Plugs

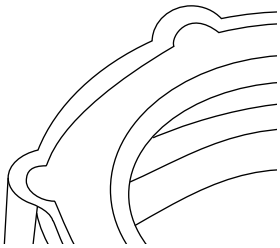
| ITEM NUMBER | HEAD STYLE | FINISH | HOLE SIZE | PANEL THICKNESS | HEAD SIZE | HEAD HEIGHT |
|---|---|---|---|---|---|---|
| VP875BM | BINDER | MATTE | .875 (22.23) | .031/.109 (0.79/2.77) | 1-5/64 (27.38) | .062 (1.58) |
| VP1000BM | BINDER | MATTE | 1.000 (25.40) | .031/.109 (0.79/2.77) | 1-7/32 (30.96) | .062 (1.58) |





Vent Plugs are available in 7⁄8" and 1" diameters.

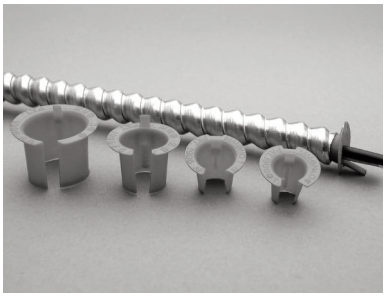
## Threaded Lampcord Bushings

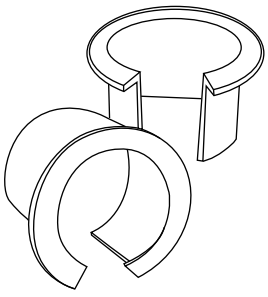


| ITEM NUMBER | FOR | A | B |
|---|---|---|---|
| 125TLP | 1/8” IPS PIPE | 19/32” | 9/32” |
| 250TLP | 1/4” IPS PIPE | 23/32” | 3/8” |
| 375TLP | 3/8” IPS PIPE | 7/8” | 15/32” |

These bushings are designed to protect the lampcord from the knife-edge of the threaded pipe used in the light fixtures. They will easily thread onto standard lamp fixture ⅛ IPS, ¼ IPS and ⅜ IPS threaded ends. They provide safe, reliable and insulated connections.

## Anti-Short Bushings



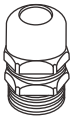


| ITEM NUMBER | CABLE SIZE | FLEX CONDUIT |
|---|---|---|
| AS-0 | 14/2 - 14/3, 12/2 | 5/16” |
| AS-1 | 14/4 - 12/3, 6/1 - 4/1 | 3/8” |
| AS-2 | 12/4 - 10/2, 10/3 - 2/1 | 7/16” |
| AS-3 | 10/4 - 8/2, 3/3 - 1/1 | 1/2” |
| AS-4 | 8/4 - 6/2, 6/3 - 4/2, 4/3 - 6/4 | 3/4” |

# LIQUID TIGHT STRAIN RELIEF CONNECTOR FOR CABLE, WIRE & TUBING



## Liquid Tight Strain Relief Connectors - Dome Style



**Dome Nut With Inside Taper:** As the dome nut is tightened the seal ring grips and holds the cable, wire or tubing positively in place.

**Lead Screw Thread:** The dome nut can be firmly tightened due to the high strength of the lead screw thread.

**Body Seal:** Annular concentric rings from a liquid tight seal between body and housing.

**Standard Colours:** Black and Grey.

**Seal and Grip Ring:** Superior pull-out resistance due to recessed configuration of the body, holding the Buna-N seal ring in place.

**Clamping Spines:** Various sizes and odd shaped cables, wires and tubing can be accommodated due to overlapping diagonally split clamping spines.

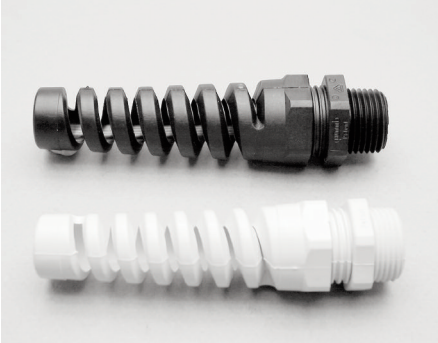
| ITEM NUMBER | CABLE DIAMETER | THREAD TYPE | DIMENSIONS | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | CLEARANCE HOLE | MAX OA DOME LENGTH | MAX OA FLEX LENGTH | THREAD LENGTH | WRENCHING NUT THICKNESS | WRENCHING FLATS |
| CD07AA-BL | .11 - .26 | PG7 | .490” | 1.17 | 2.50” | .31” | .20” | .59” |
| CD07AR-BL | .07 - .12 | PG7 | .490” | 1.17 | 2.50” | .31” | .20” | .59” |
| CD09AA-BL | .15 - .32 | PG9 | .600” | 1.34” | 3.00” | .31” | .22” | .75” |
| CD09AR-BL | .07 - .24 | PG9 | .600” | 1.34” | 3.00” | .31” | .22” | .75” |
| CD09NA-BL | .15 - .32 | 3/8” NPT | .680” | 1.59” | 3.25” | .56” | .22” | .88” |
| CD09NR-BL | .07 - .24 | 3/8” NPT | .680” | 1.59” | 3.25” | .56” | .22” | .88” |
| CD11AA-BL | .19 - .39 | PG11 | .730” | 1.50” | 3.50” | .31” | .22” | .88” |
| CD11AR-BL | .11 - .28 | PG11 | .730” | 1.50” | 3.50” | .31” | .22” | .88” |
| CD13AA-BL | .23 - .47 | PG13 | .800” | 1.56” | 4.00” | .34” | .22” | .94” |
| CD13AR-BL | .19 - .35 | PG13 | .800” | 1.56” | 4.00” | .34” | .22” | .94” |
| CD13NA-BL | .23 - .47 | 1/2” NPT | .830” | 1.77” | 4.22” | .56” | .22” | .94” |
| CD13NR-BL | .19 - .35 | 1/2” NPT | .830” | 1.77” | 4.22” | .56” | .22” | .94” |
| CD16AA-BL | .39 - .56 | PG16 | .890” | 1.69” | 4.44” | .39” | .23” | 1.06” |
| CD16AR-BL | .27 - .47 | PG16 | .890” | 1.69” | 4.44” | .39” | .23” | 1.06” |
| CD21AA-BL | .51 - .71 | PG21 | 1.120” | 1.81” | 5.00” | .44” | .23” | 1.30” |
| CD21AR-BL | .35 - .63 | PG21 | 1.120” | 1.81” | 5.00” | .44” | .23” | 1.30” |
| CD21NA-BL | .51 - .71 | 3/4” NPT | 1.050” | 1.97” | 5.12” | .56” | .28” | 1.30” |
| CD21NR-BL | .35 - .63 | 3/4” NPT | 1.050” | 1.97” | 5.12” | .56” | .28” | 1.30” |
| **DOME STYLE - SPECIAL ORDER** | | | | | | | | |
| CD29AA-BL | .70 - .98 | PG29 | 1.47” | 2.03” | -- | .44” | .30” | 1.65” |
| CD29AR-BL | .51 - .79 | PG29 | 1.47” | 2.03” | -- | .44” | .30” | 1.65” |
| CD29NA-BL | .70 - .98 | 1” NPT | 1.35” | 2.24” | -- | .75” | .28” | 1.65” |
| CD29NR-BL | .51 - .79 | 1” NPT | 1.35” | 2.24” | -- | .75” | .28” | 1.65” |
| CD29LA-BL | .70 - .98 | 1-1/4” NPT | 1.65” | 2.15” | -- | .62” | .28” | 1.65” |
| CD29LR-BL | .51 - .79 | 1-1/4” NPT | 1.65” | 2.15” | -- | .62” | .28” | 1.65” |
| CD36AA-BL | .86 - 1.26 | PG36 | 1.85” | 2.00” | -- | .51” | .32” | 2.09” |
| CD36AR-BL | .78 - 1.02 | PG36 | 1.85” | 2.00“ | -- | .51” | .32” | 2.09” |
| CD36NA-BL | .86 - 1.26 | 1-1/2” NPT | 1.92” | 2.60” | -- | .79” | .32” | 2.09” |
| CD36NR-BL | .78 - 1.02 | 1-1/2” NPT | 1.92” | 2.60” | -- | .79” | .32” | 2.09” |
| CD42AA-BL | 1.26 - 1.50 | PG42 | 2.13” | 2.16” | -- | .51” | .35” | 2.38” |
| CD42AR-BL | .98 - 1.22 | PG42 | 2.13” | 2.16” | -- | .51” | .35” | 2.38” |
| CD48AA-BL | 1.45 - 1.75 | PG48 | 2.34” | 2.13” | -- | .55” | .35” | 2.56” |
| CD48AR-BL | 1.14 - 1.38 | PG48 | 2.34” | 2.13” | -- | .55” | .35” | 2.56” |

***FOR GREY COLOUR, REPLACE ‘-BL’ WITH ‘-GR’**

# LIQUID TIGHT STRAIN RELIEF CONNECTOR FOR CABLE, WIRE & TUBING



## Liquid Tight Strain Relief Connectors - Flex Style



**Flex Protecting Extension:** Installs in either clearance or threaded holes. Kinking or caving of cable or tubing is eliminated with use of the flex connector.

**Non-Corrosive:** The Nylon strain relief connector is resistant to salt water, weak acids, weak alkalis, alcohol, esters, ketones, ether, gasoline, mineral oil, animal and vegetable oil.

**Large Range:** Ten sizes accommodate diameters from 1/16" to 1¾".

**Easy, Time Saving Installation:** Simply push cable or tubing through installed strain relief connector and tighten dome nut. No disassembly is required.

**Applications:** Underwater to 300 feet, underground for direct burial cables, control cabinets, car washes, hot tubs, instruments, carpet cleaning machines, etc.

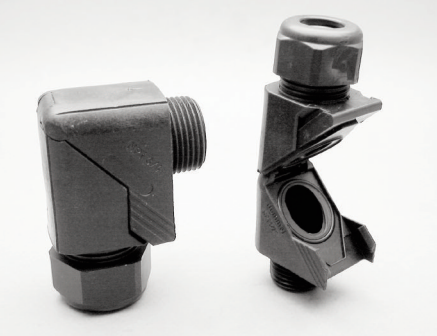
| ITEM NUMBER | CABLE DIAMETER | THREAD TYPE | DIMENSIONS | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | CLEARANCE HOLE | MAX OA DOME LENGTH | MAX OA FLEX LENGTH | THREAD LENGTH | WRENCHING NUT THICKNESS | WRENCHING FLATS |
| CF07AA-BK | .11 - .26 | PG7 | .490” | 1.17 | 2.50” | .31” | .20” | .59” |
| CF07AR-BK | .07 - .12 | PG7 | .490” | 1.17 | 2.50” | .31” | .20” | .59” |
| CF09AA-BK | .15 - .32 | PG9 | .600” | 1.34” | 3.00” | .31” | .22” | .75” |
| CF09AR-BK | .07 - .24 | PG9 | .600” | 1.34” | 3.00” | .31” | .22” | .75” |
| CF09NA-BK | .15 - .32 | 3/8” NPT | .680” | 1.59” | 3.25” | .56” | .22” | .88” |
| CF09NR-BK | .07 - .24 | 3/8” NPT | .680” | 1.59” | 3.25” | .56” | .22” | .88” |
| CF11AA-BK | .19 - .39 | PG11 | .730” | 1.50” | 3.50” | .31” | .22” | .88” |
| CF11AR-BK | .11 - .28 | PG11 | .730” | 1.50” | 3.50” | .31” | .22” | .88” |
| CF13AA-BK | .23 - .47 | PG13 | .800” | 1.56” | 4.00” | .34” | .22” | .94” |
| CF13AR-BK | .19 - .35 | PG13 | .800” | 1.56” | 4.00” | .34” | .22” | .94” |
| CF13NA-BK | .23 - .47 | 1/2” NPT | .830” | 1.77” | 4.22” | .56” | .22” | .94” |
| CF13NR-BK | .19 - .35 | 1/2” NPT | .830” | 1.77” | 4.22” | .56” | .22” | .94” |
| CF21NA-BK | .51 - .71 | 3/4” NPT | 1.050” | 1.97” | 5.12” | .56” | .28” | 1.30” |
| CF21NR-BK | .35 - .63 | 3/4” NPT | 1.050” | 1.97” | 5.12” | .56” | .28” | 1.30” |
| **FLEX STYLE - SPECIAL ORDER** | | | | | | | | |
| CF16AA-BK | .39 - .56 | PG16 | .890” | 1.69” | 4.44” | .39” | .23” | 1.06” |
| CF16AR-BK | .27 - .47 | PG16 | .890” | 1.69” | 4.44” | .39” | .23” | 1.06” |
| CF21AA-BK | .51 - .71 | PG21 | 1.12” | 1.81” | 5.00” | .44” | .23” | 1.30” |
| CF21AR-BK | .35 - .63 | PG21 | 1.12” | 1.81” | 5.00” | .44” | .23” | 1.30” |

***FOR GREY COLOUR, REPLACE ‘-BL’ WITH ‘-GR’**

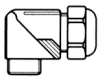
# LIQUID TIGHT STRAIN RELIEF CONNECTOR FOR CABLE, WIRE & TUBING



## Liquid Tight Strain Relief Connectiors - Dome Elbow Style



**Dome Elbow Liquidtight:**



| ITEM NUMBER | CABLE DIAMETER | THREAD TYPE | DIMENSIONS | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | CLEARANCE HOLE | MAX OA DOME LENGTH | MAX OA FLEX LENGTH | THREAD LENGTH | WRENCHING NUT THICKNESS | WRENCHING FLATS |
| ED09AA-BK | .15 - .32 | PG9 | .600” | 1.79” | 3.34” | .91” | .31” | .75” |
| ED09AR-BK | .07 - .24 | PG9 | .600” | 1.79” | 3.34” | .91” | .31” | .75” |
| ED09NA-BK | .15 - .32 | 3/8” NPT | .680” | 1.79” | 3.34” | .91” | .56” | .75” / .88” |
| ED09NR-BK | .07 - .24 | 3/8” NPT | .680” | 1.79” | 3.34” | .91” | .56” | .75” / .88” |
| ED11AA-BK | .19 - .39 | PG11 | .730” | 1.99” | 3.86” | 1.06” | .31” | .88” |
| ED11AR-BK | .11 - .28 | PG11 | .730” | 1.99” | 3.86” | 1.06” | .31” | .88” |
| ED13AA-BK | .23 - .47 | PG13 | .800” | 2.24” | 4.41” | 1.20” | .35” | .94” |
| ED13AR-BK | .19 - .35 | PG13 | .800” | 2.24” | 4.41” | 1.20” | .35” | .94” |
| ED13NA-BK | .23 - .47 | 1/2” NPT | .830” | 2.24” | 4.41” | 1.20” | .56” | .94” |
| ED13NR-BK | .19 - .35 | 1/2” NPT | .830” | 2.24” | 4.41” | 1.20” | .56” | .94” |
| ED16AA-BK | .39 - .56 | PG16 | .890” | 2.34” | 4.92” | 1.28” | .39” | 1.06” |
| ED16AR-BK | .27 - .47 | PG16 | .890” | 2.34” | 4.92” | 1.28” | .39” | 1.06” |
| ED21AA-BK | .51 - .71 | PG21 | 1.120” | 2.87” | 6.10” | 1.57” | .43” | 1.30” |
| ED21AR-BK | .35 - .63 | PG21 | 1.120” | 2.87” | 6.10” | 1.57” | .43” | 1.30” |
| ED21NA-BK | .51 - .71 | 3/4” NPT | 1.050” | 2.87” | 6.10” | 1.57” | .56” | 1.30” |
| ED21NR-BK | .35 - .63 | 3/4” NPT | 1.050” | 2.87” | 6.10” | 1.57” | .56” | 1.30” |
| ED29AA-BK | .70 - .98 | PG29 | 1.470” | 3.58” | -- | 2.01” | .43” | 1.65” |
| ED29AR-BK | .51 - .79 | PG29 | 1.470” | 3.58” | -- | 2.01” | .43” | 1.65” |

***FOR GREY COLOUR, REPLACE ‘-BL’ WITH ‘-GR’**

# LIQUID TIGHT STRAIN RELIEF CONNECTOR FOR CABLE, WIRE & TUBING



## Liquid Tight Strain Relief Connectors - Flex Elbow Style

FPO

**Flex Elbow Liquidtight:** Installs in either clearance or threaded holes.

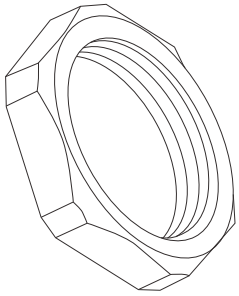
| ITEM NUMBER | CABLE DIAMETER | THREAD TYPE | DIMENSIONS | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | CLEARANCE HOLE | MAX OA DOME LENGTH | MAX OA FLEX LENGTH | THREAD LENGTH | WRENCHING NUT THICKNESS | WRENCHING FLATS |
| EF09AA-BK | .15 - .32 | PG9 | .600” | 1.79” | 3.34” | .91” | .31” | .75” |
| EF09AR-BK | .07 - .24 | PG9 | .600” | 1.79” | 3.34” | .91” | .31” | .75” |
| EF09NA-BK | .15 - .32 | 3/8” NPT | .680” | 1.79” | 3.34” | .91” | .56” | .75” / .88” |
| EF09NR-BK | .07 - .24 | 3/8” NPT | .680” | 1.79” | 3.34” | .91” | .56” | .75” / .88” |
| EF11AA-BK | .19 - .39 | PG11 | .730” | 1.99” | 3.86” | 1.06” | .31” | .88” |
| EF11AR-BK | .11 - .28 | PG11 | .730” | 1.99” | 3.86” | 1.06” | .31” | .88” |
| EF13AA-BK | .23 - .47 | PG13 | .800” | 2.24” | 4.41” | 1.20” | .35” | .94” |
| EF13AR-BK | .19 - .35 | PG13 | .800” | 2.24” | 4.41” | 1.20” | .35” | .94” |
| EF13NA-BK | .23 - .47 | 1/2” NPT | .830” | 2.24” | 4.41” | 1.20” | .56” | .94” |
| EF13NR-BK | .19 - .35 | 1/2” NPT | .830” | 2.24” | 4.41” | 1.20” | .56” | .94” |
| EF16AA-BK | .39 - .56 | PG16 | .890” | 2.34” | 4.92” | 1.28” | .39” | 1.06” |
| EF16AR-BK | .27 - .47 | PG16 | .890” | 2.34” | 4.92” | 1.28” | .39” | 1.06” |
| EF21AA-BK | .51 - .71 | PG21 | 1.120” | 2.87” | 6.10” | 1.57” | .43” | 1.30” |
| EF21AR-BK | .35 - .63 | PG21 | 1.120” | 2.87” | 6.10” | 1.57” | .43” | 1.30” |
| EF21NA-BK | .51 - .71 | 3/4” NPT | 1.050” | 2.87” | 6.10” | 1.57” | .56” | 1.30” |
| EF21NR-BK | .35 - .63 | 3/4” NPT | 1.050” | 2.87” | 6.10” | 1.57” | .56” | 1.30” |

***FOR GREY COLOUR, REPLACE ‘-BL’ WITH ‘-GR’**

# LIQUID TIGHT STRAIN RELIEF CONNECTOR FOR CABLE, WIRE & TUBING



## Locking Nuts For Liquid Tight Connectors



**Locking Nuts:** To specify fitting with nut, add "-N" to product number, eg: CD13AA-BK-N, or order separately.

**General Information:**

Liquid Tight:Exceeds NEMA 6 specifications.

Specifications (Based on Hummel Laboratory Tests):

- Pressure Rating: 150 PSIG (10 BAR)
- Materials: Nylon 6/6, flame resistant, self-extinguishing, BUNA-N seal
- Operating Temperature:
  Static: -40°F to 250°F (-40°C to 120°C)
  Short Term Exposure: 300°F (150°C)
  Dynamic: -4°F to 212°F (-20°C to 100°C)
  Short Term Exposure: 250°F (150°C)
- Top Quality
- Inexpensive
- Saves Installation Time

| ITEM NUMBER | DIMENSIONS | | |
|---|---|---|---|
| | THREAD TYPE | THICKNESS (G) | WRENCHING FLATS (F) |
| NP-07-BL | PG7 | .22” | .75” |
| NP-07-GR | PG7 | .22” | .75” |
| NP-09-BL | PG9 | .22” | .86” |
| NP-09-GR | PG9 | .22” | .86” |
| NN-09-BL | 3/8” NPT | .26” | 1.08” |
| NP-11-BL | PG11 | .22” | .94” |
| NP-11-GR | PG11 | .22” | .94” |
| NP-13-BL | PG13 | .25” | 1.06” |
| NP-13-GR | PG13 | .25” | 1.06” |
| NN-13-BL | 1/2” NPT | .26” | 1.08” |
| NP-16-BL | PG16 | .25” | 1.17” |
| NP-16-GR | PG16 | .25” | 1.17” |
| NP-21-BL | PG21 | .28” | 1.41” |
| NP-21-GR | PG21 | .28” | 1.41” |
| NN-21-BL | 3/4” NPT | .26” | 1.31” |
| NP-29-BL | PG29 | .31” | 1.81” |
| NP-29-GR | PG29 | .31” | 1.81” |
| NN-29-BL | 1” NPT | .26” | 1.63” |
| NP-36-BL | PG36 | .31” | 2.38” |
| NP-36-GR | PG36 | .31” | 2.38” |
| NP-42-BL | PG42 | .31” | 2.56” |
| NP-42-GR | PG42 | .31” | 2.56” |
| NP-48-BL | PG48 | .31” | 2.75” |
| NP-48-GR | PG48 | .31” | 2.75” |

## Thread Specifications For Locking Nuts For Liquid Tight Connectors

**Thread Specifications:** These are steel conduit thread per DIN 40430 (European Standard)

| THREAD SIZE | PG7 | PG9 | PG11 | PG13 | PG16 | PG21 | PG29 | PG36 | PG42 | PG48 |
|---|---|---|---|---|---|---|---|---|---|---|
| MAJOR DIAMETER (mm) | 12.5 | 15.2 | 18.6 | 20.4 | 22.5 | 28.3 | 37.0 | 47.0 | 54.0 | 59.3 |
| PITCH (mm) | 1.27 | 1.41 | 1.41 | 1.41 | 1.41 | 1.59 | 1.59 | 1.59 | 1.59 | 1.59 |