

MAG-MATE* Mini Series Terminals
NOTE

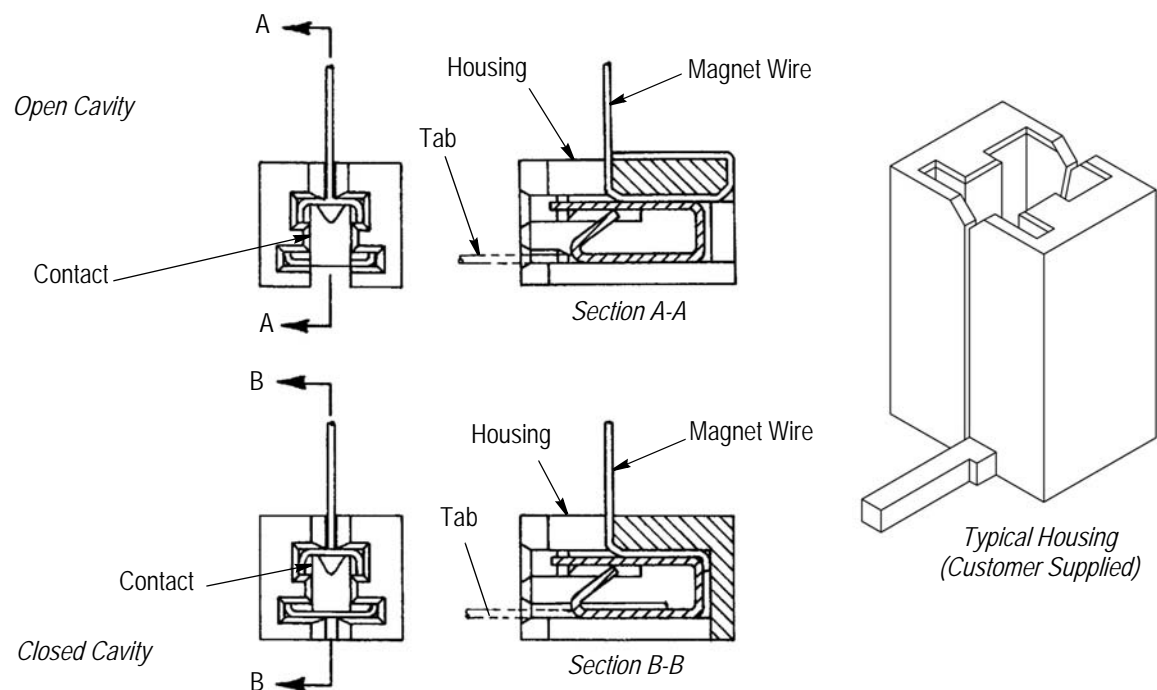
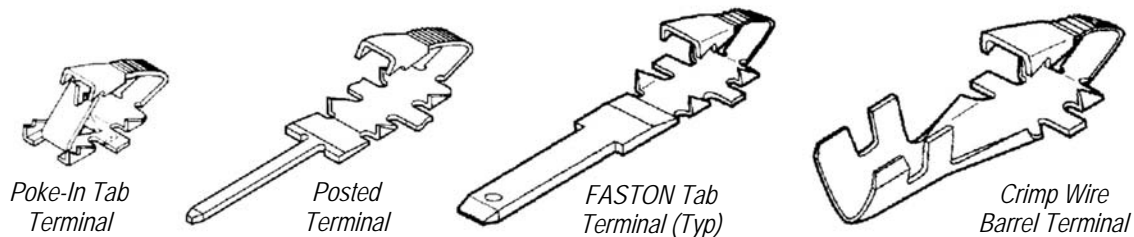

All numerical values are in metric units [with U.S. customary units in brackets]. Dimensions are in millimeters [and inches]. Unless otherwise specified, dimensions have a tolerance of ± 0.13 [± 0.005] and angles have a tolerance of $\pm 2^\circ$. Figures and illustrations are for identification only and are not drawn to scale.

1. INTRODUCTION

This specification covers the requirements for application of MAG-MATE Mini Series Terminals. These terminals are insulation piercing and are designed to accept a wire size range of 52 through 30 AWG solid round copper magnet wire with single or heavy insulation. There are six locking bars on each terminal to ensure retention in your housing.

Several terminal interfaces are available; Lead Wire Poke-In, Solder Tab, Wire Crimp Barrel, and FASTON* Tabs of 4.75 x 0.51 mm and 2.79 x 0.51 mm [.187 x .020 in. and .110 x .020 in.] sizes. See Figure 1. These terminals may be applied by hand or by automatic machine application tooling.

When corresponding 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 in Figure 1.


MAG-MATE Mini Terminals

Figure 1

2. REFERENCE MATERIAL

2.1. Revision Summary

- Updated document to corporate requirements
- New logo

2.2. Customer Assistance

Reference Product Base Part Number 62606 and Product Code 1039 are representative of MAG-MATE Mini Series Terminals. 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 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 each product part number are available from the service network. The information contained in Customer Drawings takes priority if there is a conflict with this specification or with any technical documentation supplied by TE.

2.4. Specifications

Product Specification 108-2016 covers test and performance requirements.

2.5. Instructional Material

The following list includes available instruction sheets (408-series) that provide assembly procedures for product, operation, maintenance and repair of tooling, as well as setup and operation procedures of applicators; and customer manuals (409-series) that provides setup, operation, and maintenance of machines. Hand Books (410-series) are written for operator training and reference material for customers on various product lines and procedures.

| <u>Document Number</u> | <u>Document Title</u> |
|------------------------|---|
| 408-3295 | Preparing Reel of Contacts For Application Tooling |
| 408-6734 | Insertion Tools 274287-2 and 274290-2 for Mini MAG-MATE Terminals |
| 408-9816 | Handling of Reeled Products |
| 409-5128 | Basic AMP-O-LECTRIC* Model "K" Terminating Machines |
| 410-5483 | MAG-MATE Interconnect System |

3. REQUIREMENTS

3.1. Storage

A. Ultraviolet Light

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

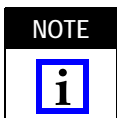
B. Shelf Life

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

Do not store contacts near any chemicals listed below, as they may cause stress corrosion cracking in the contacts.

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



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

3.2. Cavity Design

Optional open and closed cavity designs that will accept MAG-MATE Mini Series Terminals shall be in accordance with the design requirements specified in Paragraph 3.2.A or 3.2.B. Pre-design consultation with TE Engineering is necessary to be sure the cavity configuration will be functional and that it will be compatible with automatic insertion machines.

A. Open Cavity

Open cavity design shall meet the requirements specified in Figure 2 for tab and post interface types and Figure 3 for poke-in lead wire type.

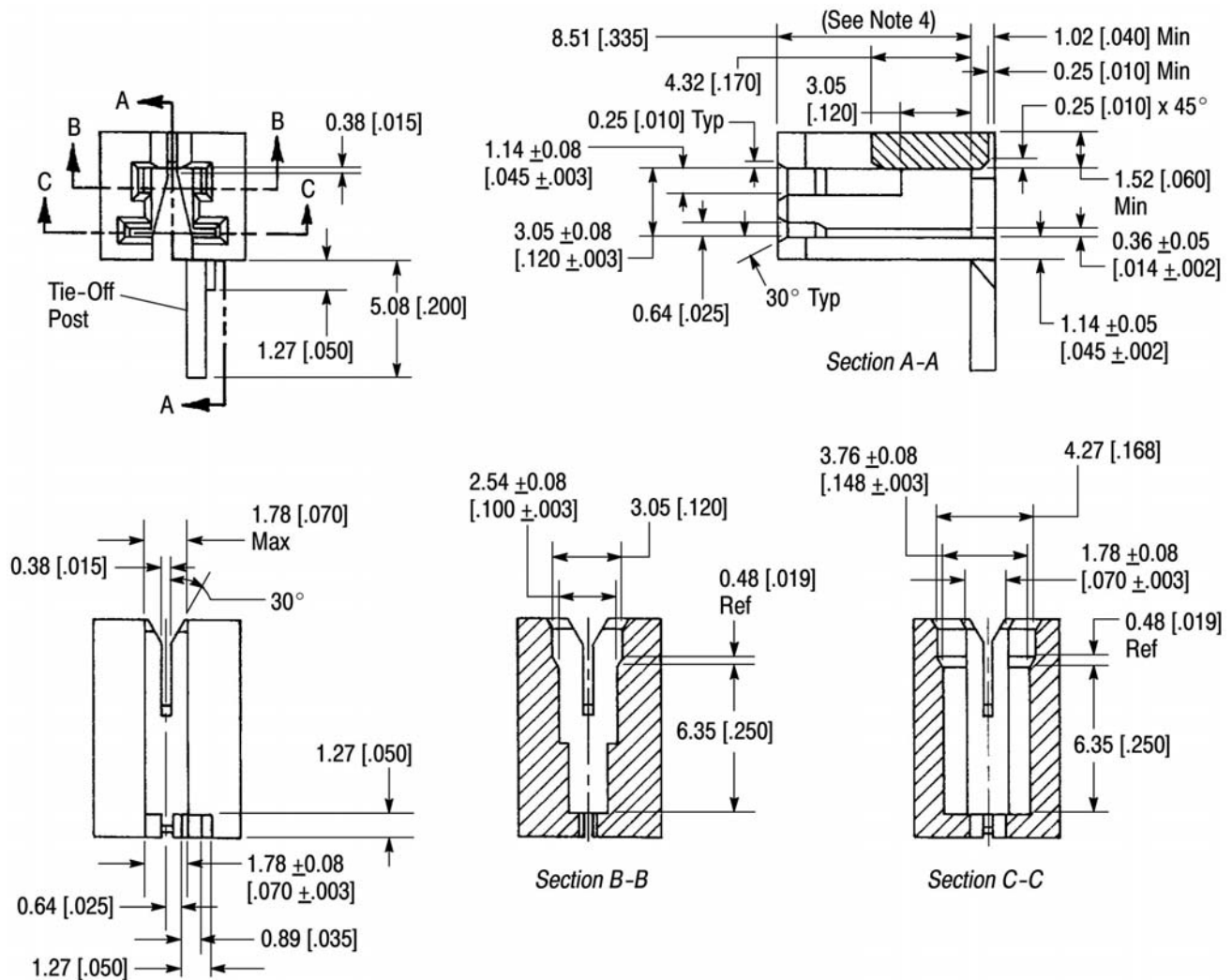
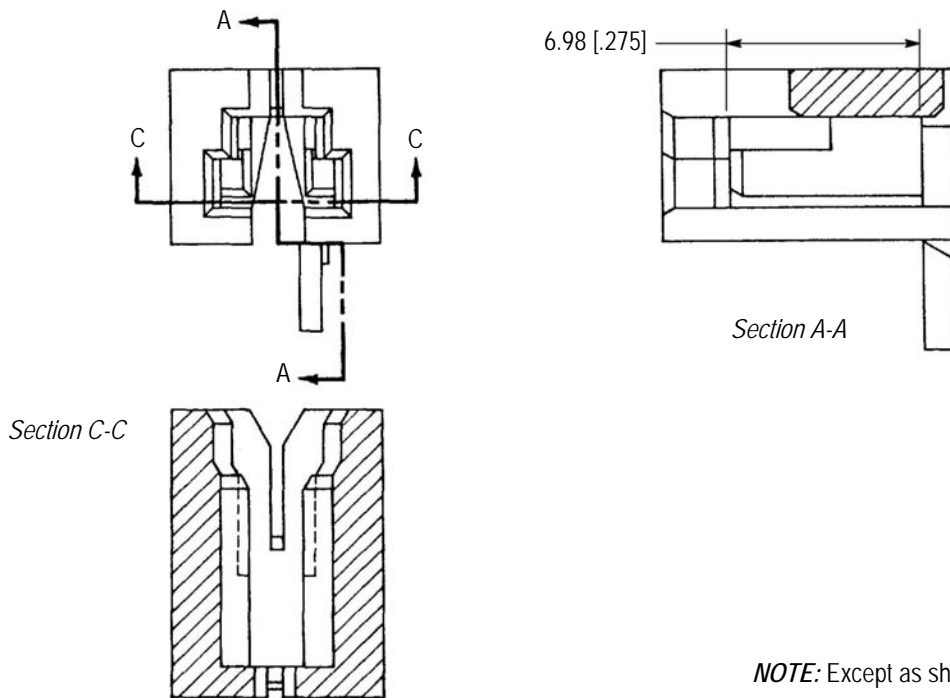


Figure 2

The following notes apply to the housings shown in Figures 2, 3, 4, and 5.

1. Housing material shall be 6/6 nylon, 30% minimum glass filled.
2. If poke-in type terminals are used, a means of providing a strain relief to the lead wire is required.
3. Consideration shall be given for start and finish winding to prevent magnet wire crossover.
4. Dimension may be reduced to a minimum of 7.37 mm [.290 in.] if required.



NOTE: Except as shown, same in Figure 2.

Figure 3

B. Closed Cavity

Closed cavity design shall meet the requirements specified in Figure 4 for tab and post interface types and Figure 5 for poke-in lead wire type.

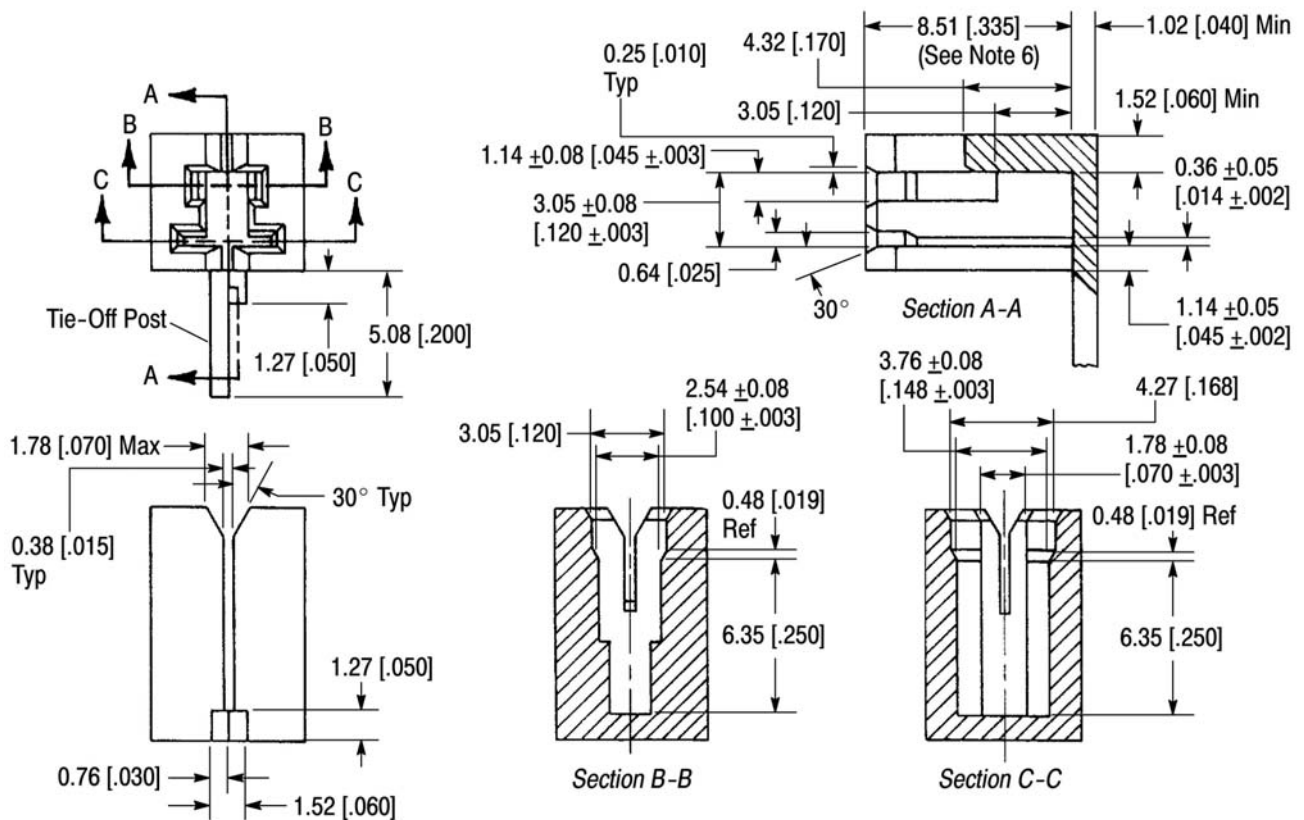


Figure 4

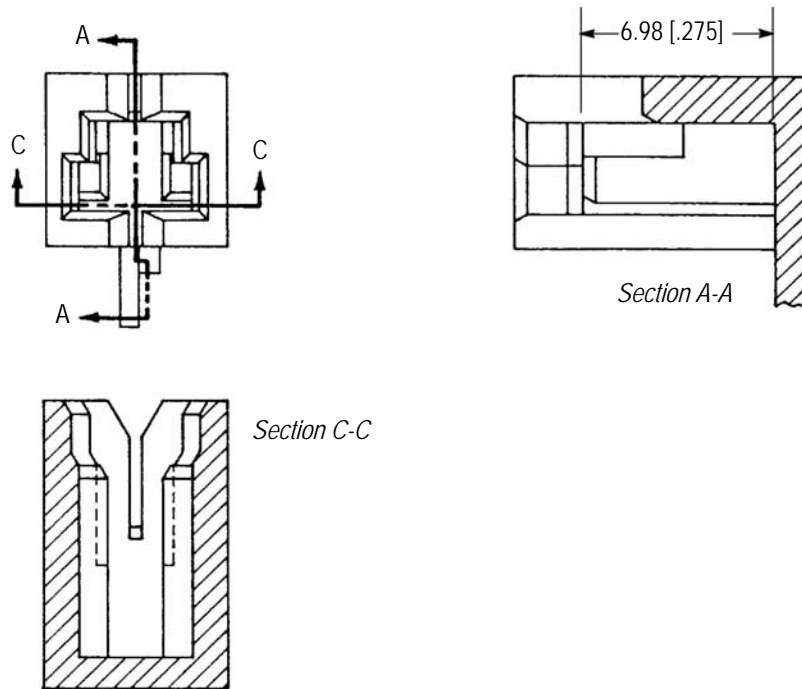
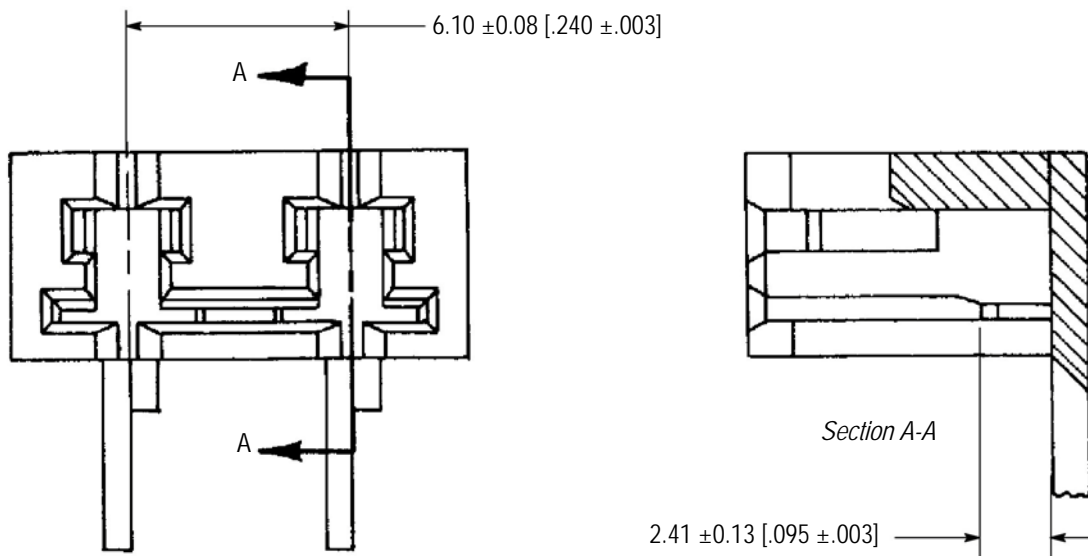


Figure 5

C. Commoned Closed Cavities

Closed cavity design specified in Figures 4 and 5 may be commoned in accordance with the requirements specified in Figure 6 to produce a commoned closed cavity.



NOTE: Commoned cavities otherwise same as in Figures 4 or 5.

Figure 6

3.3. Lead Wire

The lead wire shall have a wire size range of 18-22 AWG solid or prefused stranded wire with a maximum outside insulation diameter of 2.79 mm [.110 in.], and shall have a strip length of 6.35 ± 0.38 mm [.250 \pm .015 in.].



Do NOT pick up or carry assembled units by the poke-in lead wires. This can over-stress or damage the poke-in interface connection. Strain relief is recommended for poke-in lead wires.

3.4. Magnet Wire Placement

A. Open Cavity

Magnet wire shall be wrapped around the open cavity housing and the free end shall then be laced and wrapped a minimum of three times around the tie-off post as indicated in Figure 7.

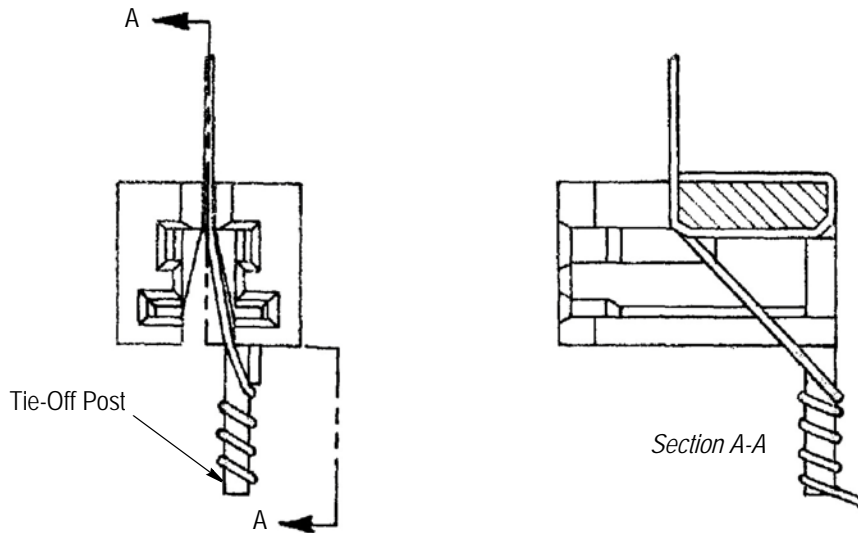


Figure 7

B. Closed Cavity

The magnet wire shall be laced across the closed cavity slots and the free end shall be wrapped a minimum of three times around the tie-off post as indicated in Figure 8.

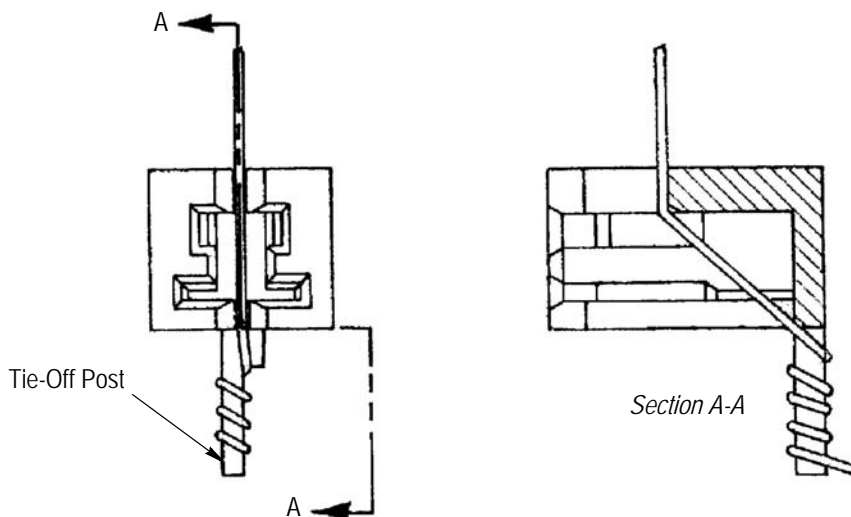


Figure 8

3.5. Terminal Insertion

A. Open Cavity

The terminal shall be inserted in the open cavity housings as shown in Figure 9.

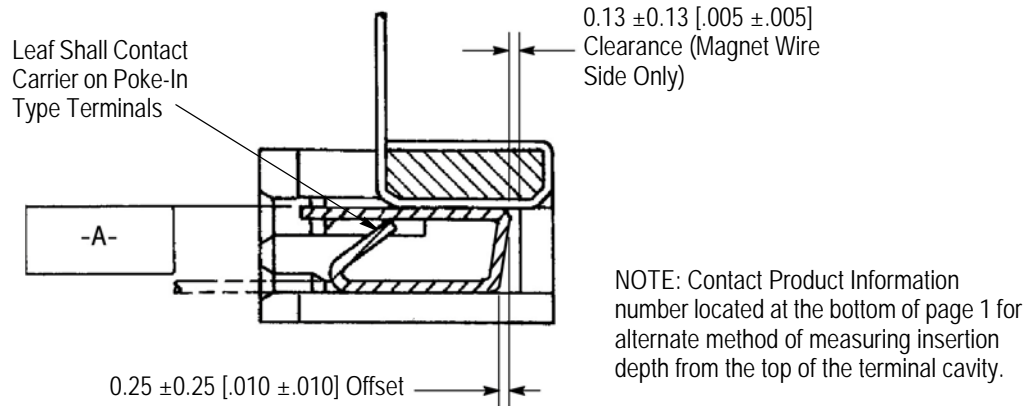


Figure 9

B. Closed Cavity

The terminals shall be inserted into the closed cavity housings as shown in Figure 10.

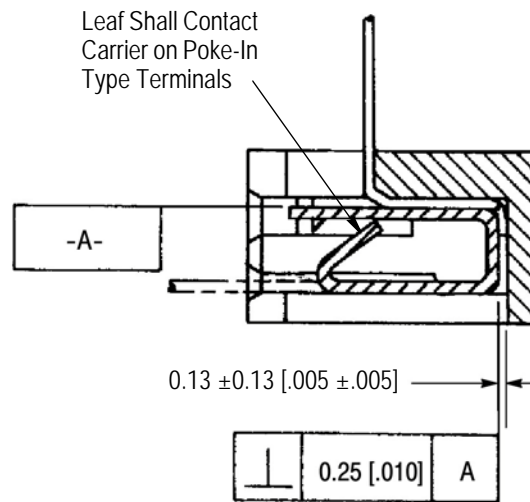


Figure 10

3.6. Magnet Wire Location

The magnet wire shall be located within the center half of the terminal serrations after inserting the terminals into the housing cavity.

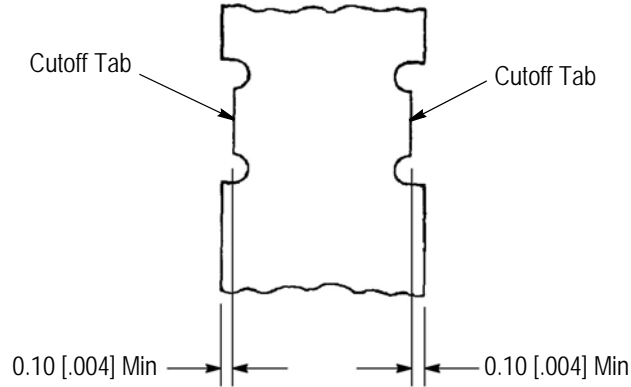
3.7. Terminal Cutoff Tab and Burr

A. Cutoff Tab

The terminal cutoff tab shall be within the limits as specified in Figure 11.

B. Burr

The burrs on the cutoff tabs shall not exceed 0.08 mm [.003 in.].



| INTERFACE TYPE | MAGNET WIRE SIZE | NUMBER OF WIRE WRAPS‡ |
|----------------------------------|------------------|-----------------------|
| POKE-IN LEAD WIRE | 30-32 | 1 |
| | 33-36 | 2 |
| | 36 | 2 |
| | 37-38 | 3 |
| | 37-44 | 3 |
| 4.75 x 0.51 mm [.187 x .020 in.] | 30-32 | 1 |
| | 33-36 | 2 |
| | 37-38 | 3 |
| 1.78 x 0.51 mm [.070 x .020 in.] | 30-32 | 1 |
| | 33-36 | 2 |
| | 37-38 | 3 |

‡ Recommended number of wraps on open cavity design only.

Figure 11

4. QUALIFICATIONS

MAG-MATE Mini Series Terminals are Recognized under the Component Recognition Program of Underwriters Laboratories Inc. (UL) in File Number E13288.

5. TOOLING

A variety of insertion tooling and automatic machines are available for your production needs. Some tooling is shown in Figure 12. Contact the Tooling Assistance Center number located at the bottom of page 1 for your specific requirements.

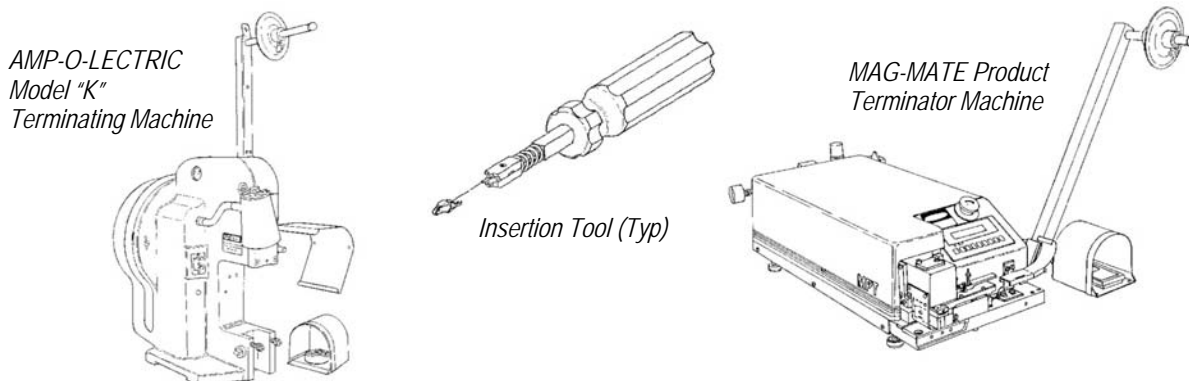


Figure 12

6. VISUAL AID

The illustration below shows a typical application of this product. This illustration should be used by production personnel to ensure a correctly applied product. Applications which DO NOT appear correct should be inspected using the information in the preceding pages of this specification and in the instructional material shipped with the product or tooling.

HOUSING MUST NOT BE SCRAPED,
CRACKED, BROKEN, OR HAVE ANY
OTHER SIGNS OF DAMAGE

WIRE SHOULD HAVE SUFFICIENT SLACK
TO ALLOW ANY NECESSARY MOVEMENT
WITHOUT STRETCHING THE WIRE

WIRE TRIM SUPPORT
SHOULD BE REMOVED

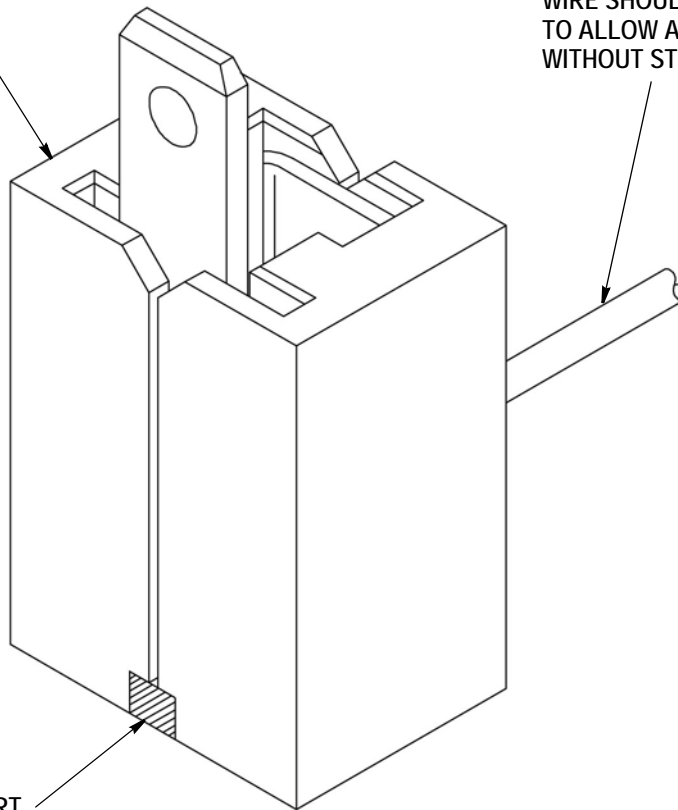


FIGURE 13. VISUAL AID