

### Why Sta-Kon® Terminals Are Better

Thomas & Betts developed the first tool-applied solderless terminals and connectors over 60 years ago in response to industry awareness of the need for better performance of electrical systems.

#### ***Chamfered/Funneled Terminal Barrel Entry***

This feature makes wire insertion faster and easier. Chamfering eliminates wire strand “hang up” and departure upon insertion into the terminal’s barrel. The loss of even a couple of wire strands can have negative results on electrical efficiency and resistance to mechanical strain.

#### ***Deep Internal Serrations***

After the insertion of a wire into the terminal’s barrel, a deep serrated interior insures a large area of contact which lowers the resistance of a connection. With the mechanical force of the tool, the wire strands cold flow into the serrated interior. This guarantees electrical resistance lower than the wire to which it is applied. This feature also prevents pullout from vibration and mechanical strain. Deep internal serrations can be compared to the effective holding power of a well treaded tire on a wet highway.

#### ***Sta-Kon's® Long Barrel Design***

If lowering electrical resistance, preventing wire pullout, eliminating a “missed” crimp and an insulator that stays on the barrel during installation are your goals, then you must design a terminal with a long barrel. Most competitive barrel lengths range from 20%-50% shorter than Sta-Kon®

terminals. The results are usually a stream of electrical failure, rework and added expense. This also provides the insulator with additional surface area, holding tight to the barrel. Many competitive insulators come off during crimping due to a limited barrel length.

#### ***Brazed or Overlapped Seam***

A long barrel design is of little value unless it is one solid piece. That is why Thomas & Betts brazes the seam on our vinyl insulated Sta-Kon® and overlaps the seam on nylon insulated terminals. Many competitive terminals have butted seams. This means increased chances for wirestrand loss, poor resistance, wire pullout and electrical failure. If the installer doesn’t position the tool exactly on the correct spot on the barrel, there’s likely going to be an improper termination. The butted seam can also fold due to tool-applied pressure piercing the terminals insulation from the inside out. With a brazed or overlapped seam the installer can crimp anywhere along the barrel’s surface providing up to 2.5 times the tensile strength of a butted seam terminal, guaranteeing proper electrical flow, void free.



- ***Chamfered Funnel Barrel Entry.***

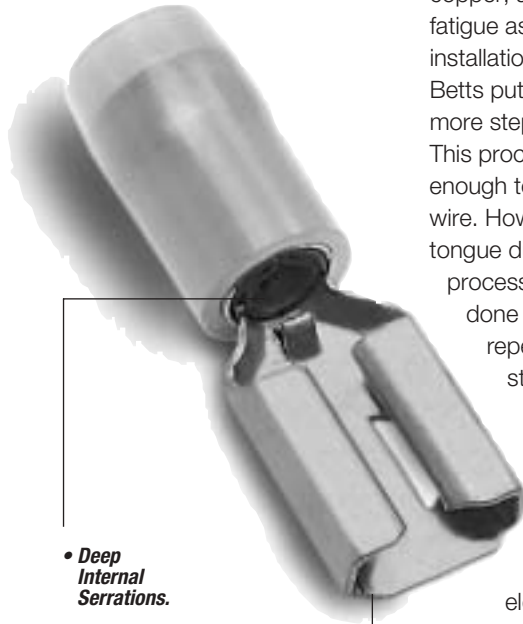
- ***Selectively annealed long barrel.***
- ***Longer barrel design.***
- ***Color-code Tefzel®, Nylon or Vinyl Insulators.***
- ***Brazed or overlapping seams.***

- ***Anti-rotational tongue.***
- ***Hardened tongue.***
- ***Complete wire and stud size identification.***



***Strands enter as a homogeneous group and compact tightly under compression due to fully brazed seam***

## Why Sta-Kon® Terminals Are Better – continued



• **Deep Internal Serrations.**

- **Flat bottom box.**
- **Electro-tin plating.**
- **Center reinforced spring detent for minimum insertion force.**
- **Compound Spring Rails provide positive contact after repeated insertions.**

### Selective Annealing

Because of the mechanical strength of copper, an installer can experience fatigue associated with repeated installations. For this reason Thomas & Betts puts our terminals through one more step called selective annealing. This process leaves the barrel soft enough to crimp and form around the wire. However, we “cold form” the tongue during the manufacturing process so it remains strong. This is done so the tongue can withstand repeated bends and bolt tightening strain common in most electrical installations. Many competitors attempt to accomplish similar goals by removing valuable material or using a softer copper which has lower conductivity. This increases electrical resistance as well as the odds for shorting and downtime.

### Anti-Rotational Tongues

This is a unique feature to the Thomas & Betts ring tongue terminal. This design prevents terminal shorting by keeping the terminal secure in the terminal block. The installer can place a greater number of terminals closer together without worry.

### Proper Identification

We identify all terminals with Thomas & Betts initials, T & B. We also indicate wire and stud sizes. These markings are clearly visible on the surface of the tongue, taking any guesswork out of replacing or reordering additional parts. Our superior bright plating also assists in visibility.

### All Sta-Kon® Terminals are Deburred and Degreased

To ensure a Sta-Kon® terminal is properly plated and insulated, all our parts are put through a process which cleans and smooths the terminal of any manufacturing by-products, mainly grease, oils and sharp edges. Many competitive products do not put their product through such rigorous finishing.

### Platings/Finish

Electroplated-Tin is standard. All others require **minimum order quantities** and are generally not stocked. Alternative platings as follows: Gold, Silver, Tin-alloys, Nickel, etc.

The following finishes are available on most one-piece Sta-Kon® terminals:

Finish	Suffix	Spec.
Gold Plate	<b>GP</b>	MIL-G-45204 Type II, Grade B, C, D, Class O
Nickel Plate	<b>NP</b>	QQ-N-290 Class 2, Grade G
Plain Finish	<b>PF</b>	None
Silver Plate	<b>SP</b>	MIL-T-16366 Type I or II, 400° F, 204° C
Tin Plate	<b>TP</b>	MIL-T-10727 Type I

To order add the indicated suffix to the regular catalog number.

### Underwriters Laboratories Listing

Sta-Kon® Rings, Fork, and Locking Forks are tested and listed to U.L. 486A, two-way splices to U.L. 486C, disconnects to U.L. 310 and all applicable products to CSA 22.2.

# Sta-Kon® Terminals



ERG-2001

Thomas & Betts is pleased to announce that Sta-Kon® RA, RB and RC insulated quick disconnect products are now UL listed at 600 volts. The previous rating was only 300 volts and we had several customers that required the additional voltage rating.

## Sta-Kon® Ring, Fork & Locking Fork

- Complete line of installing tools engineered to match tool with terminal.
- First to gain military approval for pressure connections ... many styles available for military applications.
- Sta-Kon® products exceed test specification requirements of military, U.L. and CSA.
- TEFZEL® & Nylon Terminals provided with extra metal sleeve to grip insulation.
- Vinyl insulated and bare Sta-Kon® terminals feature brazed seam wire barrels which can be crimped at any place on the barrel circumference.
- Ring & Fork terminals can be used with solid wire as followed:  
Non-Insulated: 22-8 gauge  
Insulated: 22-10 gauge

## Sta-Kon® Disconnects

- Internal barrel serrations and long barrel provide for maximum tensile strength.
- Complete line of installing tools, engineered to match tool with terminal.
- Funnel entry insulators allow for easier inserting of wire into barrel.
- Color-coded for easy installation.

## The Shure-Stake® Tools are Matched to Terminals

The Shure-Stake® mechanism prevents the dies from releasing the terminal until the proper compression has been completed. With this method, an operator achieves a reliable crimp everytime. Thomas & Betts' tooling techniques correctly match tools, wire size and terminal to produce optimum mechanical and electrical performance.

## Sta-Kon® Technical Data

Terminals & Splices Insulation Rating	U.L. 94 Flammability	Voltage	Temperature
Nylon	V-2	600V	105°C
Vinyl	V-0	600V	105°C
TEFZEL®	V-0	600V	150°C
Disconnects		600V	105°C

## The Sta-Kon® Terminal Numbering System

Distributor Package 100/50  
Bulk "O.E.M." Packaged 1000/500

### Common to Both Packages

- Letter **A** denotes 22-18 AWG wire range
- Letter **B** denotes 16-14 AWG wire range
- Letter **C** denotes 12-10 AWG wire range
- Letter **R** preceding the above letters indicates the terminal is insulated
- No letter **R...** no insulation ... no exception!

### Distributor Packaged

Part numbers are very descriptive indicating insulation and type, stud size, tongue style and the largest maximum wire that can be put inside.

- If the letter **R precedes** the number the part is nylon insulated – RA18-6
- If the letter **R follows** the number the part is vinyl insulated – 14RB-8

### EXAMPLE: 10RC-8F

C – Indicates 12-10 AWG  
10RC – Vinyl Insulated  
8 – Indicates stud size  
F – means a fork tongue terminal  
FL – would indicate locking fork

### EXAMPLE: 2RA18X

2 – Indicates a 2 way or butt style connector  
X – means expanded insulation.

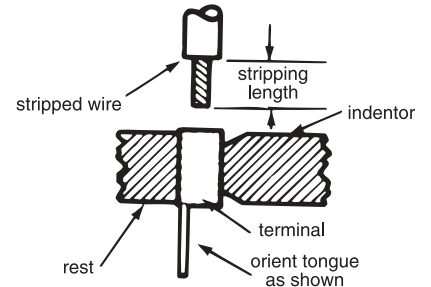
Tefzel® is a registered trademark of DuPont.

### **The Proper Installation Procedure for the Quality Assured Connection**

The proper installation of terminals, splices and connectors is very important to the efficient performance of an electrical system. The properly installed connector will allow good conductivity through the termination. A poor termination results in a high resistance connection. A poor connector installation may cause damage or failure of an entire system. Certain basic requirements must be met to make a good termination.

1. Before the connector or terminal is installed on the conductor, follow these recommended practices:
  - Strip the insulation carefully so as to avoid nicking or cutting conductor strands.
  - Strip the insulation to the proper length so that the conductors can be inserted fully into the connector barrel; the wire/cable should be visible in the inspection hole of the lug; the proper strip length can be found on page 195.
2. Thomas & Betts wire strippers will help eliminate these problems by properly gaging and measuring the depth and length requirements for the

conductor. See page 177 for wire strippers.



The terminal must be properly installed.

#### **Installation Procedure**

1. Train the wires to eliminate fanning of strands.
2. Open handles fully.
3. Insert terminal in proper die nest and locate it as shown above. When crimping a butt splice, position in proper die nest with window facing indentor.
4. Close handles slightly to secure terminal. Do not deform terminal.
5. Insert properly stripped wire into terminal.
6. Complete crimp by closing handles.



### Non-Insulated Ring

Cat. No.	Pkg. Qty.	Wire Range	Bolt Hole	Wt./Lbs. Per 1000	Dimensions			
					A	B	C	M
A18-4	100	22-16	#4	2	.75	.31	.27	.59
A18-6	100	22-16	#6	2	.72	.25	.27	.59
A85	1000	22-16	#6	2	.72	.25	.27	.59
A18-8	100	22-16	#8	2	.75	.31	.27	.59
A86	1000	22-16	#8	2	.75	.31	.27	.59
A18-10	100	22-16	#10	2	.75	.31	.27	.59
A87	1000	22-16	#10	2	.75	.31	.27	.59
A18-14	100	22-16	1/4"	3	.92	.50	.37	.67
A71	1000	22-16	1/4"	3	.92	.50	.37	.67
A18-516	100	22-16	5/16"	3	.92	.50	.37	.67
A72	1000	22-16	5/16"	3	.92	.50	.37	.67
A18-38	100	22-16	3/8"	3	.99	.54	.35	.67
A73	1000	22-16	3/8"	3	.99	.54	.35	.67
A18-12	100	22-16	1/2"	3	1.06	.72	.38	.70
A75	1000	22-16	1/2"	3	1.06	.72	.38	.70
B14-4	100	18-14	#4	2	.72	.25	.27	.59
B132	1000	18-14	#4	2	.72	.25	.27	.59
B14-6	100	18-14	#6	2	.75	.31	.27	.59
B133	1000	18-14	#6	2	.75	.31	.27	.59
B14-8	100	18-14	#8	3	.75	.31	.27	.59
B86	1000	18-14	#8	3	.75	.31	.27	.59
B14-10	100	18-14	#10	3	.75	.31	.27	.59
B87	1000	18-14	#10	3	.75	.31	.27	.59
B14-14	100	18-14	1/4"	6	.93	.50	.38	.68
B71	1000	18-14	1/4"	6	.93	.50	.38	.68
B14-516	100	18-14	5/16"	6	.93	.50	.38	.68
B72	1000	18-14	5/16"	6	.93	.50	.38	.68
B14-38	100	18-14	3/8"	6	.96	.54	.35	.68
B73	1000	18-14	3/8"	6	.96	.54	.35	.68
B14-12	100	18-14	1/2"	6	1.06	.72	.38	.70
B75TB	1000	18-14	1/2"	6	1.06	.72	.38	.70
B85	1000	18-14	#6	6	.75	.31	.27	.59
B134	1000	18-14	#8	6	.72	.25	.27	.59
BC14-6	50	heavy duty 16-14	#6	4	.81	.25	.29	.68
BC85	500	use C tooling	#6	4	.81	.25	.29	.68
BC14-8	50	heavy duty 16-14	#8	4	.87	.39	.29	.68
BC86	500	use C tooling	#8	4	.87	.39	.29	.68
BC14-10	50	heavy duty 16-14	#10	5	.87	.39	.29	.68
BC87	500	use C tooling	#10	5	.87	.39	.29	.68
BC14-14	50	heavy duty 16-14	1/4"	5	.93	.51	.29	.68
BC71	500	use C tooling	1/4"	5	.93	.51	.29	.68
BC14-516	50	heavy duty 16-14	5/16"	6	1.04	.54	.38	.77
BC72	500	use C tooling	5/16"	6	1.04	.54	.38	.77
BC14-38	50	heavy duty 16-14	3/8"	6	1.09	.63	.38	.77
BC79	500	use C tooling	3/8"	6	1.09	.63	.38	.77
BC14-12	50	heavy duty 16-14	1/2"	6	1.32	.76	.54	.94
BC75	500	use C tooling	1/2"	6	1.32	.76	.54	.94
C10-6-SK	50	12-10	#6	4	.82	.31	.27	.66
C33	500	12-10	#6	4	.82	.31	.27	.66
C10-8-SK	50	12-10	#8	5	.82	.31	.27	.66
C77	500	12-10	#8	5	.82	.31	.27	.66
C10-10	50	12-10	#10	5	.85	.38	.27	.66
C26	500	12-10	#10	5	.85	.38	.27	.66
C36	500	12-10	#10	7	.82	.31	.27	.66
C10-14	50	12-10	1/4"	7	.91	.50	.27	.66
C71	500	12-10	1/4"	7	.91	.50	.27	.66
C10-516	50	12-10	5/16"	8	.98	.50	.38	.73
C70	500	12-10	5/16"	8	.98	.50	.38	.73
C72	500	12-10	5/16"	7	1.10	.59	.45	.80
C10-38	50	12-10	3/8"	7	1.10	.59	.45	.80
C73	500	12-10	3/8"	7	1.10	.59	.45	.80
C10-12	50	12-10	1/2"	7	1.21	.72	.38	.84
C75	500	12-10	1/2"	7	1.21	.72	.38	.84

These non-insulated ring terminals are made of electrolytic copper for high conductivity. They can be installed with crimping tools having a single indenter or double indenter (recommended for solid wire). Serrated barrel increases grip on wire. Wire range identification is stamped on the tongue of each terminal.

Most standard bulk catalog numbers can be put on Mylar Tape for reel fed applications (i.e. 12050 tool and applicator dies). See pages 190-191. Please put the suffix M for Mylar Tape RA2573M.

(Bulk number 1000 and 500 packages.)

Stock Thickness:  
A & B = .03  
BC = .05  
C = .04

U.L. Listed E9809

Installing tools: WT111M, WT112M, WT110M, ERG-2002, ERG-2005, WT2000

