

# Slip-on Terminators

**Slip-on terminators** are quality, factory assembled cable terminations designed for ease of installation and adaptability to a wide range of cable types and sizes. Slip-on's incorporate a built-in stress relief device and are prefilled at the factory with an exclusive insulating dielectric which eliminates the need for field pouring of hot compounds.

## APPLICATION

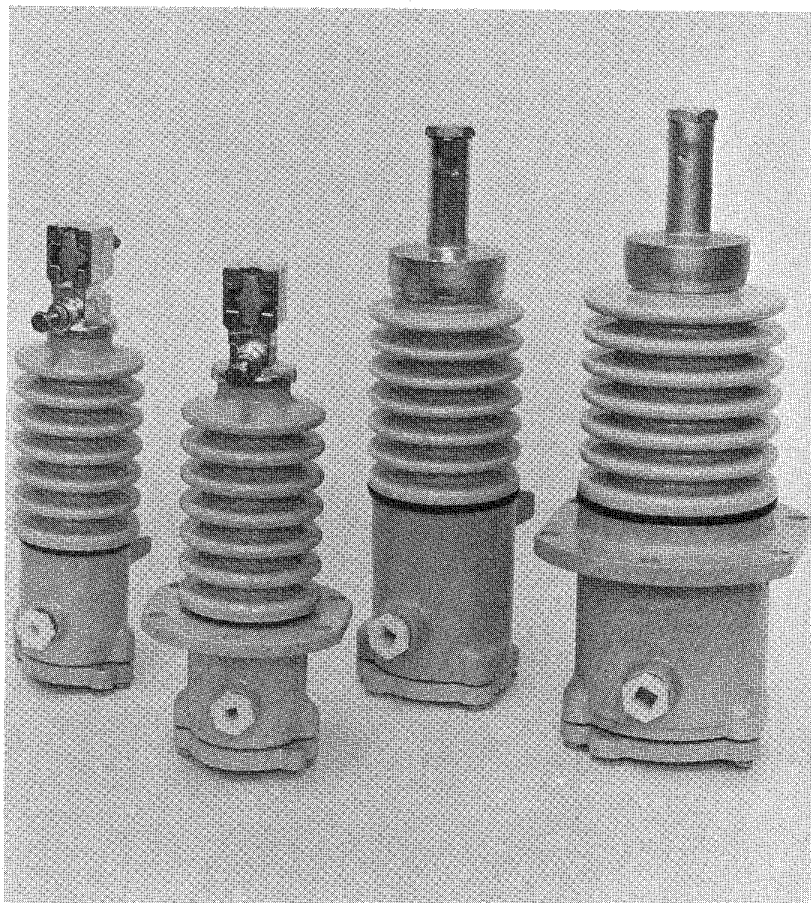
Slip-on terminators are designed for single conductor, polyethylene insulated, concentric neutral URD cables on distribution systems through 46kV. Adapter kits are available permitting termination of shielded, jacketed cables having rubber or polyethylene insulation and paper or varnished cambric insulated, lead sheath cables. All terminators are applicable to both copper and aluminum conductor cables and are available for either bracket or flange mounting.

## FEATURES/BENEFITS

**Maximum external insulation**—Porcelain is the industry standard for providing maximum insulation that is unaffected by weathering elements. Slip-on terminators utilize a high strength, non-tracking, wet-process porcelain with excellent mechanical and electrical characteristics. Sky gray in color with glazed surfaces, the porcelain resists contamination buildup and permits self-cleaning during normal rainfall. A deep draw, corrugated skirt design provides the necessary creepage and strike distances and permits installation in either upright or inverted positions, indoors and out.

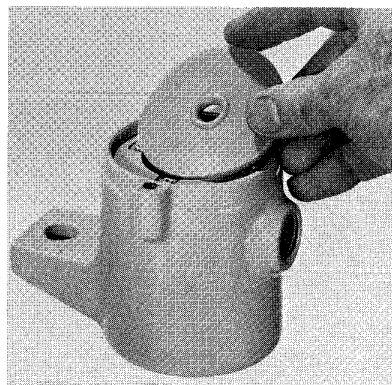
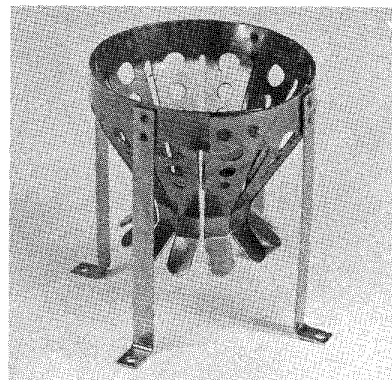
**Built-in stress control**—Factory installed, internal stress relief devices provide effective electrical stress relief without having to build a taped stress cone on the cable. The terminators are factory filled with an exclusively formulated insulating material which eliminates the need for heating and pouring of hot compounds in the field.

**Versatility**—Slip-on terminators will accept a wide range of cable diameters and accommodate minor variations in cable shape. This is accomplished by an extremely flexible silicone rubber diaphragm seal used



at the cable entrance of the terminator. The rubber diaphragm provides a positive, continuous seal with the cable during installation and maintains its integrity throughout the service life of the terminator.

**Ease of installation**—After cable preparation, simply insert the cable into the terminator and attach the ground and aerial connections. Cable centering plugs are used to guide small size cables into the terminator. Various connectors, aerial lugs and mounting brackets are available.



Photos right:  
Built-in stress relief devices firmly grip the cable shielding to control electrical stresses.

A flexible diaphragm provides positive sealing at the cable entrance of the terminator.

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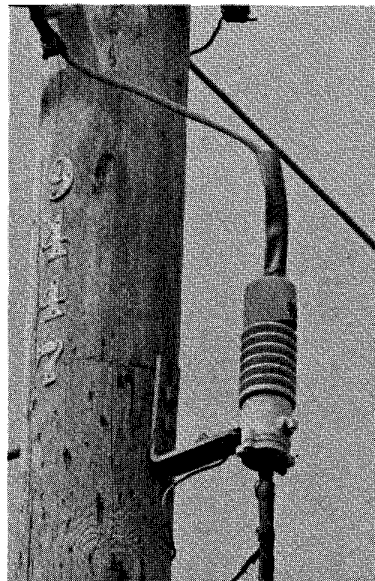


Photo shows a pole mounted, 15kV Slip-on (PAT 1701).

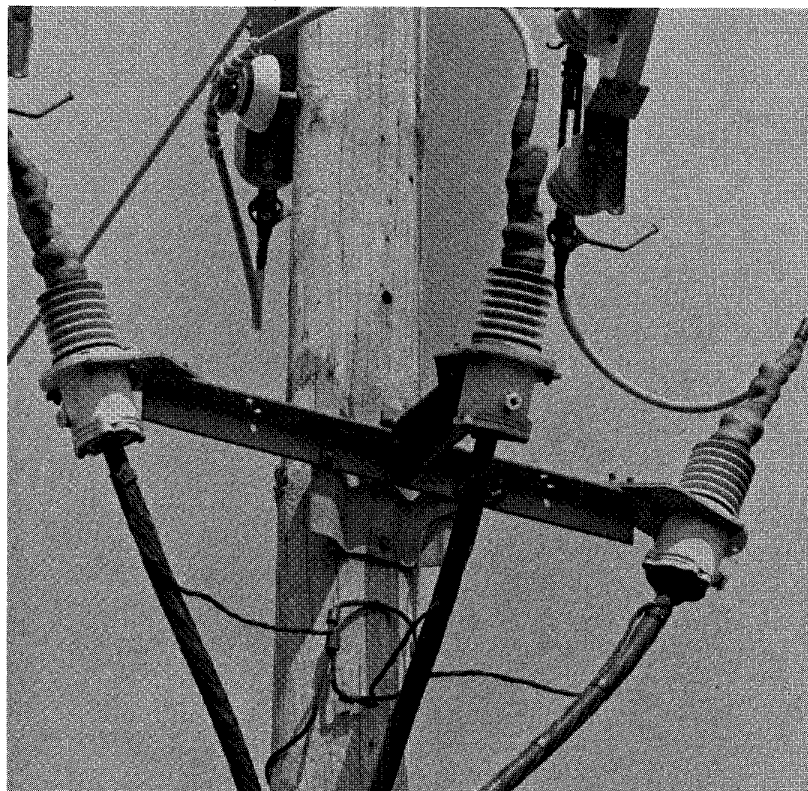


Photo shows three single conductor, 15kV Slip-ons (PAT 1773) bracket mounted.

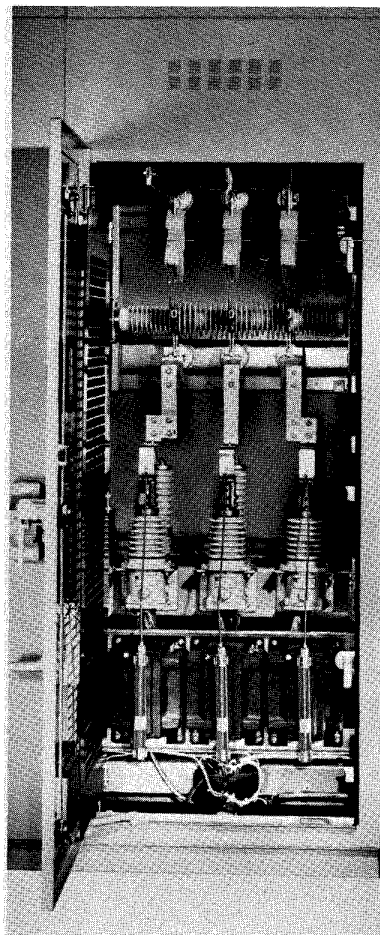


Photo shows three single conductor, 15kV flange mounted Slip-ons (PATR 1773) within an air insulated switch.

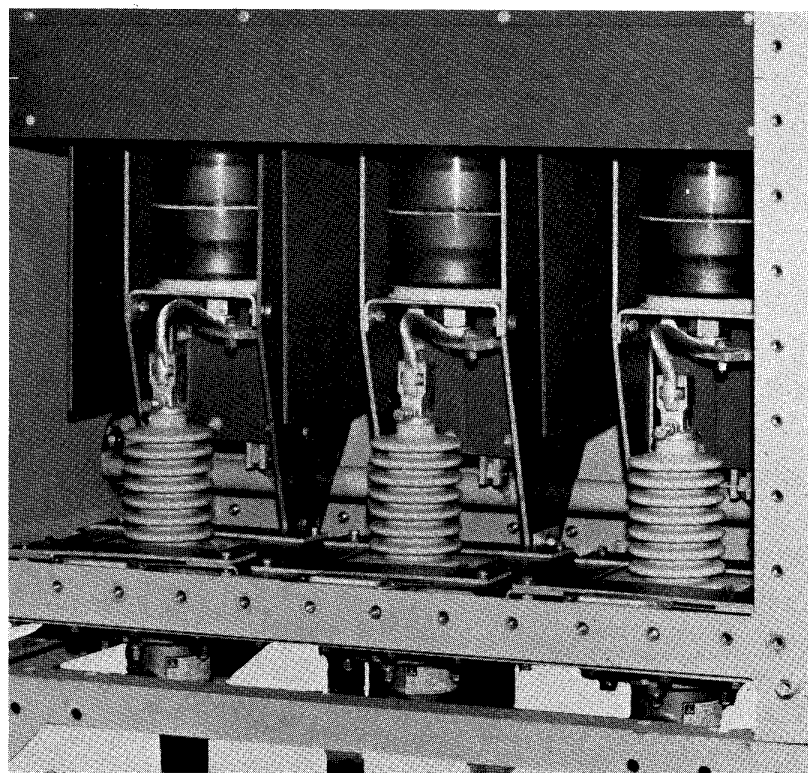


Photo shows three single conductor, 15kV equipment mounted Slip-ons (EPATR) within an oil filled switch.

# Slip-On Terminators

## COMPONENTS

**External insulation**—Slip-on terminators utilize a high strength, wet process porcelain with excellent mechanical and electrical characteristics. Deep draw corrugated skirts provide the necessary creepage and strike distances and permit installation in either upright or inverted positions, indoors and out. Porcelains are gasket sealed to the body of the terminator.

**Bodies**—Standard bodies are made of cast aluminum painted gray. Cast brass bodies are available. A plated steel vent plug is standard and is threaded into the body to permit displacement of the internal insulating material during cable insertion.

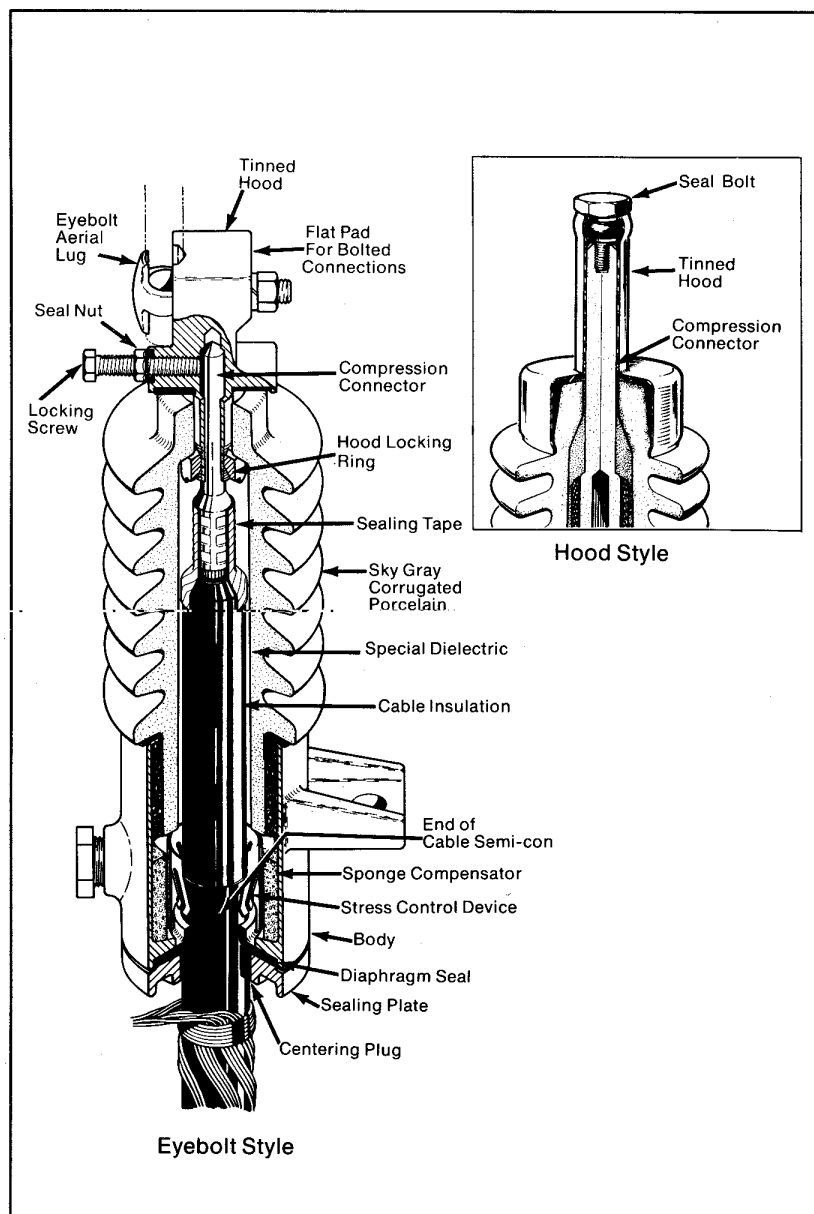
**Stress relief**—Factory installed, internal stress relief devices control electrical stress without having to build a taped stress cone on the cable. The device is shaped to permit smooth entry of the cable while assuring continuous contact around the cable shielding system.

**Internal insulating material**—Slip-on terminators are factory filled with an exclusively formulated insulating material (Novoid 254) which eliminates the need for heating and pouring of compounds in the field. The soft, tacky material has a dielectric constant (SIC) which closely approximates that of polyethylene providing a dielectrically compatible system with the cable. The insulating material creates a void-free environment around the prepared cable end and permits acceptance of a wide range of cable sizes. Some physical and electrical characteristics are:

Flash point .....	249°C
Fire point .....	299°C
Remains flexible to .....	-30°C
Vol. Coef. of Exp. (in. <sup>3</sup> /°C) ..	.00035
Specific gravity .....	.904
Power factor at 60°C .....	.04%
S.I.C. at 25°C .....	2.2
Dielectric strength (v/mil) 25°C ..	420

**Sealing system**—Hoods are gasketed and spun on to the top of the terminator. Sealing bolts prevent leakage of the internal insulating material. A silicone rubber diaphragm provides a positive seal at the cable entrance of the terminator. A bolted cast aluminum sealing plate holds the rubber diaphragm in place.

**Adapter kits**—Slip-on terminators are designed for polyethylene



insulated, URD cables. For paper or varnished cambric insulated, lead sheath cables or shielded, jacketed cables having rubber or polyethylene insulation, an adapter kit is required. See page 8 for details.

**Connectors**—Connectors are compression style available in either copper or aluminum. See page 9 for details.

**Aerial lugs**—Two different aerial takeoff constructions, an eyebolt and compressible hood design, are used depending upon the current rating and conductor size of the cable. Eyebolt style lugs will accept up to a 250

kcml overhead conductor. A flat pad, clamp type and two styles of offset aerial lugs are available for use with the hood constructed terminators. Standard hoods are made of tinned aluminum with copper hoods available. See page 10 for details.

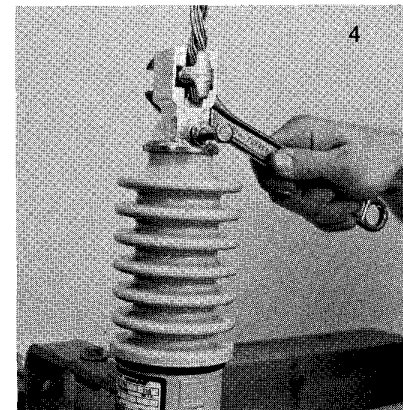
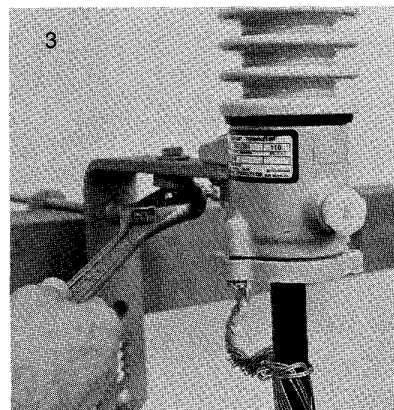
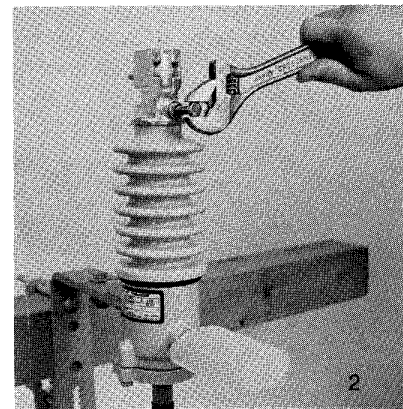
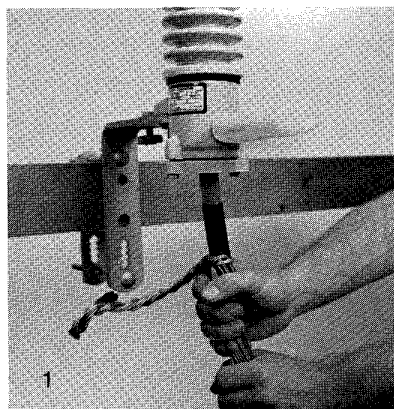
**Brackets**—Various styles of pole, crossarm and channel mounting brackets are available for single and three single conductor terminators. See page 11 for details.

**Cable centering plug**—A cable centering plug is included with each terminator to provide a snug fit at the cable entrance for small diameter cables.

## EASE OF INSTALLATION

Complete factory assembly including built-in stress relief and factory filled insulating material make Slip-on terminators extremely easy to install. For eyebolt style terminators on URD cable, the following simple steps are required.

- 1) After cable preparation, crimp on the connector and insert the cable into the terminator. The cable will displace some of the insulating material into the disposable plastic bottle supplied.
- 2) Tighten the locking screw.
- 3) Secure the ground wire to the ground connection on the bracket and mount the terminator.
- 4) Secure the aerial conductor and installation is complete.



## TYPICAL SPECIFICATIONS

### General

This specification covers the requirements for a cable termination for (bracket) (flange) (equipment) mounted installation. The termination shall be manufactured by G&W Electric Company per product designation Slip-on Terminator. The termination shall feature factory installed stress relief and insulating material to reduce field installation time.

### Electrical Ratings

The termination shall be for service on a (15kV) (25kV) (34.5kV) (46kV) voltage rated, (single) (three single) conductor cable system. The termination shall have a BIL rating of (110kV) (150kV) (200kV) (250kV).

### Construction

The termination shall use high strength, wet process porcelain for external insulation. The porcelain shall be a deep draw, corrugated design to permit upright or inverted mounting, indoors or out. Factory installed, internal stress relief devices shall provide electrical stress relief without having to build a taped stress cone on the cable. The terminations shall be factory filled with an insulating material with a dielectric constant approximating that of polyethylene. The insulating material shall create a void free environment around the prepared cable end and

permit acceptance of a wide range of cable sizes. The terminations shall use a rubber diaphragm seal at the cable entrance for continuous sealing and the ability to accept a wide range of cable diameters.

### Accessories

Aerial connections shall be (eyebolt) (hood) style with a (copper) (aluminum) compression connector. Cable adapter kits (shall) (shall not) be furnished per catalog designation (K) (W) (PW). Aerial lugs shall be (flat pad) (clamp) (style 4 offset) (style 8 offset) type.

## ORDERING INFORMATION

The following steps are needed for ordering:

- a) Select the terminator by catalog number based on voltage, BIL and conductor size.
- b) Provide a complete description of the cable including the conductor material, and diameters over insulation, semi-conducting shielding system and outer jacket.
- c) Specify adapter kit required (K, W, PW series).  
Note: No adapter kit is necessary for URD cables.
- d) Specify aerial lug and mounting bracket required.

Voltage (kV)	15	25	34.5	46
BIL (kV)	110	150	200	250
Current rating	Same as Cable	Same as Cable	Same as Cable	Same as Cable
1 minute dry, ac (kV)	50	65	90	120
6 hour dry, ac (kV)	35	55	75	100
10 second wet, ac (kV)	45	60	80	100
15 minute dry, dc (kV)	75	105	140	170