

Terminals, Kits and Tools

3M has been a leading supplier of terminals for more than 30 years. Our satisfied customers know our products for:

- Effective and reliable performance.
 - Variety of types, sizes and materials that meet a broad application range, including the demands of temperature and weather.
 - Design features assuring easy installation of 3M™ Products—positive and easy wire insertion, elimination of strand hang-ups and wire twisting, and easy insulation entry.
- These are a few of the characteristics that make the installer's job easier.

Customers can choose from two terminal families to meet their needs.

3M™ Scotchlok™ Terminals

Our premier line of terminals allow for various insulation types (such as heat shrink, nylon, vinyl, or non-insulated). Various barrel styles are available (such as butted, brazed, seamless, or interlocking barrel). Additionally, our premier terminals come in bottle or bulk packaging.

3M™ Highland™ Terminals

These terminals are either vinyl or nylon insulated with a butted seam. They come packaged in small quantities in reclosable plastic bags.

3M Terminals help accommodate the installer's needs.



Glossary of Terminals and Tools Terms

ADAPTERS

To interconnect two connectors already attached to wires.

BLOCK FORK

Same strength as the fork, but designed to use in terminal block because sides lie flat against barrier portion of terminal block.

BULLET STYLE SNAP PLUG

Similar advantages as disconnects. Gives reliable in-line connection because parts are made to have holding friction when joined. Usually for automotive use.

BUTT

Uses chamfered barrel ends to provide fast, easy wire insertion from both ends and a built-in wire stop for correct positioning. Must be crimped at both ends.

CLOSED-END

Used in situations requiring pigtail of two or more wires.

FLANGED FORK

Gives the benefit of both the block and locking forks. Stays secure should screw loosen.

FORK

Allows rapid connection of wire. Usually used on free-standing studs, because of wider tongues.

LOCKING FORK

The spring-like tongue locks in place around the stud even when mount screw is not tightened. Extra force is required to remove from stud.

PARALLEL

Similar to butt with overlapped wires and single crimp in center of connector. Used where space is limited.

PINS

For installation in compression blocks. Used in Europe for terminating stranded wire.

QUICK CONNECT (DISCONNECT)

Attached to mating part by tongue of female part slipping over male tab. Use of dents and rolled edges on female part provides excellent holding force while allowing easy and quick disconnect.

RING

The standard style of tongue. The safest and most reliable 3M terminal. It cannot be removed unless mounting screw is removed.

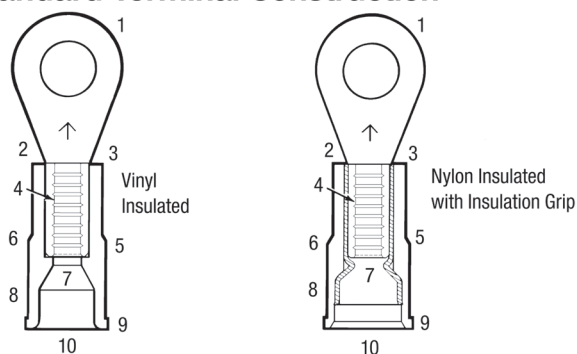
TAB

Uses mounting hole for rivet or screw.

TAP

No wire stripping is necessary, just lay wire in connector and crimp. Connection is made.

Standard Terminal Construction



3M™ Terminals provide a variety of design features assuring consistently effective, reliable performance and easy installation.

Please refer to the illustrations at the numbered locations for the attributes described below.

1. One-piece, burr-free construction provides maximum electrical conductivity. Electrical bright-tin plating gives maximum corrosion resistance. Annealing relieves stress points and provides maximum installed strength.
2. Barrel-to-pad transition design minimizes flexing and bending.
3. Open-end design permits visual inspection of wire location before and after crimping.
4. Maximum hold on wire comes from multiple “V” grooves in #22–4 AWG parts resulting in excellent holding power.
5. Injection molded insulations on terminals are the highest quality in the industry.
 - 221°F (105°C)* rated, tough, resistant electrical grade materials
 - Molding ensures consistent wall thickness for maximum reliability after crimping
 - Molding allows funnel barrel construction for easier installation
 - Molding offers the crimp ridge and non-slip ridge
6. Crimp ridge designed for positive location of tool on terminal barrel, resulting in few miscrimps.
7. Funnel barrel construction provides:
 - Positive, easy wire insertion
 - Virtually no hang-ups of wire strands
 - Wire twisting not necessary

*Products made in U.S.A. only.

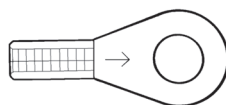
8. Nylon-insulated terminals with grip feature a brass sleeve. Sleeve provides optimum grip on insulation, strain relief and vibration protection. Brass sleeve is recessed which provides excellent flash-over protection.

9. Non-slip ridge so tool slides to correct position for a proper crimp and better workmanship.

10. Beveled leading edge for easy wire insulation entry.

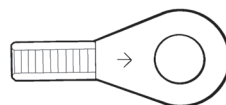
Barrel Styles

Non-Insulated Butted Seam



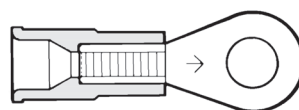
The most economical 3M terminal—used where special performance or installation characteristics are not needed. Beveled mouth facilitates wire insertion. Maximum temperature for bare terminals: 347°F (175°C).

Non-Insulated Brazed Seam



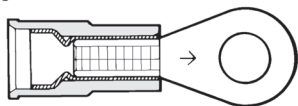
Beveled mouth facilitates wire insertion. Can be crimped anywhere on barrel surface. Silver brazed seam will not open under crimping pressure or operating stresses. Unlike butted seam parts, stranded wire cannot escape barrel confines during or after crimping. Maximum temperature for bare terminals: 347°F (175°C).

Vinyl Insulated Brazed and Butted Seams



Used where insulated barrel is necessary and desirable. Terminal consists of brazed or butted part with flared, rigid molded polyvinyl chloride sleeve securely attached and funneled for easy wire entry. Wire insulation positions itself against funnel portion of vinyl sleeve thus virtually eliminating strand hang-up. Crimping barrel and flared portion of sleeve provide excellent electrical contact plus mechanical stress relief at junction of insulation and barrel. Insulation has a non-slip ridge for ease of positioning crimping tool.

Nylon Insulated Butted Seam with Insulation Grip



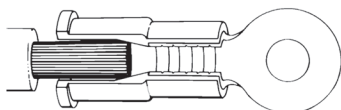
Used where insulated barrel and positive insulation grip are necessary or desirable. Terminal consists of butted seam part with flared, seamless brass sleeve securely attached and covered with flared, molded nylon sleeve. Wire insulation positions itself against funnel portion of brass sleeve. Crimping barrel and flared portion of sleeve provide excellent electrical contact plus mechanical stress relief at junction of insulation and barrel. Positioning crimp tool is nearly mistake proof due to a “step” in nylon insulation. Industry standard color coding indicates wire range. Insulators are rated at a continuous operating temperature range from -40°F to 221°F (-40°C to 105°C)*.

UL Listed and CSA Certified for 600V building wire and 1000V signs and lighting fixtures (luminaries)*.

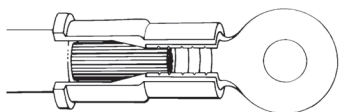
Installation Procedure

Funnel Barrel Feature provides an excellent electrical and mechanical connection.

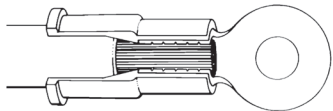
- Funnel design guides wire into position.



- No wire strand hang-up as the wire is inserted, giving a fast, positive installation.



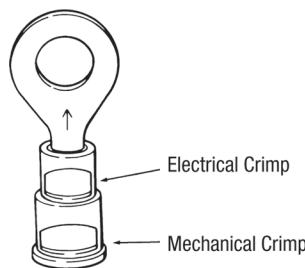
- Wire is in place, ready for crimping.



For maximum crimping performance, barrel of connector must be properly indexed in the crimp tool station.

*Products made in U.S.A. only.

Correct crimping is important to assure a strong connection.



Insulated Terminals and Connectors:



Non-Insulated Terminals and Connectors:

Indent should be opposite the barrel seam.

Heat Shrink Terminals, Connectors and Disconnects

3M™ Heat Shrink Pre-insulated Terminals, Connectors and Disconnects protect against the most challenging of environments, making the best moisture protection available. They offer several advantages over conventional unsealed products.

Corrosion Resistance

The adhesive-lined heat shrink material, when properly crimped and shrunk, provides a seal resistant to water, salt, steam and other related contaminants.

Improved Mechanical Performance

The adhesive-lined heat shrink tubing adheres, when shrunk, to both the connector and the wire insulation providing improved pullout strength and strain relief.

Durable Heat Shrink Tubing

Tough heat shrink tubing effectively resists abrasion, scoring, cut-through, and the effects of long-term aging.

Versatile and Easy to Use

3M heat shrink terminals, splices and disconnects are available in wire sizes 22–10 AWG and can be installed easily with a recommended tool and heat source. The connectors are color-coded for wire range identification and the transparent tubing allows for visual inspection.

Application Procedure for Heat Shrink Products:

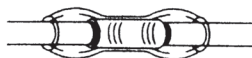
1. Strip wires to appropriate length as indicated on package label.



2. Insert wire into terminal and crimp with correct station of a recommended tool.



3. Apply heat with a recommended heat source.



High Temperature Terminals and Connectors

3M™ High Temperature Terminals and Connectors are constructed of steel with a nickel plating. Their temperature rating for continuous use at 900°F (482°C) makes them ideal for use in ovens, motors, light fixtures and other applications where other connectors could corrode or melt.

There is no applicable UL or CSA standard for high temperature steel parts.

Standard Crimp Terminal and Connector Specifications

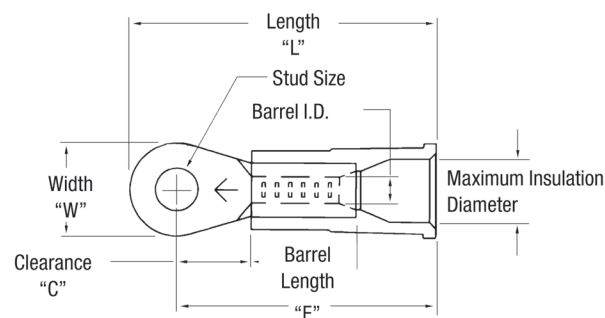
Materials

Crimp terminals and connectors are to be burr-free, annealed and bright-tin plated ETP copper. Barrels shall be 0.25" long with brazed seams where specified. Insulation grip sleeves are to be tin-plated brass and attached securely to the barrel. Terminal insulators are to be molded polyvinyl chloride or nylon, UL Listed and CSA Certified for 600V in building wire and 1000V in signs and lighting fixtures (luminaries)*. Connector insulators are to be extruded polyvinyl chloride or nylon with a temperature rating of 221°F (105°C)*.

Construction

Most insulated terminals are to have funnel entry construction* to prevent strand hang-up and a crimp ridge for proper tool location. Nylon insulated terminals and connectors are to have butted seam barrels with insulation grip sleeves. Terminal barrels are to have multiple "V" grooves for maximum conductor retention.

*Products made in U.S.A. only.



Note: All dimensions are measured in inches.

FREQUENTLY ASKED QUESTIONS

What does the insulation grip do?

The insulation grip provides a "second" crimp on the wire insulation providing additional wire strain relief. It's excellent for high vibration applications.

What's the difference between insulated and fully insulated disconnects?

Insulated disconnects have barrel insulation only and fully insulated disconnects are insulated from the barrel to the receptacle/tab.

What temperatures do 3M terminals withstand?

Non-insulated 3M terminals withstand temperatures up to 347°F (175°C). Insulated 3M terminals withstand temperatures up to 221°F (105°C).

3M™ Highland™ Terminals

3M Highland terminals, disconnects, and connectors are for use in the assembly and maintenance of electrical systems. 3M Highland terminals offer effective and reliable performance in a variety of types of general applications. Available in low quantity, reclosable bags, 3M Highland terminals are the optimal choice for smaller jobs.



Section	Page
3M™ Highland™ Terminals	71-77
3M™ Highland™ Ring Tongues.....	72
Vinyl Insulated Butted Seam – Ring Tongues.....	72
3M™ Highland™ Standard Forks.....	73
Vinyl Insulated Butted Seam – Standard Forks.....	73
3M™ Highland™ Block Forks	74
Vinyl Insulated Butted Seam – Block Forks	74
3M™ Highland™ Locking Forks.....	75
Vinyl Insulated Butted Seam – Locking Forks.....	75
3M™ Highland™ Butt Splices.....	75
Vinyl Insulated Butted Seam – Butt Splices.....	75
3M™ Highland™ Female Disconnects	76
Nylon Fully Insulated Butted Seam – Female Disconnects.....	76
Vinyl Insulated Butted Seam – Female Disconnects	76
3M™ Highland™ Male Disconnects.....	77
Nylon Fully Insulated Butted Seam – Male Disconnects	77
Vinyl Insulated Butted Seam – Male Disconnects	77

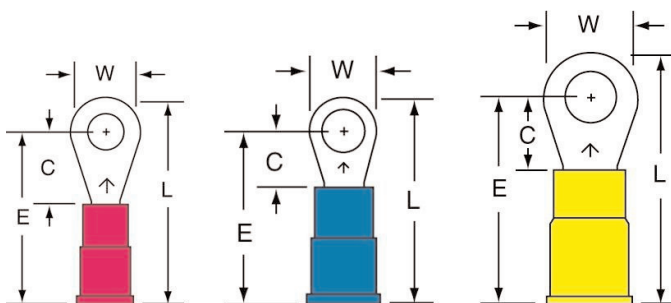
Vinyl Insulated Butted Seam – Ring Tongues

Terminal Type Ring
Terminal Style Standard
Insulation Material Vinyl
Barrel Style Butted
RoHS 2011/65/EU Yes

Agency Approval



Manufacturing Origin



Order No.	UPC	Conductor Size	Stud Size	Terminals per Bag
RV18-6Q	051128-60045	22 - 18 AWG	6	25
RV18-10Q	051128-60043	22 - 18 AWG	10	25
RV18-8Q	051128-60046	22 - 18 AWG	8	25
RV18-14Q	051128-60044	22 - 18 AWG	1/4"	25
RV14-6Q	051128-60041	16 - 14 AWG	6	25
RV14-10Q	051128-60038	16 - 14 AWG	10	25
RV14-8Q	051128-60042	16 - 14 AWG	8	25
RV14-14Q	051128-60039	16 - 14 AWG	1/4"	25
RV14-516Q	051128-60040	16 - 14 AWG	5/16"	25
RV10-10Q	051128-60032	12 - 10 AWG	10	25
RV10-6Q	051128-60036	12 - 10 AWG	6	25
RV10-8Q	051128-60037	12 - 10 AWG	8	25
RV10-14Q	051128-60033	12 - 10 AWG	1/4"	25
RV10-516Q	051128-60035	12 - 10 AWG	5/16"	25
RV10-38Q	051128-60034	12 - 10 AWG	3/8"	25