



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 [$\pm .005$] and angles have a tolerance of $\pm 2^\circ$. Figures and illustrations are for identification only and are not drawn to scale.

1. INTRODUCTION

This specification covers the requirements for application of Commercial MATE-N-LOK Pin and Socket Contacts. These requirements are applicable to hand or automatic machine crimping tools. For specific wire and insulation ranges relative to the products covered in this specification, see Figures 4 and 5.

When corresponding with TE Connectivity 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.

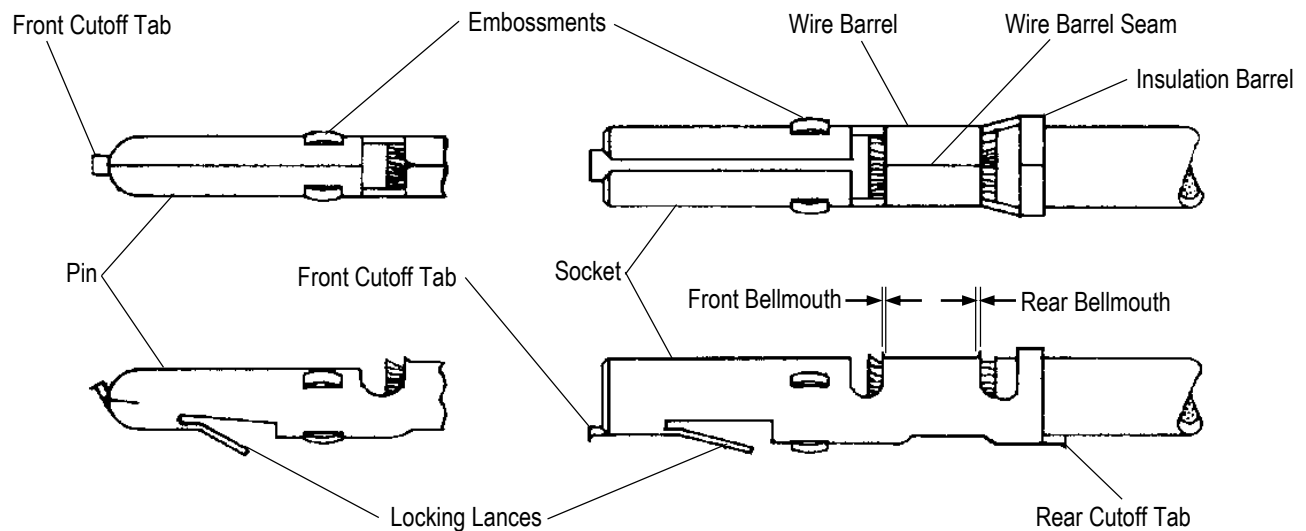


Figure 1

2. REFERENCE MATERIAL

2.1. Revision Summary

- Updated document to corporate requirements
- Deleted lines in table in Figure 4 and obsolete part numbers in the tables in Figures 4 and 5

2.2. Customer Assistance

Reference Product Base Part Numbers 61091 and 60909 and Product Code 1340 are representative of Commercial MATE-N-LOK Pin and Socket Contacts. Use of these numbers will identify the product line and help you to obtain product and tooling information. Such information can be obtained through a local TE Representative, by visiting our website at www.te.com, or by calling PRODUCT INFORMATION or the TOOLING ASSISTANCE CENTER at the numbers at the bottom of page 1.

2.3. Drawings

Customer Drawings for product part numbers are available from our website at www.te.com. If there is a conflict between the information contained in the Customer Drawings and this specification or with any other technical documentation supplied, the information contained in the Customer Drawings takes priority.

2.4. Specifications

Product Specification [108-1000](#) provides product performance and test results.

3. REQUIREMENTS

3.1. Safety

Do not stack product shipping containers so high that the containers buckle or deform.

3.2. 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.

C. 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

3.3. Wire Preparation

A. Strip Length

Insulation shall be stripped as indicated in Figures 4 and 5.

B. Workmanship

Reasonable care shall be taken not to nick, scrape, or cut any strands or the solid wire during the stripping process.

3.4. Carrier Cutoff Tab

Front cutoff tab shall not exceed 0.20 mm [.008 in.] and shall be wiped upward toward the centerline on pin contacts. Rear cutoff tab shall not exceed 0.38 mm [.015 in.].

3.5. Wire Barrel Crimp

A. Crimp Dimensions and Type

Crimp height, width, and type shall be as shown in Figures 4 and 5.

B. Tensile Strength

Crimp tensile strength shall be as shown in Figure 4.

C. Wire Barrel Seam

The wire barrel seam shall be closed adequately to confine all strands of the wire. There shall be no loose wire strands embedded in the outside of the wire barrel.

D. Bellmouth

Rear bellmouth length shall be 0.13-0.76 mm [.005-.030 in.]; and front bellmouth length shall be 0.25 mm [.010 in.] maximum.

E. Conductor Location

End of the wire shall be flush with the front end of the wire barrel or extend 1.19 mm [.047 in.] maximum after crimping. Both insulation and conductor shall be visible between the insulation barrel and wire barrel. Care shall be taken not to allow insulation to be crimped in the wire barrel.

3.6. Insulation Barrel Crimp

A. Crimp Dimensions and Type

Crimp width and type shall be as shown in Figures 4 and 5.

B. Workmanship

Reasonable care shall be taken not to cut or break the insulation during the crimping operation.

3.7. Locking Lance

Locking lance shall not be deformed.

3.8. Embossments

Embossments on pin contact shall pass through a 2.87 mm [.113 in.] maximum diameter circle; and a 3.68 mm [.145 in.] maximum diameter circle for socket contacts.

3.9. Alignment

A. Axial Concentricity

Crimped insulation barrel shall fall into an area defined by a 4.06 mm [.160 in.] diameter circle whose center is the centerline of the contact as shown in Figure 2, except part number 60989 which shall fall within a 5.08 mm [.200 in.] diameter circle.

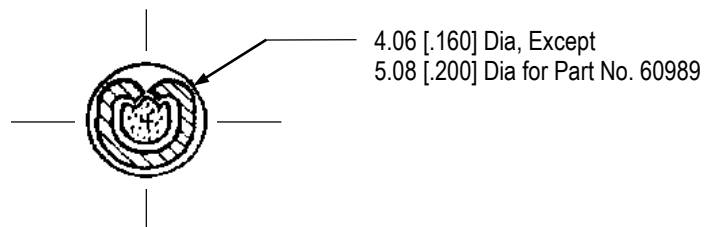


Figure 2

Crimped insulation barrel of two conductor crimped contacts shall fall into an area defined by a 5.33 x 3.94 mm [.210 x .155 in.] rectangle whose vertical center is the centerline of the contact and whose horizontal center is 0.76 mm [.030 in.] above the centerline of the contact as shown in Figure 3.

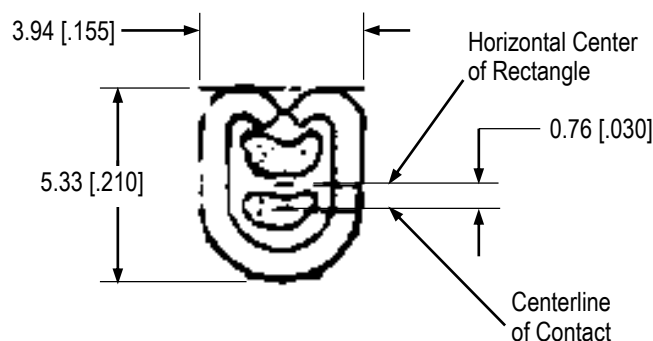


Figure 3

B. Twist and Roll

There shall be no twist or roll in the crimped portion that will impair usage of the contact.

AUTOMATIC MACHINE WIRE CRIMP DIMENSIONS

PART NUMBERS		WIRES		INSUL DIA (MAX)	STRIP LENGTH	WIRE BARREL CRIMP (F CRIMP)			INSULATION BARREL CRIMP	
PIN	SKT	QTY	SIZE			WIDTH	HEIGHT ± 0.05 [.002]	TENSILE STRENGTH N [lbf]	WIDTH	TYPE CRIMPER
350079	60909 350078	1	30	1.90 [.075]	4.75-3.96 [.187-.156]	1.40 [.055]	0.79 [.031]	8.90 [2]	2.29 [.090]	F or O
		1	28				0.81 [.032]	13.34 [3]		
		1	26				0.84 [.033]	31.14 [7]		
		1	24				0.89 [.035]	44.48 [10]		
		1	22				0.94 [.037]	66.72 [15]		
60511 61116	60510 61115 61314	1	24	2.54 [.100]	4.75-3.96 [.187-.156]	1.78 [.070]	0.97 [.038]	44.48 [10]	2.54 [.100]	F or O
		1	22				1.02 [.040]	66.72 [15]		
		1	20				1.09 [.043]	88.96 [20]		
		1	18				1.22 [.048]	133.44 [30]		
60528 61118	60527 61117	1	20	3.30 [.130]	4.75-3.96 [.187-.156]	2.29 [.090]	1.19 [.047]	88.96 [20]	3.30 [.130]	F or O
		1	18				1.32 [.052]	133.44 [30]		
		1	16				1.50 [.059]	133.44 [30]		
		1	14				1.75 [.069]	155.68 [35]		
60497 350558	60496 350557	2	18	2.92 [.115]	4.75-3.96 [.187-.156]	2.29 [.090]	1.57 [.062]	133.44 [30]	3.30 [.130]	F
		1	18-16				1.78 [.070]	155.68 [35]		

Figure 4

HAND TOOL WIRE CRIMP DIMENSIONS

PART NUMBERS		WIRES		INSUL DIA	STRIP LENGTH ± 0.38 [.015]	WIRE BARREL CRIMP (F CRIMP)		INSULATION BARREL CRIMP		HAND TOOL
PIN	SKT	QTY	SIZE			WIDTH	HEIGHT ± 0.05 [.002]	WIDTH	TYPE CRIMPER	
61174	61173	1	30	1.02-1.90 [.040-.075]	4.75 [.187]	1.40 [.055]	0.851 ± 0.051 [.0335 ± 0.020]	1.78 [.070]	O	90066-5
		1	28							
		1	26							
		1	24							
		1	22							
60618	60617	1	24	1.52-2.54 [.060-.100]	4.75 [.187]	2.03 [.080]	0.978 ± 0.051 [.0385 ± 0.020]	2.54 [.100]	F	90123-2†
		1	22				1.24 ± 0.05 [.049 ± 0.02]			
		1	20							
		1	18							
61109	61108	1	24	2.54-3.30 [.100-.130]	4.75 [.187]	1.78 [.070]	0.978 ± 0.051 [.0385 ± 0.020]	3.30 [.130]	F	90123-4
		1	22				1.24 ± 0.05 [.049 ± 0.02]			
		1	20							
		1	18							
60620	60619	1	20	2.54-3.30 [.100-.130]	4.75 [.187]	2.29 [.090]	1.35 ± 0.05 [.053 ± 0.02]	3.30 [.130]	F	90124-2
		1	18							
		1	16							
		1	14							
350639	350638	2	18	2.92 [.115] Max	4.75 [.187]	2.29 [.090]	1.63 ± 0.08 [.064 ± 0.03]	3.30 [.130]	F	90124-2
		1	18							
		1	16							

† 90123-5 for 1.09-1.90 mm [.043-.075 in.] insulation diameter.

Figure 5