NOTE
All numerical values are in metric units [with U.S. customary units in brackets]. Dimensions are in millimeters [and inches]. Unless otherwise specified, dimensions have a tolerance of ±0.13 [±.005] and angles have a tolerance of ±2°. Figures and illustrations are for identification only and are not drawn to scale.

NOTE
In the event that there is difference between the information presented in this application specification versus the information found in other instruction material, this application specification will take precedence.

1. INTRODUCTION

This specification covers the requirements for application of SRC2.5 blade and receptacle terminals. These contacts are used in SRC connector having size 2.5mm terminal cavity. Each contact features a wire barrel, insulation barrel, retention feature, polarization key and mating end. In use, the retention feature holds the terminal in the connector. The contacts are available in loose-piece and strip-fed form for terminating using a hand tool or automatic machine.

When corresponding with personnel, use the terminology provided in this specification to facilitate inquiries for information. Basic terms and features of this product are provided in Figure 1.

Blade Terminal ***Receptacle Terminal***

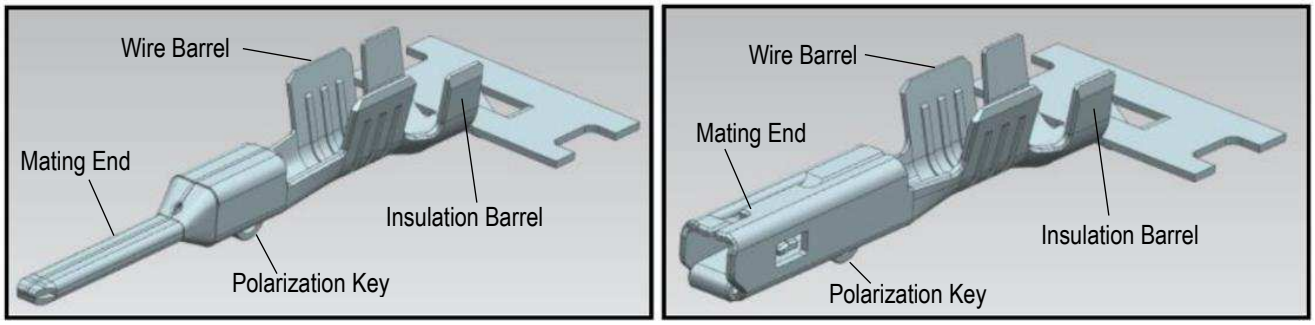

Figure 1

2. REFERENCE MATERIAL

2.1. Revision Summary

See Section 6

2.2. Customer Assistance

Product Base Part Numbers (listed below) and Product Code J80C are representative of SRC2.5 blade and receptacle contacts. Use of these numbers will identify the product line and help you to obtain product and tooling information. Such information can be obtained by visiting our website at www.te.com or calling the number at the bottom of this page.

Blade:	2500036
Receptacle:	2500037

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2.3. Drawings

Customer drawings for product part numbers are available from www.te.com. The information contained in the customer drawings takes priority.

2.4. Instruction Material

Instructional material that pertains to this product are:

4151284	OCEAN 2.0 Side-Feed Applicator, SRC2.5 Terminal
402-1002	Interpretation of Cross-Sections for F-Crimp
408-3295	Preparing Reel of Contacts for Application Tooling
408-35042	OCEAN 2.0 Side-Feed Applicators
408-7424	Checking Terminal Crimp Height and Gaging the Die Closure
408-8059	Suggested Preventative Maintenance Schedule for Applicators
408-9816	Handling of Reeled Product
409-5128	Basic AMP-O-LECTRIC* Model “K” Terminating Machines 471273-[ ]
409-5842	AMP-O-LECTRIC Model “G” Terminating Machines 354500-[ ]
409-10047	AMP 3K* Terminating Machines 1725950-[ ] and AMP 5K* Terminating Machines 1725900-[ ]
409-10099	AMP 3K/40* Terminating Machines 2116983-[ ] and AMP 5K/40* Terminating Machines 2116984-[ ]
114-18022-10	Making and Evaluation of Cross Sections for F-Crimp Termination
122-160021	Technical Information on Shelf Life

2.5. Global Standards and Publications

ISO 6722, “Road Vehicles—60 V and 600 V Single-Core Cables—Dimensions, Test Methods, and Requirements”

3. REQUIREMENTS

3.1. Storage

A. Ultraviolet Light

Prolonged exposure to ultraviolet light may deteriorate the chemical composition used in the product material.

B. Shelf Life

The product should remain in the shipping containers until ready for use to prevent deformation to components. The product should be used on a first in, first out basis to avoid storage contamination that could adversely affect performance. See 122-160021 for more information.

C. Reeled Contacts

When using reeled contacts, store coil wound reels horizontally and traverse wound reels vertically.

D. Chemical Exposure

Do not store product near any chemical listed below as they may cause stress corrosion cracking in the material.

Alkalies	Ammonia	Citrates	Phosphates Citrates	Sulfur Compounds
Amines	Carbonates	Nitrites	Sulfur Nitrites	Tartrates

3.2. Operating Temperature

These contacts are designed to operate in a temperature range of -40 to 125°C.

3.3. Material

The contacts are made of copper alloy with silver over nickel underplate.

NOTE

1) Silver plated contacts are provided with an anti-tarnish protective coating. This protective coating loses its protective effect after 6 months to 2 years, depending on the respective ambient conditions. This leads to oxidation (tarnish) of the silver and discoloration be yellow, tan, blue, brown, or black. This discolored appearance is normal and does not affect product function. This oxide layer is composed of silver sulphide and is permeated during insertion upon final assembly of the contact system, so that the electrical properties generally continue to be comparable with those of a new part.

2) Use sulfur-free gloves, packaging, etc. when handling silver plated contacts

3.4. Wire Size and Preparation

The contacts accept stranded wire sizes and insulation diameters using wire standards in Section 2.5. For insulation diameter per contact, refer to the customer drawing for the contact. The wire must be stripped within the dimensions given in Figure 2. Special wire type which may require special applicator tooling settings, crimp requirements are not covered in this specification.

CAUTION

The wire conductors and insulation must not be nicked, scrapped, broken, or cut during the stripping operation.

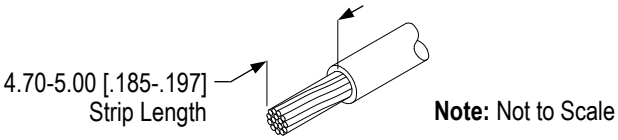


Figure 2

3.5. Crimp

The contact must be crimped to the wire according to instructions packaged with the tooling. These requirements apply equally to the blade and receptacle terminals. It is essential to have the applicator feeding mechanism adjusted correctly to ensure the contact is positioned centered on the crimp anvil. Refer to the applicator instruction sheet for adjustment instructions.

A. Cutoff Tab

The cutoff tab is considered the remaining portion of the carrier strip after the contact is cut from the strip. The cutoff tab must not exceed the dimension given in Figure 3.

B. Wire Barrel Seam

The wire barrel crimp must form a closed seam over the entire length of the wire barrel. Refer to Figure 3.

C. Wire Barrel Crimp

The crimp applied to the wire barrel portion of the contact must be the most compressed area. All conductors within the wire barrel crimp must show evidence of compression. Good compression is guaranteed by following the given crimp dimensions, Section 3.6. The crimp barrel is filled with the conductor strands. All conductor strands within the wire crimp must show evidence of compression. Voids due to unequal roll-in of the crimp barrel legs, uneven distribution of strands or unfavorable tolerance set of wire cross section area, crimp height and material thickness, are not permissible. The crimped area must be symmetrical on both sides of the wire barrel. The thickness of the wall must be uniform. See 114-18022-10 for more information how to make and evaluate F-crimp cross sections.

The crimp barrel inside wall is formed to the shape of the strands for an intimate contact. All existing wire strands are enclosed within the wire barrel. Any stranding outside the crimp barrel or broken strands outside the wire crimp are not permissible. If low compression occurs, the number of strands must be checked. To avoid over compression, which would favor wire barrel flash, the wire crimp height may not be beyond the limitation.

All conductors must be centered within and held firmly inside the wire barrel. No strands can be folded back over the wire insulation. There must be no evidence of loose wire strands or wire strands visible in the seam. The wire insulation must not enter the contact wire barrel. Refer to Figure 3.

The wire barrel crimp height and width must be within the dimensions provided in Section 3.6.

D. Insulation Barrel Crimp

The insulation barrel shall not have burrs. The insulation barrel crimp shall grip the wire insulation firmly. The insulation barrel crimp (including the cutoff tab) must be equal to or less than the wire insulation outside diameter.

The wire stripping tool may leave corrugated indentations on the surface of the wire insulation. This is especially severe with cross-linked polyethylene (high-temperature) wire insulation. If the wire is positioned with these indentations at the connector wire seal, leakage may result. The wire insulation surface must be smooth and free of indentations within the area described in Figure 3.

There may be a slight deformation of the wire insulation. There may be skewing of the wire insulation.

E. Bellmouths

Front conductor brush is permissible. The rear bellmouth shall conform to the dimensions given in Figure 3.

F. Wire Conductor and Insulation Location

The wire conductor and insulation must be visible between the contact wire barrel and insulation barrel. Conductor ends must be flush with or extend beyond the end of the wire barrel to the dimension given in Figure 3.

G. Wire Barrel Flash

Wire barrel flash is the formation that may appear on one side of the wire barrel as the result of the crimping process. It must not exceed the dimension provided in Figure 3.

There must be no cracking at the bottom of the wire barrel—independent of the size of the flash.

H. Mating End

The mating end of the contact must not be bent or damaged in any way. See Figure 3.

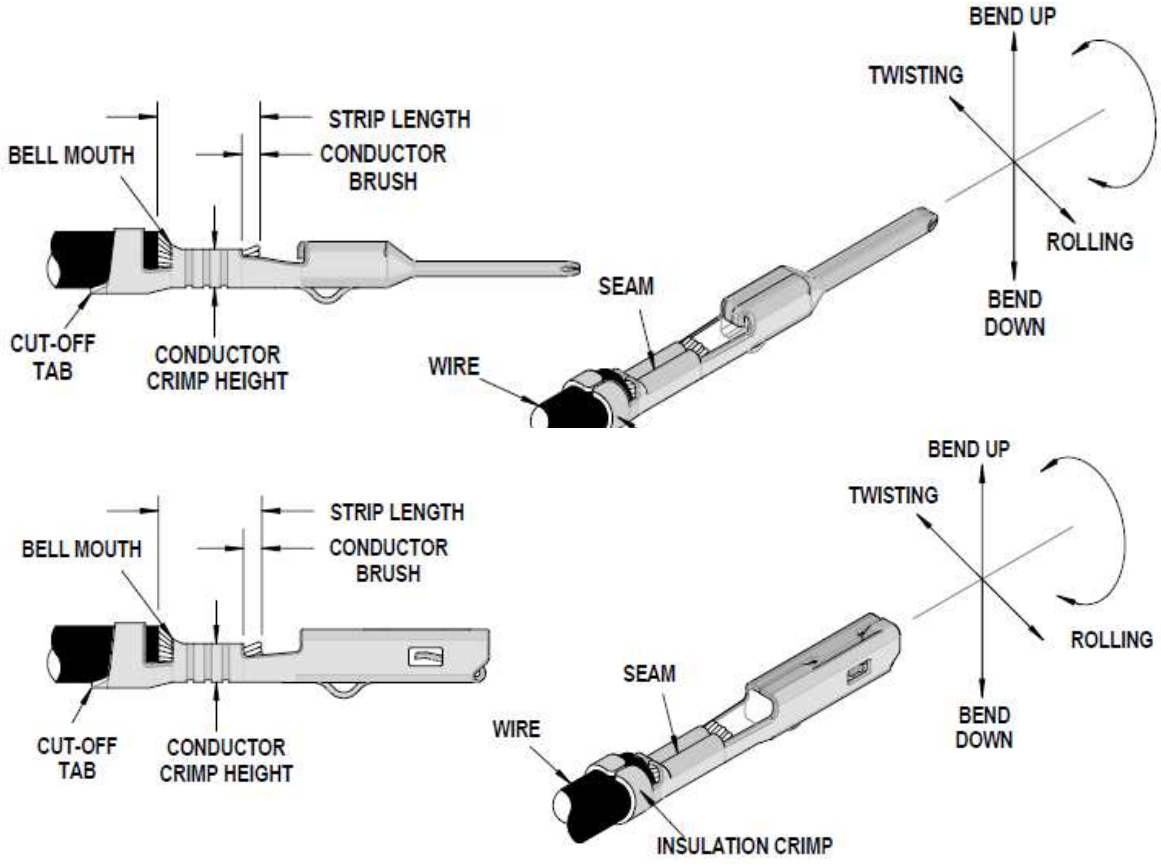
I. Bend Allowance

The force applied during crimping may cause some bending between the crimped wire barrel and the mating portion of the contact. Such deformation is acceptable within the limits provided in Figure 3.

The up-and-down bend of the crimped portion of the contact, including the cutoff tab and burr, and the side-to-side bend of the crimped contact must not be bent beyond the limits given.

NOTE

1. Periodic inspections must be made to ensure crimped contact formation is consistent.
2. Periodic inspection of applicator tooling must be made to ensure parts are tightened in the correct position.
3. Perform regular maintenance and tool wear inspection. See applicator instruction sheet for more information.



Terminal PN	Bellmouth	Cut-off Tab Max.	Conductor Brush Max. (See Note)
2500036-2 2500037-2	0.30-0.70 [.012-.028]	0.40 [.016]	0.40 [.016]

NOTE

1. It is very important the brush length is consistently within specification for the sealed connector system to work properly.
2. The applicator should only be run in a properly setup automatic wire processor to consistently achieve the brush length.
3. Any attempt to use the applicator outside a properly setup automatic wire processor will likely not meet the brush specification and cause the sealed connector system to not work properly.

Terminal PN	Bend Up	Bend Down	Twist & Roll	Punch Width (Ref)		Seam
	Degree Max.	Degree Max.	Degree Max.	Conductor	Insulation	
2500036-2 2500037-2	3	3	3	2.50 [.098]	3.10 [.122]	Seam shall not be open, and no wire allowed out of the crimping area

Figure 3

J. Crimp Station Lube

Pre-lube the contacts prior to crimping using Stoner Terminal Lubricant, Item #E807 along with TE Lubricator 2119955-X . See Figure 4.

(For the TE OCEAN Atlantic Version applicators, use part number 2119955-1.)

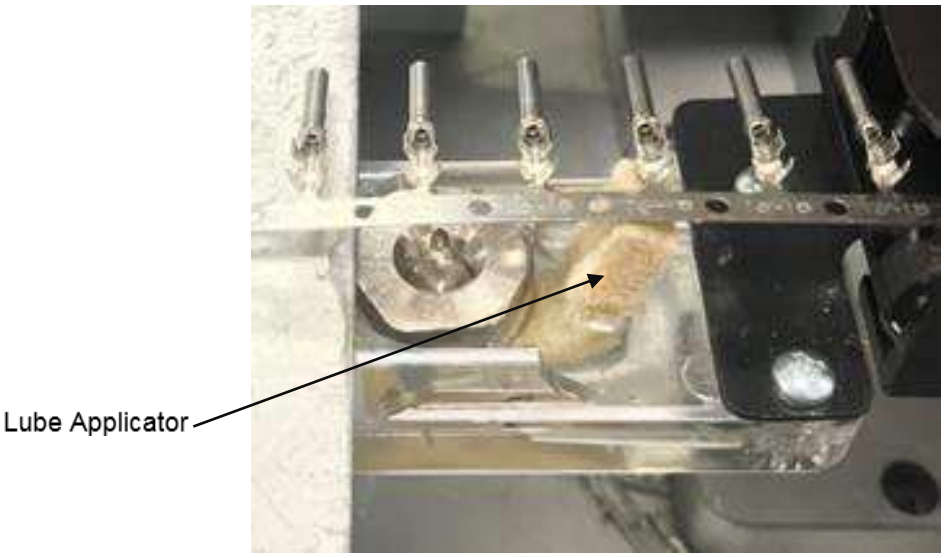


Figure 4

(P/N 2119955-1 shown)

3.6. Crimp Specifications

Applicator 4151284-1 (408-35042) is required to crimp SRC 2.5 terminals. Contact Application Tooling for additional information and hand tool part numbers.

Terminal PN	Wire Type	Wire Size	Conductor		Insulation		Pull Force Min. N [lbf]
			Crimp Height	Crimp Width (ref)	Crimp Height Max.	Crimp Width Max.	
2500036-2 2500037-2	FLRY-B FLRYW-B	2.5mm²	1.80-1.90 [.071-.075]	2.60 [.102]	3.20 [.126]	3.30 [.130]	210 [47.3]

NOTE

1. Pull Force should be measured with no influence from the insulation crimp.

2. The above specifications are guidelines to an optimum crimp.

3. Insulation Crimp Height can be adjusted accordingly to the wire insulation OD to meet A620 requirements

3.7. Processing

Care must be taken when transporting, storing, or processing crimped contacts and wires that any damage or soiling of the contact body or crimped area is avoided. When processing the end of the wire or anywhere along the wire, damage or impairment of the crimped contact must be avoided.

For a twisting operation after crimping or inserting a contact to a connector, the twist must end at least 35 [1.38] away from the contact. Additional care must be taken during or after the twisting operation to avoid any pulling force to the contact or crimped area that may affect the function of the connector.

TE has not tested, nor otherwise verified, contact performance after processing of the connected wire by ultrasonic welding. TE does not make any representation or warranty, expressed or implied, and disclaims any and all liability, on any legal basis whatsoever, for contact performance after ultrasonic welding of the connected wire. Customer takes sole responsibility for the evaluation, application, and use of contacts in such circumstances.

3.8. Replacement and Repair

Damaged or worn contacts cannot be repaired. A contact can be replaced provided there is sufficient slack to insert the new contact into the connector. An extraction tool must be used to remove individual contacts from the connector.

4. QUALIFICATION

SRC2.5 blade and receptacle terminals do not require agency approval.

5. TOOLING

Tooling part numbers and related instructional material are given in Figure 5.

5.1. Hand Tools

The hand crimping tools consist of a handle assembly with integral fixed crimping dies. The dies have crimping chambers used to crimp the contact onto pre-stripped wire.

5.2. Applicators

The applicators are designed to crimp strip-fed contacts onto pre-stripped wire, and provides for high volume, heavy duty production requirements. These applicators accept interchangeable crimping dies and must be installed onto a power unit.

5.3. Power Units

These power units provide the force required to drive applicators. They provide for high volume, heavy duty production requirements. All of the power units are stand-alone machines; except the basic AMP-O-LECTRIC Model “K”, which is designed to be bench mounted.

5.4. Extraction Tools and Removal Tool

The extraction tools and removal tool are designed to remove the contacts from the connectors by releasing the contact from the housing without overstressing any part of the contact.

5.5. Crimping Dies

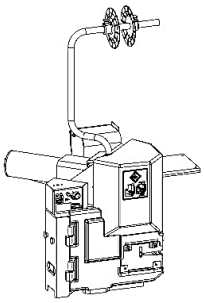
The dies are designed to be installed into an applicator. The dies form the crimp when crimping the contact.

5.6. Micrometer

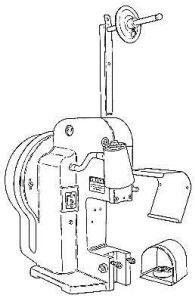
A micrometer should be used to measure contact crimp height.

OCEAN 2.0 Side-Feed Applicator
4151284-1 (408-35042)

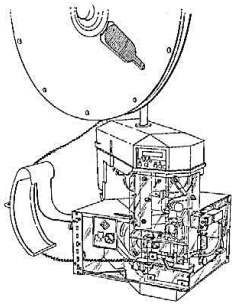
AMP 3K/40 Terminating Machines 2119683-[ ] or AMP 5K/40 Terminating Machines 2119684-[ ] (409-10099)



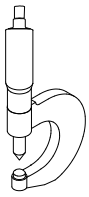
AMP 3K Terminating Machines 1725950-[ ] or AMP 5K Terminating Machines 1725900-[ ] (409-10047)



Basic AMP-O-LECTRIC Model "K" Terminating Machines 471273-[ ] (409-5128)



AMP-O-LECTRIC Model "G" Terminating Machines 354500-[ ] (409-5842)



Crimp Height Micrometer 675836 (408-7424)

Crimp Height Micrometer (With Peak) 547203-1 (408-7424)

Figure 5

6. REVISION HISTORY

Rev Ltr	Brief Description of Change	Date	Dwn	Apvd
A	Initial Release	12-Oct-22	David Meyer	Ilina Grantcharova
B	Corrected document number. TEC-114-160021 Added 4151284-1 OCEAN Applicator information	28-Apr-2023	David Meyer	Chinmay Bhatt
C	Page 2, Sec 2.4. Added 122-160021 Shelf Life Page 6, Sec 3.1.B. Added “See 122-160021 for more information.”	08-Apr-2024	David Meyer	Chinmay Bhatt