General Cable Support Information

NEC/CEC:
Listed for Ordinary Locations

Applications

- Used to support cables in vertical raceways or risers.
- Relieves the strain that would be placed on terminations, the interior of panels, or other devices to which the cables are connected.
- Properly designed cable supports must not only be capable of supporting a given weight of cable with a good margin of safety but must also support the cable without damaging the insulation or excessively reducing the amount of insulation over the conductor in the area where the cable is supported. O-Z/Gedney™ has been furnishing Cable Supports to the electrical industry for almost 100 years that meet these requirements.

Certifications and Compliances

- Requirements for Cable Supports in the National Electrical Code reads as follows: 300.19 Supporting Conductors in Vertical Raceways. (A) Spacing Intervals - Maximum. Conductors in vertical raceways shall be supported if the vertical rise exceeds the values in Table 300.19(A). One cable support shall be provided at the top of the vertical raceway or as close to the top as practical. Intermediate supports shall be provided as necessary to limit supported conductor lengths to not greater than those specified in Table 300.19(A).

Example:

- A 10-story building contains a vertical conduit run from the basement to the top floor, approx. 34 m (110 ft) in length. The raceway contains 4/0 copper conductors. Per Table 300.19(A), the unsupported cable length cannot exceed 25 m (80 ft). Therefore, one cable support is required at or near the top of the vertical riser, and one intermediate support is required at or near the midpoint in the conduit run, assuring that any unsupported cable length does not exceed 25 m (80 ft).

Spacing for Conductor Supports

Size of Wire	Support of Conductors in Vertical Raceways	Aluminum or Copper – Clad Aluminum Meters (Feet)	Copper Meters (Feet)
18 AWG thru 8 AWG	Not greater than	30 (100)	30 (100)
6 AWG thru 1/0 AWG	Not greater than	60 (200)	30 (100)
2/0 AWG thru 4/0 AWG	Not greater than	55 (180)	25 (80)
over 4/0 AWG - 350 kcmil	Not greater than	41 (135)	18 (60)
over 350 kcmil - 500 kcmil	Not greater than	36 (120)	15 (50)
over 500 kcmil - 750 kcmil	Not greater than	28 (95)	12 (40)
over 750 kcmil	Not greater than	26 (85)	11 (35)

Application	Recommended O–Z/Gedney™ Cable Supports
TWO or more wires - Indoors - at voltages to 600 Volt	Type S
Retrofit - TWO or more wires - Indoors - at voltages to 600 Volt	Type D
ONE or more wires - Indoors - at all voltages	Type R
Retrofit - ONE or more wires - Indoors - at all voltages	Type DR
Ventilating - ONE or more wires - Outdoors - at all voltages	Type CMT
Ventilating - Bakelite - ONE or more wires - Outdoors - at all voltages	Type V
Non-ventilating - ONE or more wires - Outdoors - at all voltages	Type C
Locking - Horizontal/Vertical - ONE or more wires - Indoors - at all voltages	Type K
Space Maker - ONE or more wires - Indoors - at all voltages	Type M
Pull Box - ONE or more wires - Outdoors at all voltages	Type W
Conduit Ventilators	Type KVF/KVM
Grounding Lugs	Type G
Wire Armored Cable - In conduit or supported by structure	Type F/FS/FT/SF1773

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Applications

- Two basic types of cable supports are offered for use with non-armored cable. They both utilize the pOZi-grip™ Wedging Plug. pOZi-grip™ is a unique manufacturing technique for lining the cable grooves with a coarse grain grit using a high strength epoxy adhesive. This grit improves the cable support holding power and does not injure the jacket or insulation on the cable.

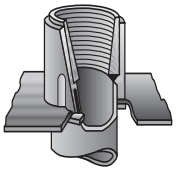
One Piece Plug Type "S"

- This type consists of a metal body having an insulating liner with a knurled and tapered inside surface and a one piece impregnated hardwood wedging plug having a groove for each wire. This type support is recommended for use with all types of non-armored cables 600 Volts or less, as it is the easiest to install, impossible to install incorrectly and it provides ventilation of the conduit. This design is used in our Types S and D Cable Supports. The basic principles of their assembly are illustrated below.

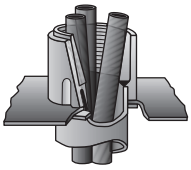
Multiple Segment Plug Type "R"

- This type consists of an all metal body having a tapered inner surface and a canvas bakelite multiple segment wedging plug so constructed that each cable is supported between grooves in adjacent segments. This construction provides the uniform pressure distribution required by the softer types of insulations frequently used at higher voltages. This design is used in non-ventilating types R, DR, W, C, K and M, and Ventilating Compound Types CMT, and V. The basic principles of their assembly are illustrated below.

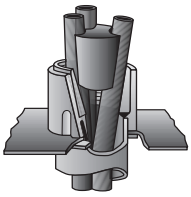
Type S



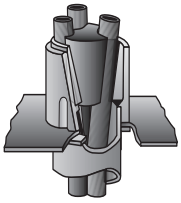
1. Screw body on the end of the conduit or connector in place of the regular insulating bushing.



2. Pull wires and arrange temporary means of support.

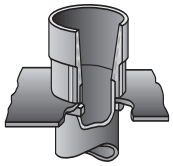


3a. Remove all pulling compound from wires in the area where they pass through the cable support.
3b. Place the plug between the wires as close to the top of the body as possible. Care should be taken to locate each wire in the proper groove.

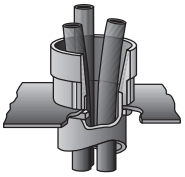


4. Tap the plug firmly into the support body.

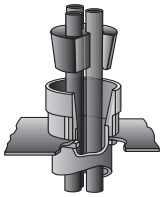
Type R



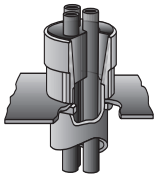
1. Screw body on the end of the conduit or connector in place of the regular insulating bushing.



2. Pull wires and arrange temporary means of support.



3a. Remove all pulling compound from wires in the area where they pass through the cable support.
3b. Place the segments of the plug around the wires. Where more than two segments are involved the top of each plug segment has numbers at each end and it is important that these are paired with the corresponding numbers on the adjacent plug segments.



4. Tap the plug segments evenly and firmly into the support body.

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Drill Chart for Type R, DR, CMT, V, C, K, M and W Cable Supports

NEC/CEC:
Listed for Ordinary Locations

For combinations of cables that fall outside these parameters, please contact your local representative.

Type R, DR, CMT, V, C, K, M, and W Cable Supports ① Max. Diameter of Wire Permitted – Millimeters (Inches)						
Conduit Size (Inches)	**1 Wire**	**2 Wires**	**3 Wires**	**4 Wires**	**5 Wires**	**6 Wires**
1-1/2"	35.6 (1.40)	16.3 (0.64)	15.0 (0.59)	13.0 (0.51)	9.91 (0.39)	9.4 (0.37)
2"	46.7 (1.84)	21.8 (0.86)	20.1 (0.79)	17.5 (0.69)	13.5 (0.53)	13.5 (0.53)
2-1/2"	57.2 (2.25)	26.9 (1.06)	24.9(0.98)	21.6 (0.85)	16.8 (0.66)	16.3 (0.64)
3"	72.1 (2.84)	34.5 (1.36)	31.8 (1.25)	27.9 (1.1)	21.8 (0.86)	21.6 (0.85)
3-1/2"	84.1 (3.31)	40.6 (1.60)	37.3 (1.47)	33.0 (1.3)	25.9 (1.02)	24.4 (0.96)
4"	96.8 (3.81)	46.7 (1.84)	43.1 (1.7)	38.1 (1.5)	30.0 (1.18)	27.7 (1.09)
5"	122.2 (4.81)	59.4 (2.34)	54.6 (2.15)	48.3 (1.9)	38.6 (1.52)	35.6 (1.4)
6"	148.3 (5.84)	72.6 (2.86)	66.6 (2.62)	59.4 (2.34)	47.2 (1.86)	43.4 (1.71)

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Type R Cable Supports

For One or More Wires - Indoors - at all Voltages

For Rigid Conduit, IMC and EMT with pOZi-grip™ "R-style" Wedging Plug.

NEC/CEC:
Listed for Ordinary Locations

Applications

- For supporting non-armored electrical cables in vertical conduit risers.
- Due to the possibility of Magnetic Induction Heating, a single alternating current conductor should not be used in iron fittings.

Features

- Threaded for rigid conduit and IMC.
- Use with all types of insulations at all voltages.
- The pOZi-grip wedging plug exerts uniform pressure around the cable, providing holding force in excess of that required by code without deforming cable insulation.
- Body Only can be ordered separately, for installation prior to wire pulling. Plug Only can be ordered later, once wires are in place.
- If mounting on a non-metallic/non-grounded conduit, a Lay-In-Lug™ grounding lug should be mounted on cable support body.
- For Threadless Rigid Conduit, Threadless IMC, or EMT, the body can be attached to the male threads of a set-screw or compression connector.

Material/Finish

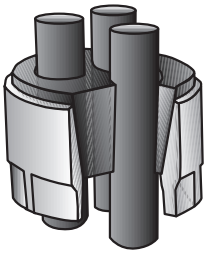
- Body: malleable or ductile iron with hot dip galvanized finish

NEC/CEC Certifications and Compliances

- UL Standard: ANSI/UL 514B
- UL Listed: E-11853
- CSA Standard: C22.2 No.18.3
- CSA Certified: 011584

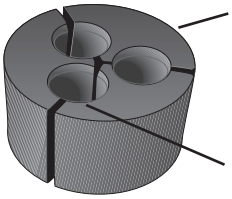
Options

- *For Lay-In-Lug, see O-Z/Gedney™ Type G Grounding Lugs for use with cable supports.*
- *For non-metallic bodies, see type DR.*



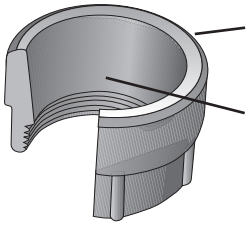
TO ORDER SPECIFY:
1. Catalog Number
2. Number of conductors in conduit
3. Outside diameters of each conductor

Illustrated Features



Canvas Bakelite pOZi–grip™ Wedging Plug For one wire type, the plug consists of two pieces. For two wires or more, there is one piece for each wire.

Shape and special gripping surface of grooves in plug give maximum support to each cable and distributes even pressure around its entire circumference.



Malleable or Ductile Iron Body

Inside tapered surface is machined to assure proper seating of the Wedging Plug.

	Dimensions in Millimeters (Inches)		Complete Fitting Catalog Number ①			Plug Only Catalog Number ①	
Conduit Size (Inches)	Outside Diameter	Overall Height	1–4 Same Size Wires	Any Number of Different Size Wires or 5 or More Same Size Wires	Catalog Number Body Only	1–4 Same Size Wires	Any Number of Different Size Wires or 5 or More Same Size Wires
1-1/2	66.8 (2.63)	60.4 (2.38)	**R-1501-1**	**R-1501-2**	**R-1501-BO**	**RPLG-1501-1**	**RPLG-1501-2**
2	76.2 (3.00)	66.8 (2.75)	**R-2001-1**	**R-2001-2**	**R-2001-BO**	**RPLG-2001-1**	**RPLG-2001-2**
2-1/2	92.2 (3.63)	79.5 (3.13)	**R-2501-1**	**R-2501-2**	**R-2501-BO**	**RPLG-2501-1**	**RPLG-2501-2**
3	104.9 (4.13)	85.9 (3.38)	**R-3001-1**	**R-3001-2**	**R-3001-BO**	**RPLG-3001-1**	**RPLG-3001-2**
3-1/2	123.9 (4.88)	92.2 (3.63)	**R-3501-1**	**R-3501-2**	**R-3501-BO**	**RPLG-3501-1**	**RPLG-3501-2**
4	143.0 (5.63)	95.3 (3.75)	**R-4001-1**	**R-4001-2**	**R-4001-BO**	**RPLG-4001-1**	**RPLG-4001-2**
5	171.5 (6.75)	111.3 (4.38)	**R-5001-1**	**R-5001-2**	**R-5001-BO**	**RPLG-5001-1**	**RPLG-5001-2**
6	200.2 (7.88)	133.4 (5.25)	**R-6001-1**	**R-6001-2**	**R-6001-BO**	**RPLG-6001-1**	**RPLG-6001-2**

① Cable support plugs will not be supplied undrilled. See Drill Chart for wire fill information.

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