Cable Supports

General Information

Cable Supports are used to support cables in vertical raceways or risers. Cable supports relieve 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 over 80 years that meet these requirements.

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. 110 feet in length. The raceway contains 4/0 copper conductors. Per Table 300.19(A), the unsupported cable length cannot exceed 80 feet. 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 80 feet.

TABLE 300-19(A). Spacing for Conductor Supports

Size of Wire	Support of Conductors in Vertical Raceways	Conductors: Aluminum or Copper-Clad Aluminum m	ft	Conductors: Copper m	ft
18 AWG through 8 AWG	Not greater than	30	100	30	100
6 AWG through 1/0 AWG	Not greater than	60	200	30	100
2/0 AWG through 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

The chart below indicates the support we recommend for several of the most common applications.

Application	Recommended O-Z/Gedney Cable Support	Catalog Page #
TWO or more wires - Indoors - at voltages to 600V	Type S	QA3
ONE or more wires - Indoors - at all voltages	Type R	QA5
Retrofit - TWO or more wires - Indoors - at voltages to 600V	Type D	QA4
Retrofit - ONE or more wires - Indoors - at all voltages	Type DR	QA6
Ventilating - ONE or more wires - Outdoors - at all voltages	Type CMT	QA7
Ventilating - Bakelite - ONE or more wires - Outdoors - at all voltages	Type V	QA8
Non-ventilating - ONE or more wires - Outdoors - at all voltages	Type C	QA9
Locking - Horizontal/Vertical - ONE or more wires - Indoors - at all voltages	Type K	QA10
Space Maker - ONE or more wires - Indoors - at all voltages	Type M	QA11
Pull Box - ONE or more wires - Outdoors at all voltages	Type W	QA12
Wire Armored Cable - In conduit or supported by structure	Type F/FS/FT	QA15

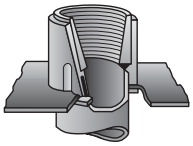
Cable Supports

General Information

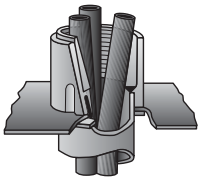
Two basic types of cable supports are offered for use with non-armored cable. They both utilize the pOZi-grip® Wedging Plug. pOZi-grip® is a unique manufacturing technique for lining the cable grooves with a coarse grain grit using a high strength epoxy adhesive. This grit improves the Cable Support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

One Piece Plug Type "S"

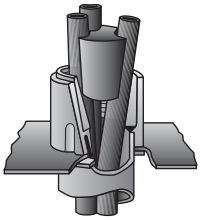
This type consists of a metal body having an insulating liner with a knurled and tapered inside surface and a one piece impregnated hardwood wedging plug having a groove for each wire. This type support is recommended for use with all types of non-armored cables 600 volts or less, as it is the easiest 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.



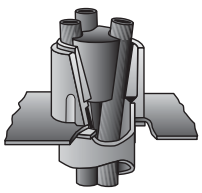
1 Screw body on the end of the conduit or connector in place of the regular insulating bushing.



2 Pull wires and arrange temporary means of support.



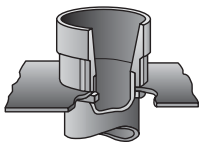
3 a. Remove all pulling compound from wires in the area where they pass through the cable support.
3 b. Place the plug between the wires as close to the top of the body as possible. Care should be taken to locate each wire in the proper groove.



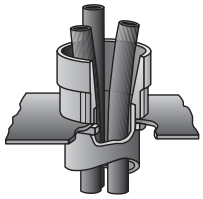
4 Tap the plug firmly into the support body.

Multiple Segment Plug Type "R"

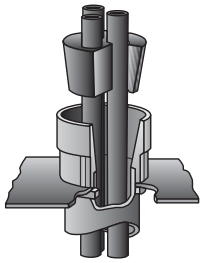
This type consists of an all metal body having a tapered inner surface and a canvas bakelite multiple segment wedging plug so constructed that each cable is supported between grooves in adjacent segments. This construction provides the uniform pressure distribution required by the softer types of insulations 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.



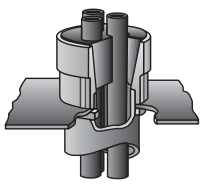
1 Screw body on the end of the conduit or connector in place of the regular insulating bushing.



2 Pull wires and arrange temporary means of support.



3 a. Remove all pulling compound from wires in the area where they pass through the cable support.
3 b. 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.

Cable Supports

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

Type R

For ONE or more wires - Indoors - at all voltages

Use:
For supporting non-armored electrical cables in vertical conduit risers.

Features:
- Threaded for Rigid Conduit and IMC.
- For threadless conduit or EMT, see note below.
- 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.

NOTE: Plugs will not be supplied undrilled.

- Lay-In-Lug™ Grounding Lug can be mounted on Cable Support Body - See page QA14.

Material/Finish:
Body of Fitting is Malleable or Ductile Iron with Hot Dip Galvanized finish.

Optional Material/Finish:
Bodies of fittings are also available in Cast Aluminum. Add suffix "A" to Catalog Number. Example: **R-1501A-1**. Contact your local representative for price and availability. For non-metalic bodies, see page QA6.

Note:
Due to the possibility of Magnetic Induction Heating, a single alternating current conductor should not be used in iron fittings. Specify optional Cast Aluminum Bodies.

† For Threadless Rigid Conduit, Threadless IMC, or EMT, the body can be attached to the male threads of a set-screw or compression connector. See Catalog Sections EA, FA, and FB. For PVC Conduit, use a PVC terminal adapter. If mounting on a non-metallic/non-grounded conduit, a Lay-In-Lug™ grounding lug should be mounted on cable support body - see page QA14.

Third Party Certification:

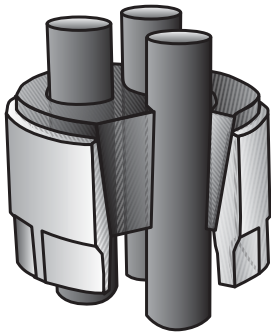
UL Listed: E-11853

CSA Certified: 11584

Applicable Third Party Standards:
UL Standard: 514B
CSA Standard C22.2 No. 18
NEC 300-19

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

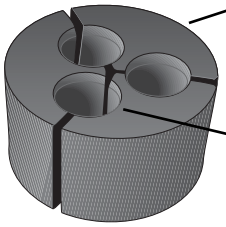
***Cable support plugs will not be supplied undrilled.**



Type R

Conduit Size	Catalog Number Complete Fitting		Catalog Number Body Only	Catalog Number Plug Only*		Dimensions in Inches	
	1-4 Same Size Wires	Any Number of Different Size Wires or 5 or More Same Size Wires		1-4 Same Size Wires	Any Number of Different Size Wires or 5 or More Same Size Wires	Approx. Outside Diameter	Overall Height
1½"	R-1501-1	R-1501-2	R-1501-BO	RPLG-1501-1	RPLG-1501-2	2⅝	2⅜
2"	R-2001-1	R-2001-2	R-2001-BO	RPLG-2001-1	RPLG-2001-2	3	2¾
2½"	R-2501-1	R-2501-2	R-2501-BO	RPLG-2501-1	RPLG-2501-2	3⅝	3⅛
3"	R-3001-1	R-3001-2	R-3001-BO	RPLG-3001-1	RPLG-3001-2	4⅛	3⅜
3½"	R-3501-1	R-3501-2	R-3501-BO	RPLG-3501-1	RPLG-3501-2	4⅞	3⅝
4"	R-4001-1	R-4001-2	R-4001-BO	RPLG-4001-1	RPLG-4001-2	5⅝	3¾
5"	R-5001-1	R-5001-2	R-5001-BO	RPLG-5001-1	RPLG-5001-2	6¾	4⅜
6"	R-6001-1	R-6001-2	R-6001-BO	RPLG-6001-1	RPLG-6001-2	7⅞	5¼

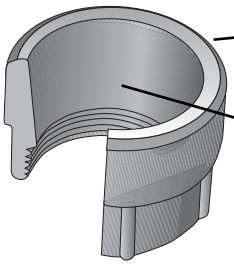
***Cable support plugs will not be supplied undrilled.**



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.