



Quality Complaint Handling Handbook

Identifying Quality Issues



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Purpose Statement

The Purpose of the Quality Complaint Handling Handbook is to reduce the number of non-value add concern entries with TE through our Channel Distribution partners.

The Quality Complaint Handbook

- Document with criteria regarding Customer's product questions or concerns.
- Clarifications on criteria and standardized decision making among different Distributors.
- Textual inputs for answering Customer questions or concerns, allows for immediate response.
- Means to reduce the number of Customer complaints, through increased understanding of TE product requirements and criteria.

Adding Value to Quality Concerns Communication Matrix - America

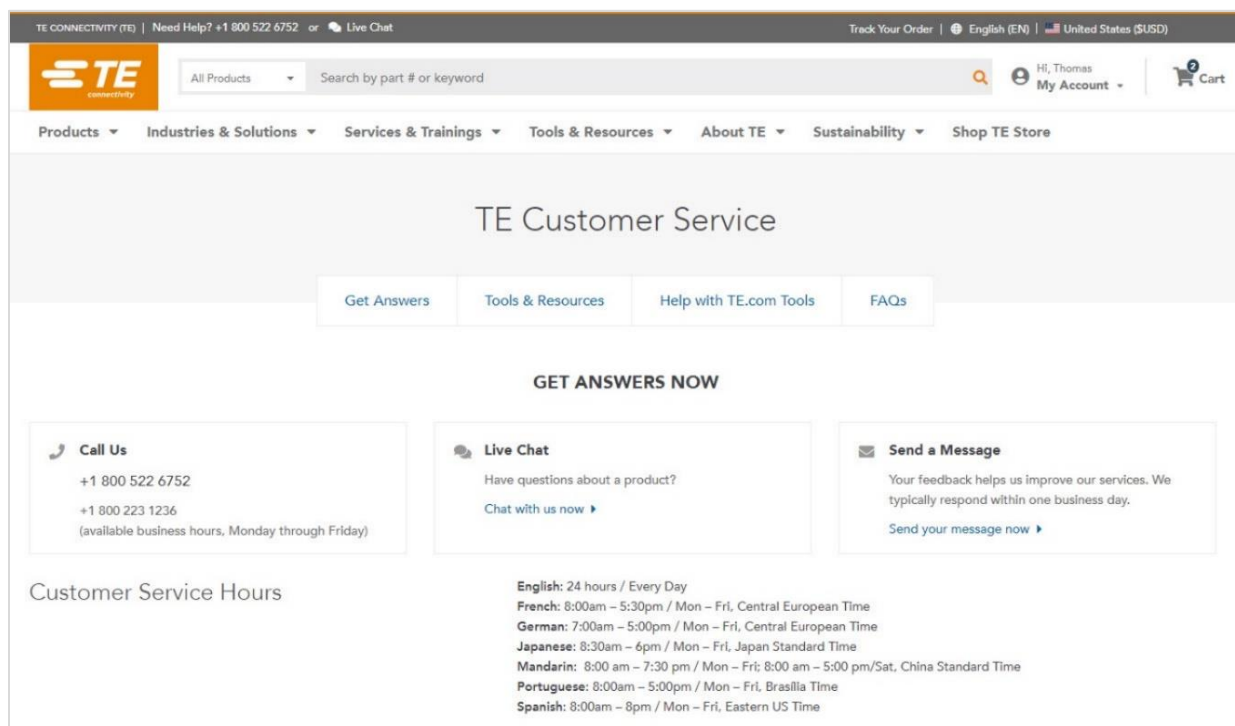
Requested Steps for the Distribution Partner

Steps to be followed before entering a Non-Conforming Notification System (NNS) request.

- Check the Product information page on www.te.com. Here you can find product drawings to check dimensions, Application Specs, Packaging Specs, Product Change Notifications, etc.
- Check this Customer Support Response Handbook
- Contact a TE Representative for any queries or product concerns you may have.
- Contact your Field Application Engineer for any application related questions or concerns.
- If you are not able to find a solution via the above steps, then enter an NNS complaint via www.te.com (e-commerce)

How to Connect a TE Solution Consultant

Login to TE.com to connect to your TE Solution Consultant via Phone, Live Chat or Email.



The screenshot shows the TE Customer Service website. At the top, there's a navigation bar with the TE logo, a search bar, and links for 'Track Your Order', 'English (EN)', and 'United States (\$USD)'. Below the navigation bar, there's a main header with 'TE Customer Service' and four buttons: 'Get Answers', 'Tools & Resources', 'Help with TE.com Tools', and 'FAQs'. Under 'GET ANSWERS NOW', there are three boxes: 'Call Us' with phone numbers +1 800 522 6752 and +1 800 223 1236, 'Live Chat' with a 'Chat with us now' button, and 'Send a Message' with a 'Send your message now' button. At the bottom, there's a 'Customer Service Hours' section listing support hours for English, French, German, Japanese, Mandarin, Portuguese, and Spanish.

Global Contact Matrix

Environmental Concerns

- [Product Compliance Website](#)

Email (if no data available on Compliance Website)

- [Product Compliance](#)
- [Conflict Minerals](#)

TE Site Certifications

- [TE Site Certifications](#)

Adding Value to Quality Concerns Communication Matrix - APAC

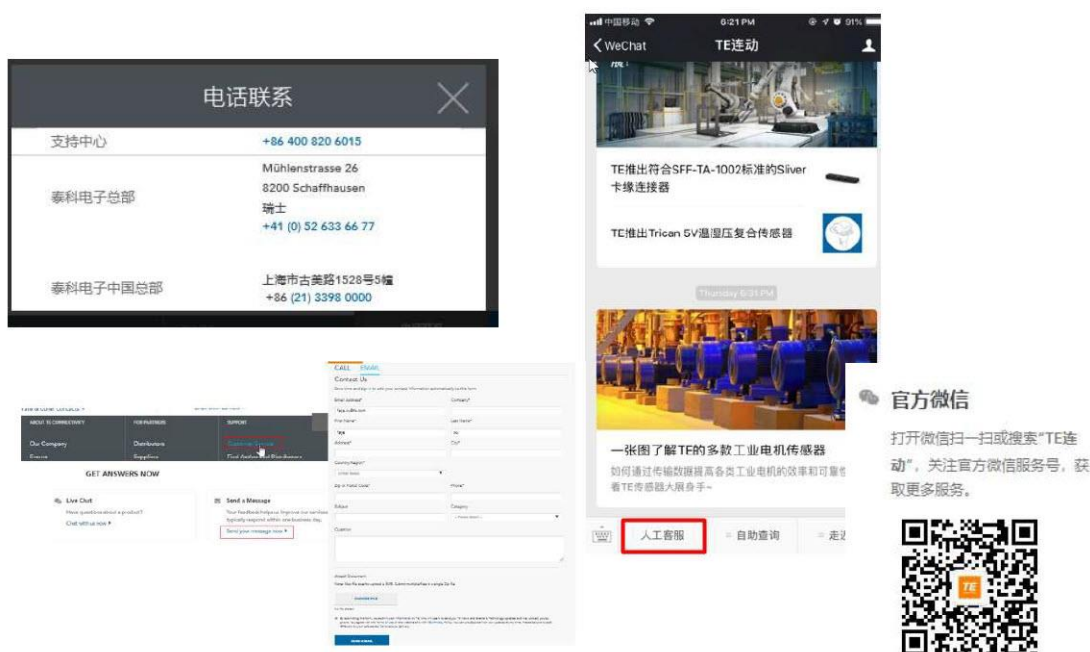
Requested Steps for the Distribution Partner

Steps to be followed before entering a Non-Conforming Notification System (NNS) request.

- Check the Product information page on www.te.com. Here you can find product drawings to check dimensions, Application Specs, Packaging Specs, Product Change Notifications, etc.
- Check this Customer Support Response Handbook
- Contact a TE Representative for any queries or product concerns you may have.
- Contact your Field Application Engineer for any application related questions or concerns.
- Contact the Tooling Assistance Centre : TEFE1AP@te.com for any queries related to TE tooling, seating concerns, etc.
- If you are not able to find a solution via the above steps, then enter an NNS complaint via www.te.com (e-commerce)

How to Connect a TE Solution Consultant

Login to TE.com to connect to your [TE Solution Consultant](#) via Phone, Live Chat, WeChat or Email.



The image displays three different ways to contact TE support:

- Phone Contact (Top Left):** A screenshot of a mobile app interface titled '电话联系' (Phone Contact). It lists contact information for the '支持中心' (Support Center) and '泰科电子总部' (TE Electronics Head Office), including phone numbers and addresses in Switzerland and China.
- Web Contact (Bottom Left):** A screenshot of the TE website's support page. It features a 'GET ANSWERS NOW' section with options for 'Live Chat', 'Email', and 'Send a Message'. A 'CALL' button is also visible.
- WeChat Contact (Right):** A screenshot of a WeChat interface. It shows a 'TE连动' (TE Connection) chat window with a QR code for scanning. Below the chat window, there is a '官方微信' (Official WeChat) section with a QR code and text encouraging users to follow the official account for more services.

Global Contact Matrix

Environmental Concerns

- [Product Compliance Website](#)

Email (if no data available on Compliance Website)

- [Product Compliance](#)
- [Conflict Minerals](#)

TE Site Certifications

- [TE Site Certifications](#)

Adding Value to Quality Concerns Communication Matrix - EMEA

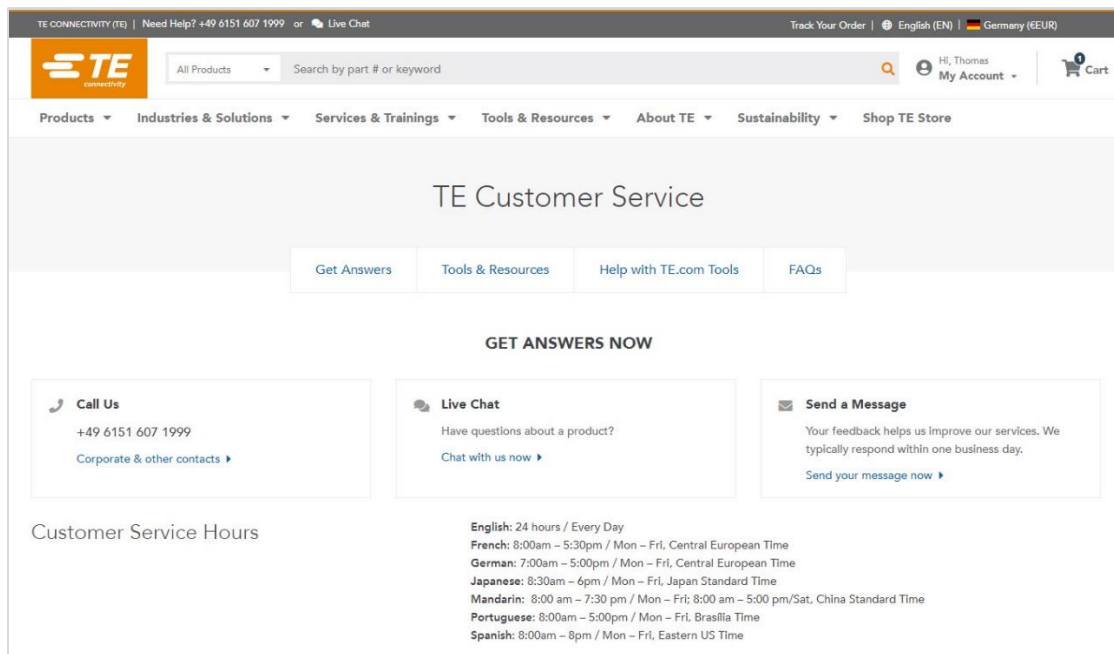
Requested Steps for the Distribution Partner

Steps to be followed before entering a Non-Conforming Notification System (NNS) request.

- Check the Product information page on www.te.com. Here you can find product drawings to check dimensions, Application Specs, Packaging Specs, Product Change Notifications, etc.
- Check this Customer Support Response Handbook
- Contact a TE Representative for any queries or product concerns you may have.
- Contact your Field Application Engineer for any application related questions or concerns.
- Contact the Tooling Assistance Centre : tac-emea@te.com for any queries related to TE tooling, seating concerns, etc.
- If you are not able to find a solution via the above steps, then enter an NNS complaint via www.te.com (e-commerce)

How to Connect a TE Solution Consultant

Login to TE.com to connect to your TE Solution Consultant via Phone, Live Chat or Email.



Global Contact Matrix

Environmental Concerns

- [Product Compliance Website](#)

Email (if no data available on Compliance Website)

- [Product Compliance](#)
- [Conflict Minerals](#)

TE Site Certifications

- [TE Site Certifications](#)

Adding Value to Quality Concerns Communication Matrix - Japan

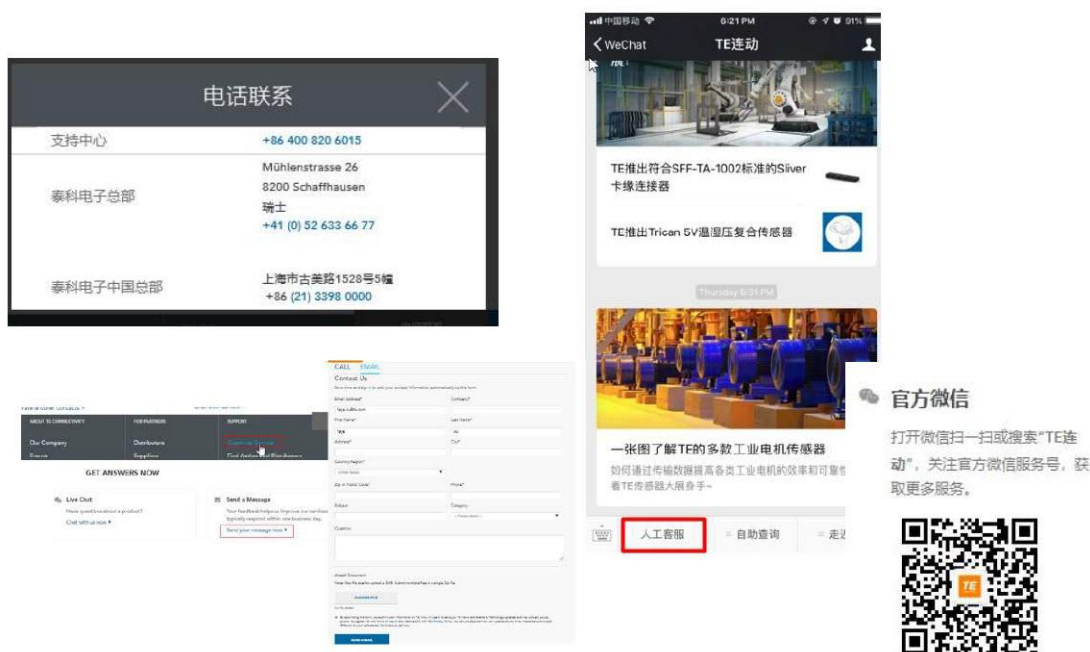
Requested Steps for the Distribution Partner

Steps to be followed before entering a Non-Conforming Notification System (NNS) request.

- Check the Product information page on www.te.com. Here you can find product drawings to check dimensions, Application Specs, Packaging Specs, Product Change Notifications, etc.
- Check this Customer Support Response Handbook
- Contact a TE Representative for any queries or product concerns you may have.
- Contact your Field Application Engineer for any application related questions or concerns.
- Contact the Tooling Assistance Centre : TEFE1AP@te.com for any queries related to TE tooling, seating concerns, etc.
- If you are not able to find a solution via the above steps, then enter an NNS complaint via www.te.com (e-commerce)

How to Connect a TE Solution Consultant

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The image displays three different methods for contacting TE support:

- Phone Contact (Top Left):** A screenshot of a contact card showing the support center (+86 400 820 6015), the TE Technology Center in Schaffhausen, Switzerland (+41 (0) 52 633 66 77), and the TE Technology Center in Shanghai, China (+86 (21) 3398 0000).
- Live Chat (Bottom Left):** A screenshot of the TE website's live chat interface, showing options to 'GET ANSWERS NOW' via 'Live Chat' or 'Send a Message'.
- WeChat (Right):** A screenshot of the 'TE 连动' (TE Connect) WeChat interface. It features a header with the TE logo, a main content area with product highlights (e.g., 'TE推出符合SFF-TA-1002标准的Silver 卡座连接器'), a '官方微信' (Official WeChat) section with a QR code, and a '人工客服' (人工客服) button highlighted in red.

Global Contact Matrix

Environmental Concerns

- [Product Compliance Website](#)

Email (if no data available on Compliance Website)

- [Product Compliance](#)
- [Conflict Minerals](#)

TE Site Certifications

- [TE Site Certifications](#)

Case Sharing

TE Products

Scope

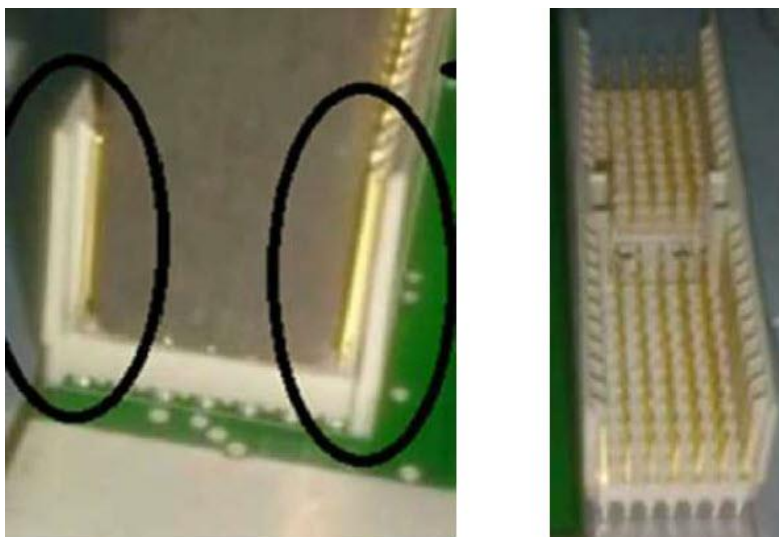
This document helps to perform a visual inspection of a product produced by TE Connectivity (TE).

Examples below are provided to support you, with a definition of what is not defined as a non-conformity. If clarification is necessary, please contact the TE Solution Consultant as per the Communication Matrix, enclosed in this document.

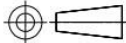
This document is valid, independent if it is referred on a drawing

Product Damages

Damaged Connectors during the Seating Process using the incorrect Seating Tool.



If a Customer complains about damaging the connector, during the seating operation, first verify the TE Application spec called out on the TE Customer Drawing to determine what seating tool TE specifies.

THIS DRAWING IS A CONTROLLED DOCUMENT.		DWN B.CARBO 24JAN05	 TE Connectivity			
		CHK G.SKIPPER 24JAN05				
		APVD G.SKIPPER 24JAN05				
		PRODUCT SPEC 108-19082				
DIMENSIONS: mm	TOLERANCES UNLESS OTHERWISE SPECIFIED:	NAME MALE ASSEMBLY, Z-PACK 2mm HM, TYPE A				
	Ø PLG ± —	APPLICATION SPEC	SIZE	CAGE CODE	DRAWING NO	RESTRICTED TO
	1 PLG ± 0.1	114-19029	A1	00779	C=5100668	—
	2 PLG ± — ±0.2	WEIGHT	—			
	3 PLG ± —	CUSTOMER DRAWING				
MATERIAL	ANGLES	SCALE 4:1				
1	FINISH SEE TABLE	SHEET 1 OF 2				
		REV D1				

Product Damages

Parts said to be damaged as received from TE.



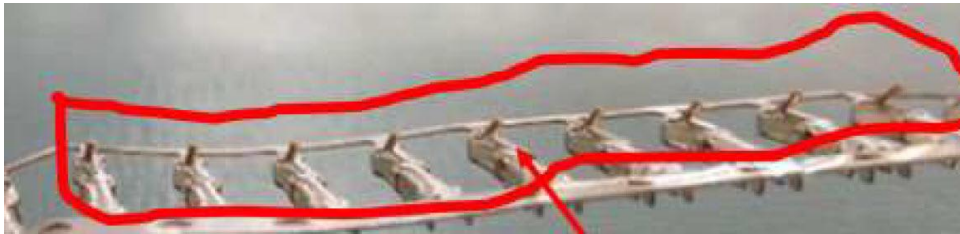
To assist in our investigation, please provide photos of original shipping carton.

If there is evidence of repackaging or abuse after shipping damage do not enter a complaint against TE.

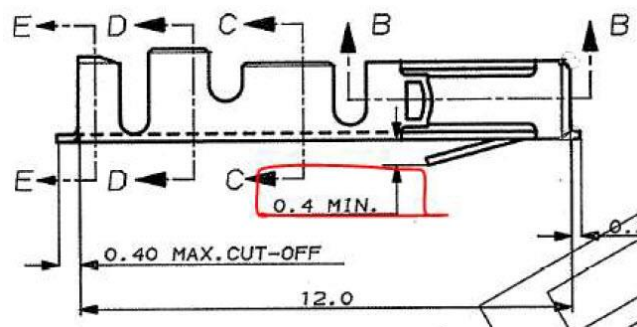
Product Dimension Shape/Size/Coplanarity/Specification

Dimensional

The dimensions 1, 6 and 16,2 are out of tolerance. Thickness of the strip is not regular.



Relevant product tolerances are mentioned on the TE Customer Drawings.



Measurement method is required to be followed to prevent incorrect measurement. To have a more appropriate measurement system we suggest using the projector profile for terminal dimension and Micrometer for strip.



If in doubt, contact TE to ensure correct measurement is done.

Dimensional

Tight Terminal fit in the Housing.

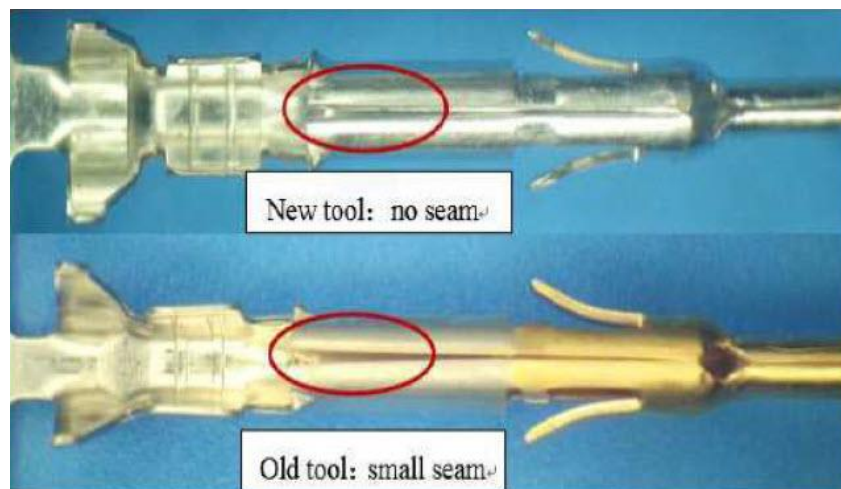


The difficulty in inserting the terminals into the housings may be due to a incorrect crimping process on the terminals. The incorrect crimping process affects the straightness of the terminals and consequently the insertion into the housing.

Verify on the TE Application spec, on the TE Customer Drawing or TE.com, what Application Tooling is specified.

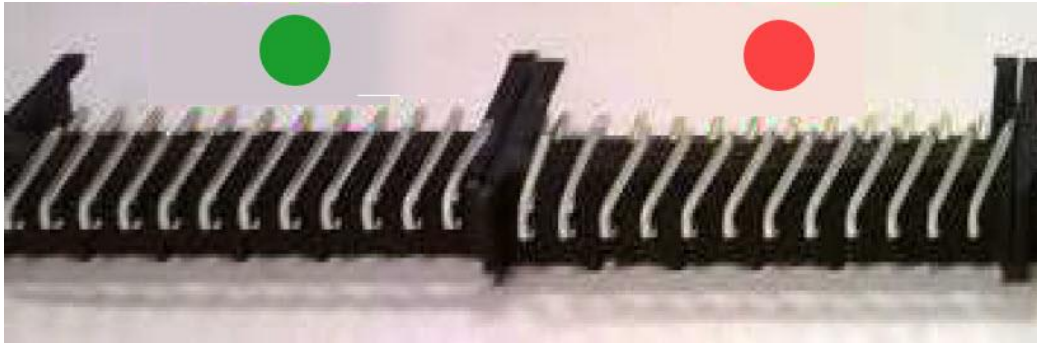
Shape Flaring of Stamped Contacts

Small visible seam meets TE's drawing dimensions and does not influence the function.



Pin Deformed

Concern: Assembly – Mod II Header

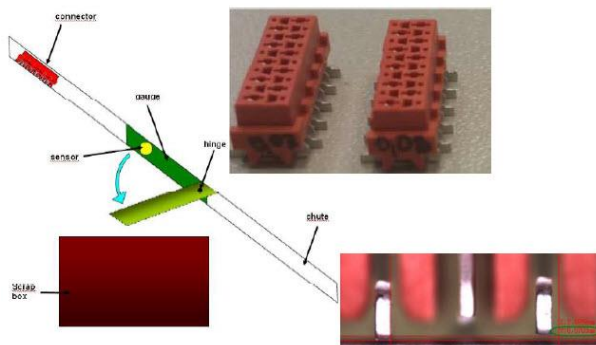


This type of deformation does not occur during our process. The Assembly Machine centers the insertion of the terminal with a centering device. The housings are fitted on the centering device and the pins enter the holes of the device. This is not compatible with the deformation shown.

- Verify the TE Application spec called out on the TE Customer Drawing to determine what tools TE specifies.
- Please ensure pictures of packaging evidence in case of damaged or deformed parts.

Mechanical Damages

- Coplanarity – Automated 100% Detection



- Bent Pins – Automated process at TE and End of Line testing, tested packaging method

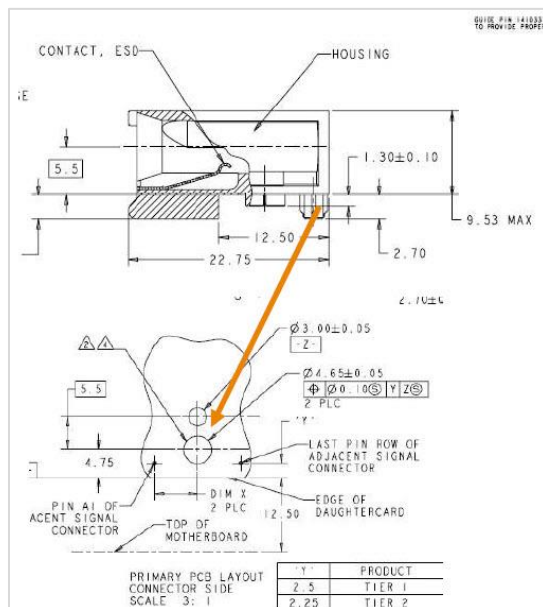


Products

Function/Application

Product Dimension out of TE Specification

The Customer misinterpreted the TE drawing and assumed that the retention feature was the same size as the hole diameter specified in the PCB layout.



For this design, the retention feature is larger than the PCB hole diameter to create an interference fit.

Before entering a complaint for a dimensional nonconformance, please contact the TE Solution Center to review the case and determine if a complaint is warranted.

Assembly Pre-lock



If the product feature is moved out of the Pre-locked position, please move back to the Pre-lock position, and continue with mounting process.

Instructions of locking/unlocking are available in product application document.

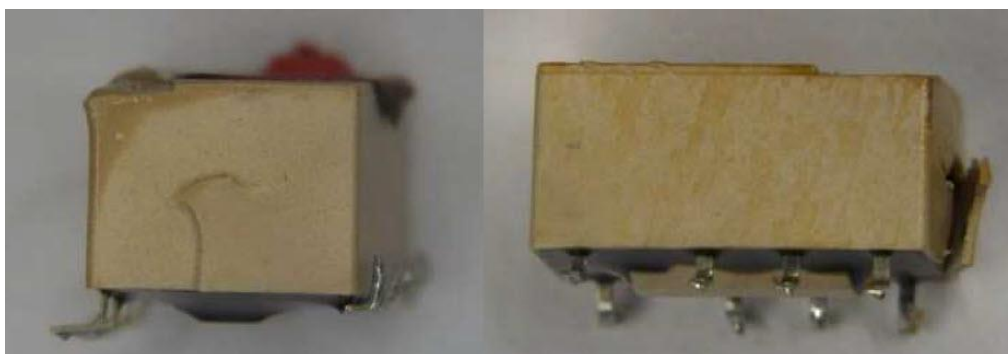
Relay Products

Function/Application

IM/P2 Relays

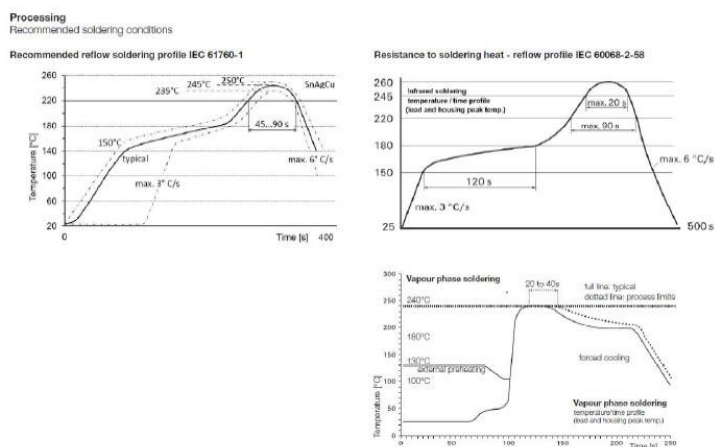
Cracked Housing

When the miniature relays have humidity inside, the internal pressure during the reflow soldering process will increase, resulting in possible cracks at the position of the molding flow lines, as these are the areas with the least mechanical resistance.



Conform to the soldering process guidance, **MSL3** and application documents.

- Application Sheet
- IM Relays Data sheet



Overheating of Contact

Relays have limited resistance to temperature according to TE specification (please refer to our definitions available on the [Relays landing page](#)).

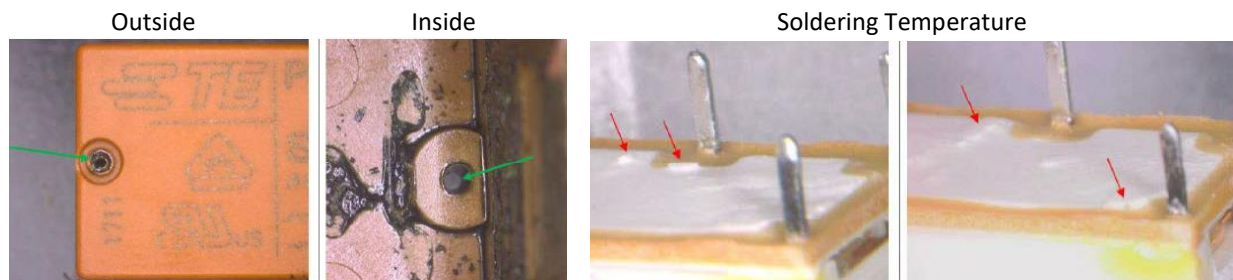


For this non-conformity to occur this most likely occurs due to environmental / application conditions outside relay specification.

For investigations, these environmental conditions should be reviewed prior to entry of concern.

PE Relays – Contamination Inside

- Flux proof relays have contamination entering through vent hole on top of relay.
- Wash tight version compatibility to lacquer, solvents, and drying process.
- Deformation of underside due to high soldering temperatures.
- Mechanical shock and/or drop cause possible internal mechanical damages.
- Versions with sealed vent hole are available.

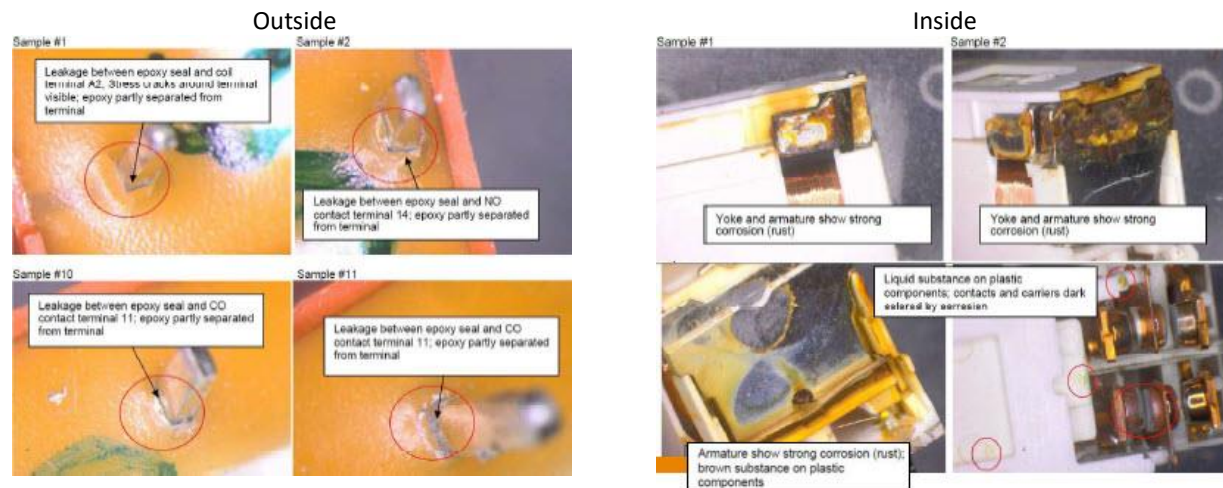


RT Relays

- Small leakages may lead to contamination, corrosion, and deposits inside.



- Foreign liquids entering through open vent hole during cleaning or flux.



- Mechanical shock and/or drop can cause possible internal mechanical damages

RZ Relays

- No more switching - due to welded contacts – due to overload
 - Below images shows visible signs of welded contacts



Bent / Damaged Terminals



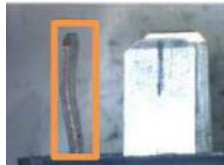
- Mechanical impact on the relay which affected the layout of the terminal can occur during transportation, handling, or insertion at the Customer processing.



- Bent and/or damaged that occurs during insertion or Customer processing, typically show marks in/on the surface of the contacts.



- The forces that cause these marks are not applied during the relay's manufacturing and testing processes.



Product Finish

Plating/Molding/Coating/Color

Gold Flash Over Nickel Plating Appearance

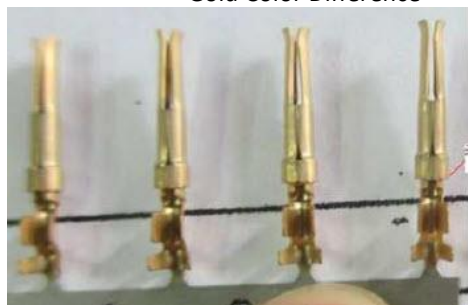
The product which has a flash of gold plating over a matte nickel deposit may present variation in appearance. The reason is that the gold layer is very thin and will show what is underneath it.

Variation in the surface finish of the nickel deposit is common and acceptable. This variation will cause different cosmetic appearances of gold surface.

Contact Product Information Centre (PIC) if Customer has questions.

 PLATED WITH .000015 GOLD IN LOCALIZED GOLD PLATE AREA, GOLD FLASH ON REMAINDER, OVER .000050 NICKEL.

Gold Color Difference



Acceptable



Low Gold Plating Thickness Concern

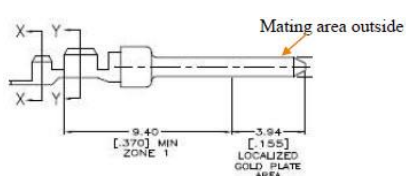
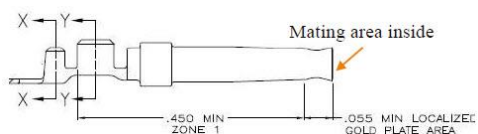
When there is a Customer complaint for low gold plating. Please verify the Customer drawing and confirm the requirement.

 PLATED WITH .000030 GOLD ON INSIDE OF LOCALIZED GOLD PLATE AREA, GOLD FLASH ON ZONE 1, ALL OVER .000050 NICKEL UNDERPLATE.
OR
GOLD FLASH OVER PALLADIUM-NICKEL, .000030 TOTAL ON INSIDE OF LOCALIZED GOLD PLATE AREA, GOLD FLASH ON ZONE 1, ALL OVER .000050 NICKEL UNDERPLATE.

TE uses either Palladium Nickel under Gold flash or 30u" of gold.

Customers need to verify the part they ordered and select the correct inspection method.

Gold plating is applied to a specific zone and not to entire contact, so the point of measurement is critical. Socket pins have the plated zone inside the contact. Pins contacts have a small section of the pin where the connection will occur.



You can contact, with related FAE/PIC in advance.

Chromate Coating Discoloration



Yellow chromate surfaces are intended for protection purposes not for decorative purposes.

Chromate coating process depends on the type of product, some are designed to provide longer protection.

Parts visually comply with the requirements of the TE Workmanship Standard 101-331.

YELLOW CHROMATE CONVERSION COATING
ON AMPLIMITE® HARDWARE



ACCEPTABLE
Yellow - Yellowish Brown



ACCEPTABLE
Light Green

Female Screw Locks with Missing Chromate Inside Threaded Holes



This condition is caused by trapped air inside the threaded hole during plate or chromate process, the condition is considered merely cosmetic and will not cause assembly issues.

Surface Discoloration – Light Brown Spots AMPLIMITE Tin Plated Products



Tin plated surfaces on products may present some discoloration that may go from light yellow to light Brown. These conditions are considered acceptable according to TE Workmanship Specification 101-32069.

The condition is considered merely cosmetic and does not present an issue to the product performance.



Dark Brown /
Black Stains



Light Brown
Stains

Assembly – Discoloration for Sn/Tin Plating

Definition

Discoloration of surface found after storage.

Detect area

Shell all surface with Sn/Tin plating.

Comment and suggestion

1. Discoloration of surface will not impact function.
2. The discoloration present on the shells' surface is a form of tin oxide. Some tin oxidation and discoloration of Sn/Tin plated product is a normal phenomenon over time after storage.

Initial Status: Normal

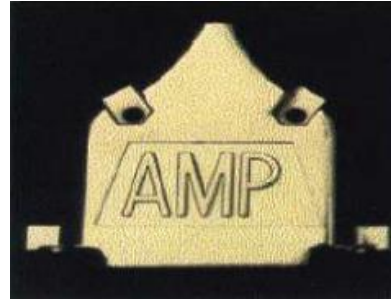


Acceptable Status: Discoloration After Storage



Yellowish Appearance Die Cast Plated Shells

Finished surface appearance in electroplated shells may have differences in color. This condition is related to reflectivity of the surface finish and considered acceptable according to TE Workmanship Specification 101-255. Clear to light yellowish appearance is considered acceptable.

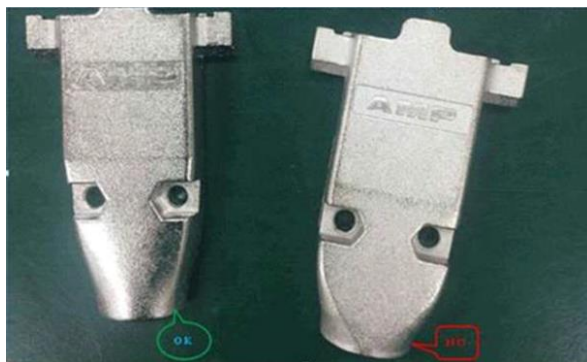


ACCEPTABLE
Very Bright
(High Reflectivity)

Backshell Assembly Concerns

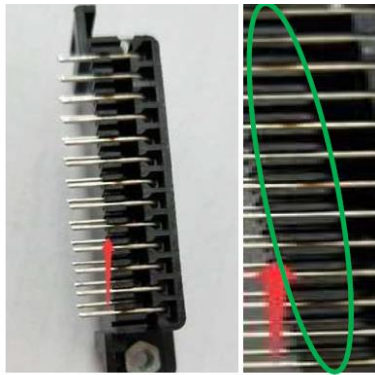


TE has changed the die cast mold for the backshells for this product line. The parts meet TE drawing and specifications; however, there is a different gap when the parts are assembled. This condition is normal since both parts assemble as intended. This condition must not be rejected.

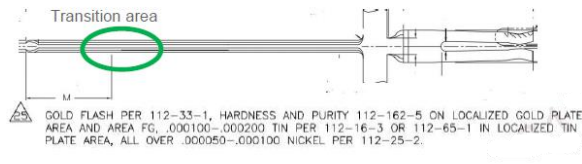


Conditions such as different size logo, finished appearance, and shape are all related to new tooling. The actual product conditions meet the requirements from the product drawing and specifications.

Discoloration on Solder Contacts



Some TE product uses tin plating on the solderable contacts. The area required to have tin plating is only required on a specific section of the contact while the remaining section has different plating finish. The transition between both surfaces sometimes may get discolored. This condition is completely acceptable and should not be rejected.



Parts with Tin Plating (Terminal & Splice)



Under normal conditions we would expect to see this phenomenon begin to occur at around six months after production. This surface discoloration occurs more quickly if the product is exposed to more extreme environmental conditions such as high heat and high humidity or if the product is exposed to air pollutants containing sulfur or nitrogen. This discoloration will not affect the form, fit, or function of the product.

Blackness



Terminals brass base material

Reported Defect: Blackness

The tin thickness is according to TE Drawing and Specifications. The engineering team has stated that the blackness is an aesthetic phenomenon not influencing the functionality of the terminal and could be affected from storage condition (high humidity could speed up migration)

The blackness is basically due to the zinc migration from base material. This phenomenon is related to the tin plating bath and line and by the alkalinity of the plating bath

Action Plan:

- The production of the Fastin - Faston terminals has been shifted from the immersion plating line to the vertical plating line with acid tin plating bath

Tarnished Surface on Silver Plated Parts

Silver Tarnish / Discoloration



Tarnished / Discolored appearance on silver plated parts is acceptable.

Tarnish appearance is inherent to silver plated products. This condition is completely normal and should not cause performance issues.

TE has published information about this condition.

Please consult with the Solution Center if there are questions.

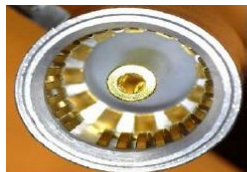
Discolored Surfaces on Pre-Tin Parts

The terminals used for this product were PRE-TIN terminals. The base material of Pre-Tin terminals was the copper that was tinplated. In our stamping process, the material was stamped and formed by the tooling. When the material was stamped, the copper base material was exposed to air on the flank side (sheared areas) of the terminals.

Therefore, it is inevitable that the copper is oxidized by oxygen in the air as time elapsed. And based on the product spec, the soldering of the flank side (sheared area) was not guaranteed.

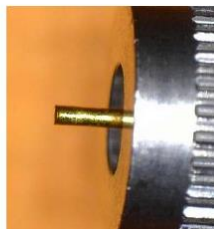
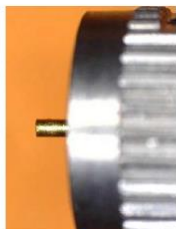


Gold Plated Surface Discoloration and Damage



Gold plated surfaces reflect surrounding surfaces, especially on closed shells or housings. To confirm the condition reported, a sample may be needed.

Small dents on surfaces may be considered acceptable as long as no plating material is removed and no underplate material is exposed.



Dielectric Color Difference



Dielectric component of BNC connectors may use different types of polyethylene material. The material may have different shades of color and still meet the material property requirements. This condition is considered acceptable.

Housing with Different Color – Nylon

The natural nylon displays white color in most case (different supplier's resin may have a minor difference, white or dark white). It is a natural phenomenon that the nylon change to green color after absorbing moisture. And another natural phenomenon is the store condition and store period will affect the housing change to yellow. However, it doesn't affect the Form, Fit and Function of the product. You can refer to attached report for the detail information.



Molding – Color Inclusions



Inclusion (black dot) is caused by raw material pollution, resin suppliers have given TE their inclusion Spec and TE has formulated an inclusion Spec, based on our supplier's capability:

- One isolated nonmetallic inclusion is permitted if not greater than .075 inch diameter (or .025 inch by .125 inch rectangular).
- A maximum of 10 nonmetallic inclusions per square inch are permitted provided they are not greater than .010 inch diameter each.
- These nonmetallic inclusion conditions are permitted on 5% of product.

Product Color Variations



Discoloration is a minor product degree without influence the function and characteristics of the product.

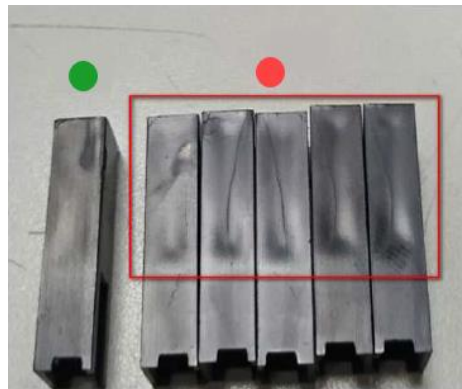
Except if on the TE Customer drawing there is a RAL- number defined.



Molding Appearance

Imperfections of the surface of molded parts are process variations which may occur to a minor degree, but without any influence of the function and characteristics of the part.

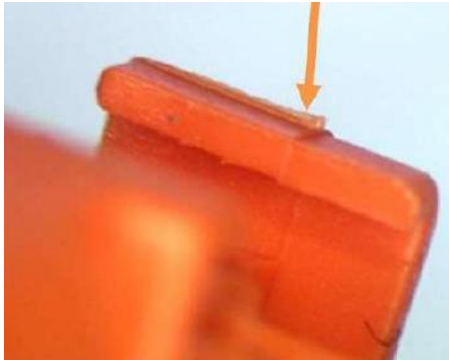
Pressure marks or slight damage of plastic without function effect on the counterpart is permitted.



From picture on the below, we can see that “cracks” are flow lines. This is only a visual defect and doesn’t impact fit or functionality, so the flow lines are acceptable.



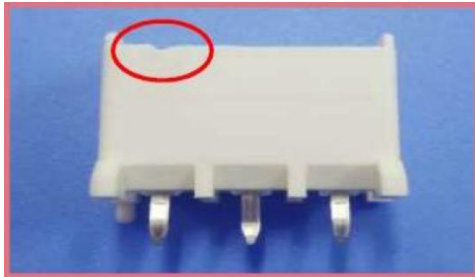
Molding – Split Line / Overfill



Burrs on contact housings may occur to a minor degree, but without any influence of the function and characteristics if contact cavities are not affected.

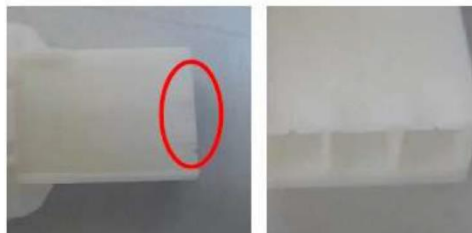
Mold part- and split lines are permitted with 0.3mm max. unless otherwise specified on related drawing. Split lines are unavoidable, and tool related.

Molding – Underfill



Underfill (Short shot) is a common defect mode in molding process, TE has defined a general molding Spec for non-fill product:

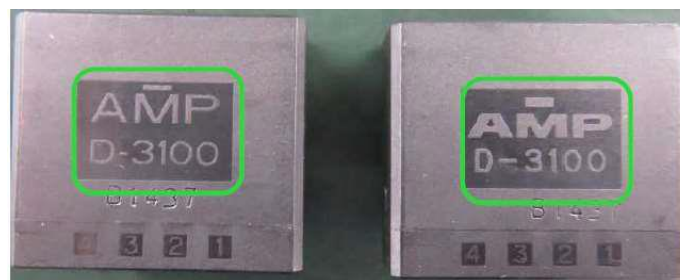
External chips, dents, or non-fill are permitted if all points of the surface are within the product drawing tolerance. No chips, dents, or non-fill are permitted on locking ledges, barriers, or lead-in surfaces.



Molded Logo – Tool Insert

Slight differently character type from different mold spare parts may occur, this has no functional or dimension impact on the product, parts are acceptable.

When such parts are received from an official TE distributor also with TE label on the package, please consume as normal.



Packaging, Storage, Shelf Life, Receiving Labeling/Damage/Reeling/Appearance

Shelf Life – Technical Information and Recommendations



The experience with TE materials has resulted in the enclosed document that provides, non-binding recommendations on the shelf life of TE products and methods for checking the application performance after extended storage periods.

Storage Conditions Contacts in 114-Specs

The contacts should remain in their shipping containers and on the reels until ready for use. The coiled contact reels should be stored horizontally to prevent deformation during storage that could prevent proper feeding through the applicator. The contacts should be used on a first in, first out basis to prevent storage contamination that could occur over an extended period of time.

3.2. Storage

A. Ultraviolet Light

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

B. Reel Storage

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

C. 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.

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

NOTE: Where the above environmental conditions exist, phosphor-bronze terminals are recommended instead of brass.

Quantity Discrepancies

Quantity Discrepancies are difficult to determine when received from Distribution End Customer, as increased number of touch points where failure may occur.

Several checks:

- TE Box Label
- TE Unit Pack label (inside box packed quantities with specific production label)
- Shipping company label

Transportation Damage



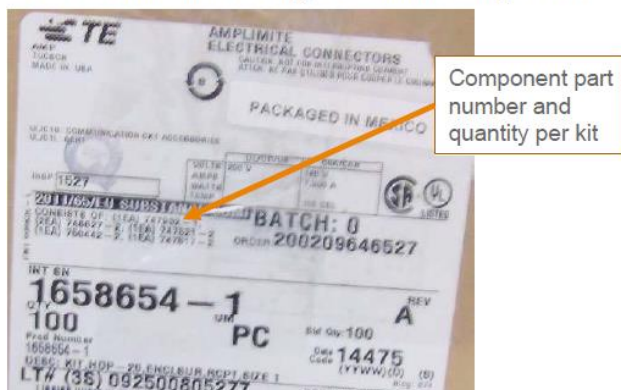
Difficult to determine when received from Distribution End Customer, as increased number of touch points where failure may occur.

Between manufacturing and End Customer are multiple transportation modes and steps where error may occur. TE has visual check on shipping packaging at dispatch to Distribution partners.

In most cases shipping terms with distribution partners is based on FCA, pick up and transfer of ownership at TE Pick Up point.

Shipping Partial Quantities of Components Inside Box of Kitted Product

Kitted Connector Packaged Bulk in a Single Box



Some TE products are packaged as kits. individual bags or boxes contain different components.

Each component container is marked with the component part number and will not correspond to the kit part number.

Shipping carton ID labels indicate each part number of the components inside.

When shipping partial quantities to your Customer, make sure that the correct quantity of every component is included with your shipment.

Some TE products are packaged in individual bags or boxes, each container is marked with the component part number and will not correspond to the kit part number.

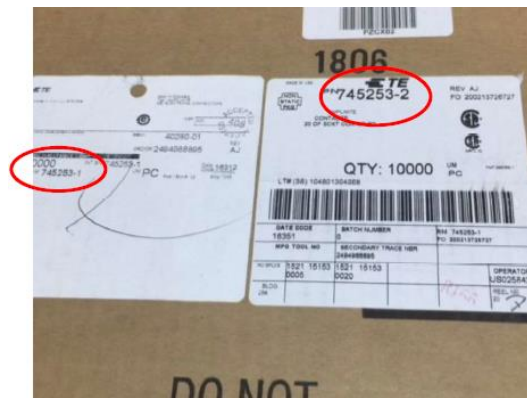
Shipping carton ID labels indicate the number of pieces of each component to make 1 kit.

If you ship partial quantities to your Customer, make sure that the correct quantity of every component is included with your shipment.

Component part number and quantity per kit



Label Shows Raw Goods Part Number and Finished Goods Part Number



TE strives to maintain material traceability.

In some instances, both the as-stamped (before plating) and the after-plating (finished goods) labels will be visible on the flanges of continuous strip reels.

In these cases, the in-process label is clearly identified as being the raw material for the finished goods.

The presence of the as-stamped label on the as-plated reel is not a rejectable condition.

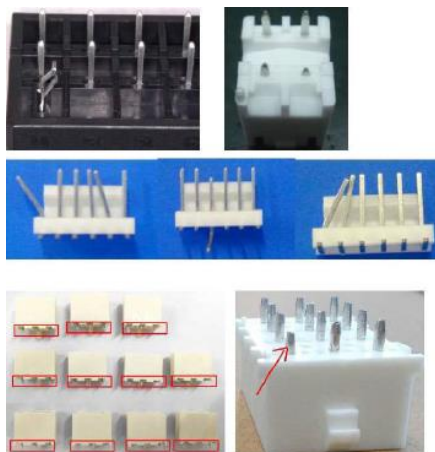
Repackaging Causing Product to Come Out from Tubes



When taking product out of the TE box and repackaging it into another box, make sure that the dimensions of the box are appropriate to prevent side-to-side or up and down movement during transit.

Insert dunnage to eliminate movement of tubes.

Deformed Leg / Peg / Pins



100% Inspection Vision System of assembled final parts prior to packing.

Reeled Product Storage



Please review 408-9816 Instruction sheet on handling reeled products.

The reeling process of TE product on reels is an automated process in the TE production facilities.

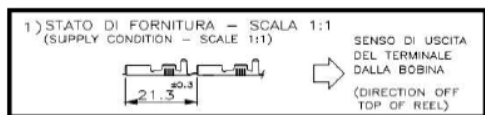
The difference between traversed and 1 layer reeled product requires different ways of storing the product (on the reel flanges vs horizontally).



One-layer reel flanges are aligning the product and do not provide mechanical support of the reels.

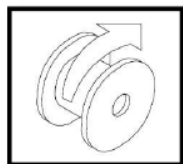
Traversed reels are reeled in such way that the reel can be easily de-reeled at the Customer side, when allowing the reversed route of the original reeling can be followed. Therefore, the vertical storage is essential.

Reeling Direction



Reeling direction is graphically shown on the product drawing.

In case the reeling direction is not clear, please provide picture as shown, unwinding in clockwise direction and clear view of the contacts.



TE Specification 107-3 shows the figure and direction of the product on the reel.

De-reeling is shown in clockwise direction, product coming off the top of the reel.

Reel Splicing



Due to the length difference that fits on a reel of raw metal tape and the final stamped products, It is more cost effective to have the reel spliced at the end of the raw metal tape and then complete the full number of products per reel. The most commonly used method today is to have spot welds that allow for the reel to perform as non-welded. Multiple welds are permitted in a single reel and will not be mentioned on the Customer drawing, as it will not have impact on Customer applications.

TE uses still other splicing methods, where the spot welding is not available in the production line.

Splices in the reel are permitted as mentioned in our Customer drawings. TE internal specification 115-16 and 115-25007 describe splicing methods that may be applied and allowed number of splices. These specifications are mentioned on our drawings.

Reel Packaging – Reel End Buckling

The deformed carrier at end of reel within 6cm is acceptable, this is caused by production reeling machine. TE provides excess terminals in each reel to cover the bending end quantity.

Advice:

In case deformed material is rejected, ensure that it is clear where in the reel the deformed material was found.



Reel Packaging – Micromatch

Temperature / Humidity

Transportation / Manipulation / Re-packing

The parts are correctly wound up (received reel)

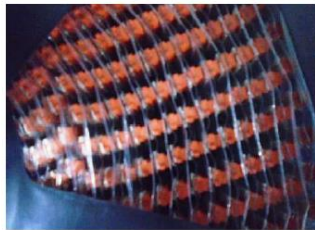
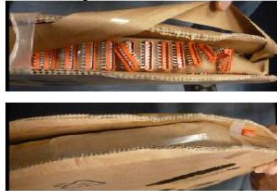


The cause for these deviations is high temperature and high humidity

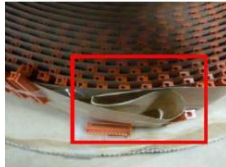


The internal tests showed that the reel was stored too warm

Some parts are shifted on the carrier tape at the damaged area



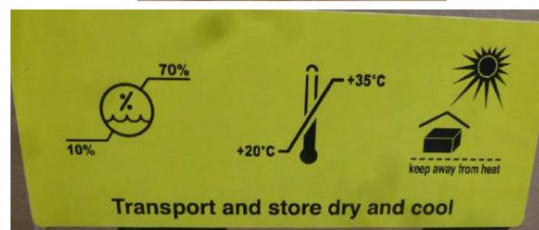
The interlayer paper with the carrier tape is cut



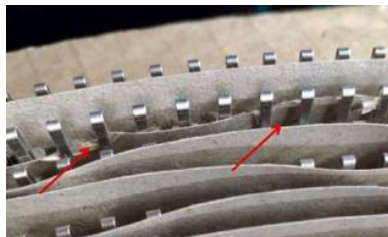
The interlayer paper is revert (turned)



Some parts are shifted on the carrier tape at the damaged area



Deformed Parts



Physical transportation damages, flange of reel lifting, tangling contacts on reel, etc.

TE Product is packaged in such way that we expect that transportation damages are not possible, if the original packaging arrives at the end Customer in good condition.



Signing for acceptance of goods is the proof that the packaging has arrived in accepted order.



Rejections Caused by Receiving Product Older than Certain Date Code

In general, TE products do not have Shelf-Life restrictions.

Before entering a complaint due to a date code concern, please confirm if shelf life is stated on TE drawing or TE Application Specification. Review to see if there is a specific contract approved for such a request.

In the event you think there could be a functional concern contact the Solution Center.

Non-Conforming Notifications Required Information

Requested Support from Distribution Partner

1. Fill out the Checklist embedded on this page.
2. Ask your Customer if they have samples available that they can send to TE for investigation and advise them how they should ship the samples.
3. Always ensure that the correct order information is selected when logging a complaint as this will avoid the incorrect parts being blocked and investigations on the incorrect parts. This will avoid that we block all stock, and you are not able to place any orders on good stock for your Customers.
4. Please always provide a picture of all the labels on the boxes you received the parts in (including the TE Batch Code / Date Code). This gives us essential traceability information to be able to contain and investigate the problem more effectively.
5. Always provide a clear detailed description of the problem, the impact to the Customer and include some pictures showing an OK product and product that is suspected not to be OK showing clearly the differences

Information Needed for NNS

To better utilize the NNS system and reduce any misunderstanding of the case, be sure all the following information is collected, entered into the system, and submitted to the TE team.

	Item Lists Required	Purposes
1	TE Part Number	Understand which part has the issue
2	PO Number to TE*	Understand which batch material has the issue
3	Date Code	Know which specific window of time may have the issue
4	Failure Description	Know the detail of the issue the Customer faces or detected
5	Failure Rate	Understand the impact to the Customer
6	Label on the box (picture)	Have clear trace information of the impacted material
7	Defect Samples (or picture)	Return to the source to double check and do deep analysis
8	Other Information	Help TE better understand the issue and analyze the root cause

*Note: PO Number is used at TE to define the manufacturing location and Key Contact for the concern. When the information is missing, it takes additional time to find the correct Key Contact for the complaint and hand-offs.

Use the 5W2H Method to collect all information associated to the issue and attach to the NNS when submitting.

5W2H:	TE requirement	Investigation process in TE
WHO:	Customer name (including Secondary customer name if direct customer is the contract manufacturer)	Identify the customer and the final product
WHEN:	Customer complaint date: YYYY-MM-DD	Try to handle the complaint timely
WHERE:	e.g. customer-IQC inspection, production line, customer field	Where did the defect happen? What's the factor to cause the defect in customer process?
WHAT:	TE part No. and product name (list customer part No. if available)	Identify it is "TE" product and involve our responsible QA to handle this issue
WHY:	Detailed failure description (defect picture, customer application condition...) including label picture	Root cause analysis according to the defect phenomenon
HOW MANY:	Failure rate (xx pcs out of xx pcs), date code and defect label picture information	Identify it is individual or batch issue, design or application related issue? Check the keep samples and trace the production record according to defect D/C
HOW TO DO:	Containment actions or customer expectation for suspected stock.	Replace the suspect stock or close the issue by free samples

Information Example

	Item Lists Required	Example Information
1	TE Part Number	62321-1
2	PO Number to TE*	6202683094
3	Date Code	14494
4	Failure Description	Crimping issue
5	Failure Rate	50%
6	Label on the box (picture)	See attached (right photo)
7	Defect Samples (or picture)	See attached (left photo) 1. Good raw material (100 pcs); crimped samples (20 pcs) 2. Bad raw material (100 pcs); crimped samples (20 pcs)
8	Other Information	Customer used non-TE tool. No previous issues. Customer is line down. Impact to business \$500K/yr.



Good crimping

Bad crimping



About Shipment

To reduce sample lost risk, pls help to provide below information with samples shipped for analysis:

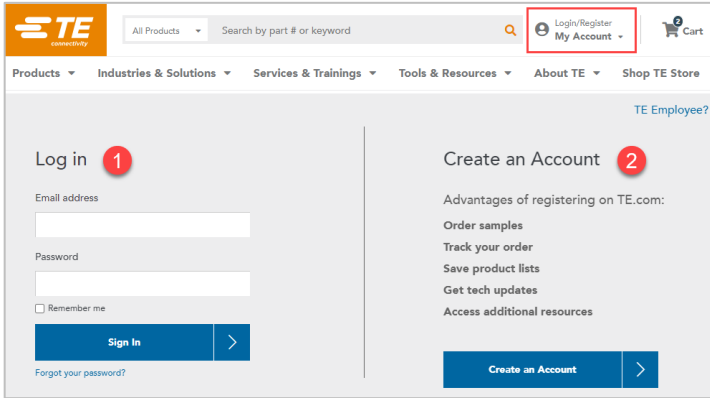
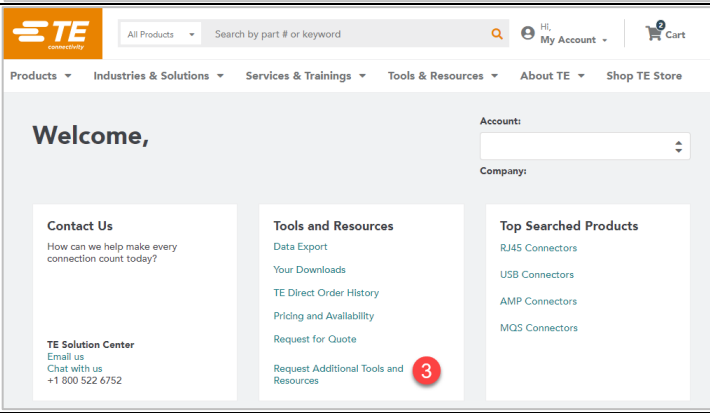
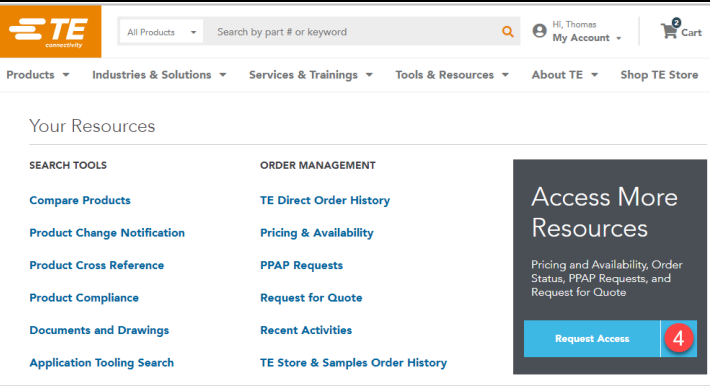
- NNS number (7 digital numbers, eg. 1266555)
- Part number (eg. 62321-1)
- Failure mode (eg. crimping issue for Date Code 14494)
- Shipment address

You can write above information either directly onto the envelope/box of the defects, or paper which could be attached onto the envelop/box.

Provide shipment tracking number to Key Contact owners for their attention.

Non-Conforming Notification System Signing Up Process / Training Options

Request NNS Access

1. Login to TE.com 2. If you don't have a TE.com account, select Create an Account	
3. Once logged in, select Request Additional Tools and Resources from your dashboard	
4. Click on the Request Access button 5. Select your Country 6. Select the Required Access and Submit	

NNS Training Options

TELC Courses

1. How to Create an NNS Request
2. How to Create an NNS Request (APAC)

Resources

[SMT Application Sheet](#)

Relay Products: [IM Relays Data Sheet](#)

Chromate Coating Discoloration: [Workmanship Specification 101-331](#)

Surface Discoloration – Light Brown Spots: [Workmanship Specification 101-32069](#)

Yellowish Appearance Die Cast Plated Shells: [Workmanship Specification 101-255](#)

Parts with Tin Plating (Terminal & Splice): [Engineering Report 502-106174](#)

[White Paper Discolored Terminals](#)

[White Paper Discolored Housing](#)

Storage Conditions Contacts: [Application Specification 114-2036](#)

[Application Specification 114-2070](#)

Handling of Reeled Product: [Instruction Sheet 408-9816](#)

Reeling Direction: [Packaging Specification 107-3](#)

Reel Splicing: [Engineering Specification 115-16](#)

[Engineering Specification 115-25007](#)

[Tubing Trouble Shooting Guide](#)

Legal Disclaimer

This reference document is based upon TE's understanding of pertinent data and may be subject to further investigation. It is offered as a courtesy to TE's distribution partners to assist in ensuring the final quality of the product. This work document shall not to be used for any other purpose, nor be disclosed to unauthorized third parties without the prior written consent of TE.

The "Quality Complaint Handbook" is issued without acknowledgement of any liability or obligation regarding costs and/or complaints in case of any alleged nonconforming product found. Furthermore, TE expressly disclaims any implied warranty regarding the information contained herein, including, but not limited to, the implied warranties of merchantability or fitness for a particular purpose. Depending on relevant applications, the Customer also needs to define additional quality tests/ inspections to ensure the final quality of the product."