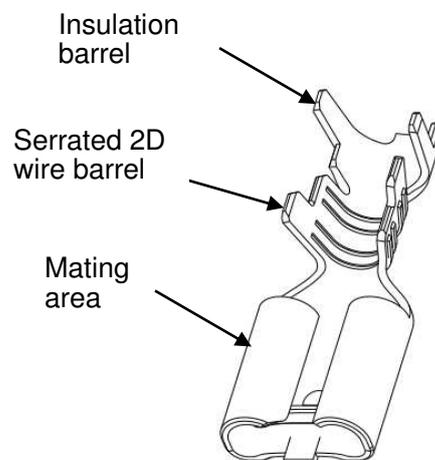


## APPLICATION SPEC. OF 2D CRIMP

### 1. INTRODUCTION

This specification covers the requirements for application of 2D crimp receptacle terminals for wire-to-wire and wire-to-board applications. This receptacle terminal features a wire barrel which, when crimped, wraps around and crimps the wire. The wire barrel forms the “2D” crimp which provides reliable electrical and mechanical performance. The 2D wire barrel also features serrations that help to grip and retain the wire within the barrel after crimping.

The terminal accepts a mating tab with a width of .250 inch [6.3 mm] with a thickness of .032 inch [0.81 mm +/- 0.03 mm] following the UL 310 standard. More details can be found under section 3.5. This receptacle terminal comes with dimple feature which, when mated, engages the mating tab to provide the required retention force. The terminal is available on reel for terminating with automatic and semi-automatic machines. For correspondence with TE Connectivity personnel, use the terminology provided in this specification to facilitate your inquiries for information. Basic terms and features of this product are provided.



### 2. REFERENCE MATERIAL

#### 2.1. Customer Assistance

Product and tooling information can be obtained through a local TE Representative, by visiting our website at <http://www.te.com/2DCrimp> or by calling PRODUCT INFORMATION or the TOOLING ASSISTANCE CENTER at the numbers below, or using the Customer Support tab on our website [www.te.com](http://www.te.com).



## 2.2. Drawing

Customer Drawings for product part numbers are available from the service network. If there is a conflict between the information contained in the Customer Drawings and this specification or with any other technical documentation supplied, call PRODUCT INFORMATION CENTER.

## 2.3. Specifications

Please refer to 108-106199 for product performance requirements.

## 2.4. Instructional Material

Please refer to 408-10390 for Ocean End-Feed Applicators Instruction sheet.

## 3. REQUIREMENTS

### 3.1. Safety

Do not stack product shipping containers so high that the carton box buckles or deform. This will damage the product.

### 3.2. Storage

#### A. Ultraviolet Light

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

#### B. Shelf Life

The contacts should remain in the shipping containers until ready for use to prevent damage. The products should be used on a first in, first out basis to avoid storage contamination that could adversely affect signal transmissions.

#### C. Chemical Exposure

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

Note: Where the above environmental conditions exist, phosphor-bronze contacts are recommended instead of brass if available.

### 3.3 Applicable Product Part Number

Description	Part No.	Wire Size	Insulation Diameter inch (mm)
2D Crimp	X-2238026-X	AWG # 22- #12 (0.32 mm <sup>2</sup> ~3.29 mm <sup>2</sup> )	.077-.157 (1.98-4.0)

### 3.4 Crimp Measurement

Due to asymmetric shape of the Crimp, its highly recommended to use Micrometer with Measurement Tool Anvil Assembly as shown below in the figure (3) for accurate crimp height measurements.

Measurement Tool Anvil assembly PN 2844999-1\* available on order.

Its highly recommended to place the micrometer on the Fixturing Vise for quick measurement as shown in Fig (2) for ease of use and accurate readings.



**Fig (2)**



**Fig (3)**

\* Note- This tool PN 2844999-1 is the crimp micrometer adapter and does not include the digital crimp micrometer or the mounting vise.

## 3.5 Crimping Requirement

### A. Crimping data

No.	Check Item	Specified Requirements Inch (mm)	No.	Check Item	Specified Requirements
①	Insulation Stripping Length	.257±.02 (6.53±0.5)	⑥	Bend – Down	5 Deg. angle Max.
②	Cut-Off Tab Length	.02 (0.5) Max.	⑦	Twist	5 Deg. angle Max.
③	Rear Bellmouth Length	.008~ .028 (0.2-0.7)	⑧	Roll	5 Deg. angle Max.
④	Front Bellmouth Length	.028 (0.7) Max.	⑨	Brush	Wire end must protrude from front end of wire barrel .039 (1.0) Max.
⑤	Bend – Up	5 Deg. angle Max.	⑩	Void	Void between the two wire barrels is acceptable
Wire barrel flash:.016 (0.4) Max.					

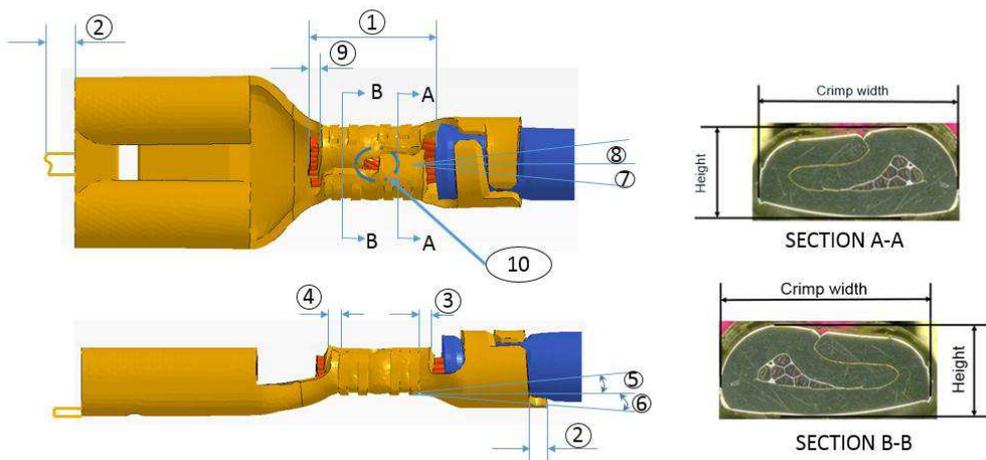


Fig (4)

Contact Part No.(Strip)	Applicator No.	Wire Size		Wire Barrel Crimp		Insulation Barrel Width
		No. of Wires	AWG (mm <sup>2</sup> )	Width Inch (mm)	* Crimp Height Inch (mm)	Width Inch (mm)
X-2238026-X	2150640-X or Conversion applicator (see Section 4)	1	22AWG (0.32)	.130 (3.3)	.054+/- .002 (1.37+/-0.05)	.160 (4.06)
		1	20AWG (0.52)		.056+/- .002 (1.42+/-0.05)	
		1	18AWG (0.82)		.060+/- .002 (1.52+/-0.05)	
		1	16AWG (1.3)		.065+/- .002 (1.65+/-0.05)	
		1	14AWG (2.1)		.072+/- .002 (1.82+/-0.05)	
		1	12AWG (3.3)		.085+/- .002 (2.15+/-0.05)	



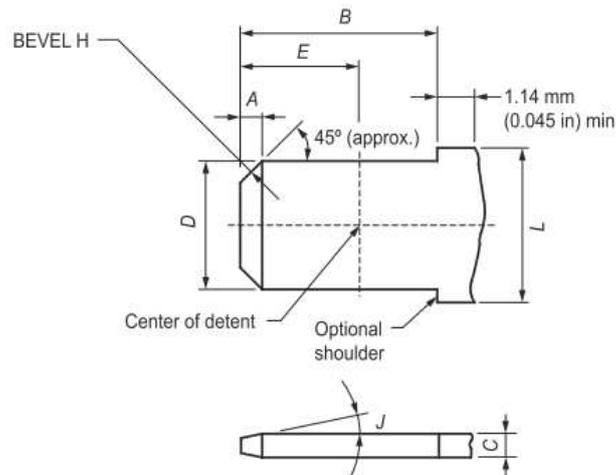
## Notes

1. During wire preparation care must be taken not to damage or nick the wire strands.
2. Avoid foreign particles and greasy and oily matters from entering inside the wire barrel.
3. During termination, care must be taken to ensure wire fully inserted in the barrel and all strands are crimped. One off strand out of the barrel is permitted.
4. Crimp height may be measured at Section A-A or Section B-B since the crimper geometry produces the same height on both; unless, the crimper tooling is damaged.
5. During termination process, care must be taken to ensure insulation does not enter wire barrel
6. Above crimp heights are measured using micrometer with adapter.
7. Contact TE product information center for double wire crimping requirements.

## B. Tensile strength

Wire range AWG (mm <sup>2</sup> )	Tensile Force lbs (N)
22 (0.32)	8 (36)
20 (0.52)	13 (58)
18 (0.82)	20 (89)
16 (1.3)	30 (133)
14 (2.1)	50 (223)
12 (3.3)	70 (311)

## 3.5 Mating tab



unit: inch

Nominal size	A	B(min)	C	D	E	F	J
0.250 x 0.032 with dimple	0.040		0.033	0.253	0.161	0.080	12°
	0.027	0.307	0.030	0.244	0.142	0.063	8°

unit: mm

Nominal size	A	B(min)	C	D	E	F	J
6.3 x 0.8	1.0		0.84	6.40	4.1	2.0	12°
	0.7	7.8	0.77	6.20	3.6	1.6	8°

### Notes:

1. Included are dimensions corresponding with UL310 (with dimple or hole).
2. In the table where two values are provided, the lesser value is the minimum permitted value and the larger is the maximum permitted value.

## 3.6. Repair

These receptacles are not repairable once termination has been made. Any defective receptacles should be removed and replaced with a new one.

## 4. TOOLING

Hand crimping tooling is available for low volume production. Benchtop presses or lead makers with appropriate Ocean Applicators as provided in section 4.2 are recommended for the crimp termination. Applicators contain the tooling for feeding and crimping strip-form terminals. Automatic machines provide the power to operate the applicator.

## 4.1 HAND TOOL

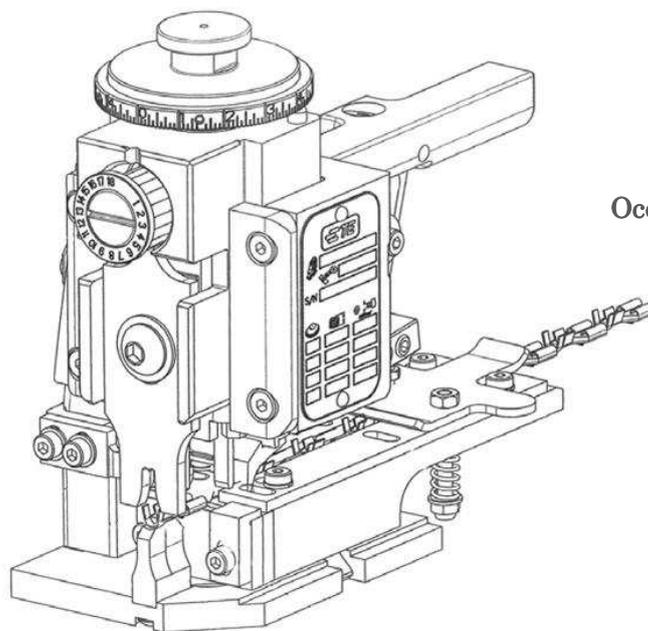
Hand tool part no.	Die assembly	Wire range
2844481-1	2844481-2	22~20AWG
2844482-1	2844482-2	18~16AWG
2844483-1	2844483-2	14~12AWG

## 4.2. APPLICATOR

Applicator part number: 2150640-X

## 4.3. Conversion kit

PART NUMBER	DESCRIPTION	CONVERT FROM
7-2150640-8	APPLICATOR CONVERSION KIT	2150016-X
7-2150640-9	APPLICATOR CONVERSION KIT	466649, 1385262, 1855050, 56739-2, 567625
8-2150640-0	APPLICATOR CONVERSION KIT	1239065



Ocean Applicator