



# HexaShield High-Performance EMC/EMI Adapters

Compact, Lightweight, High-Performance Adapters

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Compact, Lightweight, High-Performance Adapters



## OUTSTANDING PERFORMANCE

- Up to four shielded cables accommodated by each ferrule
- Easy reentry: To insert or remove ferrules from the HexaShield adapter, simply loosen the back nut
- Strain relief on each individual cable

## RUGGED

- Superior protection: No degradation of shielding performance
- Mechanical and environmental protection equal to backshells complying with MIL-C-85049 Category 3B

## VERSATILE

- Available in straight, 45° and 90° angles, as well as swept and long bodies

## COMPACT/LIGHTWEIGHT

- Compact size - not exceeding outer diameter of connector
- Weight reduction, by possibly eliminating the need for overall shielding

## MARKETS

- Commercial Aircraft
- Military Aircraft
- Missiles and Launch Support
- Ground Defense
- Military Marine

TE, a longtime leader in harnessing technology, has written a new chapter in EMC shielding with the introduction of the Raychem brand HexaShield EMC adapter.

Designed to provide EMC protection solutions for both commercial and military applications, HexaShield adapters represent a significant improvement over pigtail termination methods. By providing 360-degree EMC shielding on the termination area of each individual cable, HexaShield adapters provide outstanding shielding effectiveness.

HexaShield adapters are simple to install, easy to maintain, and dependably resistant to mechanical and environmental stresses.

## Simple Assembly and Installation

1. Solder cable or wire shield to a ferrule with a heat-shrinkable SolderShield terminator.
2. Clip ferrule into one of the grounding star cavities.
3. Secure the back nut of the HexaShield adapter so that the conic ring assembly automatically compresses the ferrules.

## Designed to Corresponding Connector Specifications

| Two Platings Available                        | TE Product Specifications |
|-----------------------------------------------|---------------------------|
| Electroless nickel (MIL-DTL-26074)            | RB-110 and RB-114         |
| Olive drab cadmium (QQ-P-416 Type II Class 3) | —                         |

\* Contact TE for additional platings.

## Installation Procedures

| Installation procedure for HET-A-02X and HET-A-04X (RPIP-696-00) | Installation procedure for HET-03X (RPIP-696-03)                          | General procedure for cylindrical connectors, right-angle body (RPIP-696-07) |
|------------------------------------------------------------------|---------------------------------------------------------------------------|------------------------------------------------------------------------------|
| General procedure for ARINC 600 Size II connectors (RPIP-696-01) | General procedure for cylindrical connectors, straight body (RPIP-696-04) | —                                                                            |
| General procedure for ARINC 600 Size II connectors (RPIP-696-02) | —                                                                         | —                                                                            |
| RPIP-696-13 HexaShield Filling Factors                           | —                                                                         | —                                                                            |

## TE Components . . . TE Technology . . . TE Know-how . . .

AMP | AGASTAT | CII | HARTMAN | KILOVAC | MICRODOT | NANONICS | POLAMCO | Raychem  
SEACON | Rochester | DEUTSCH

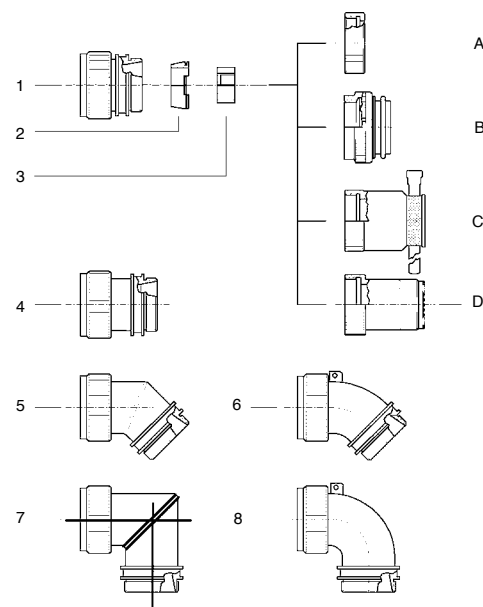
Empower Engineers to Solve Problems, Moving the World Forward.



## Kit Descriptions

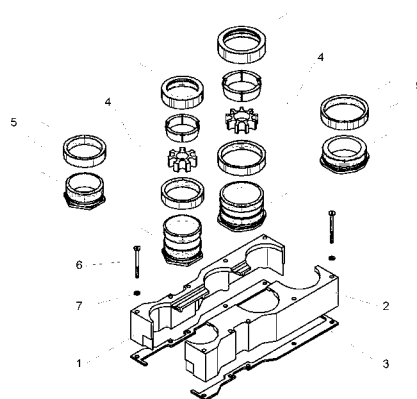
### HexaShield Adapters for Circular Connectors: Straight, 45° and 90° Assemblies

| Item                                                                               | Description                                                                                |
|------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|
| 1                                                                                  | Straight adapter assembly                                                                  |
| 2                                                                                  | Conic ring assembly                                                                        |
| 3                                                                                  | Star<br>Plain (Standard)<br>Drilled (Option)<br>Split (Option)                             |
| 4                                                                                  | Straight adapter assembly - "L" version -<br>nominally 0.5" [12.7] longer body             |
| 5                                                                                  | 45° adapter assembly - welded                                                              |
| 6                                                                                  | 45° adapter assembly - swept                                                               |
| 7                                                                                  | 90° adapter assembly - welded                                                              |
| 8                                                                                  | 90° adapter assembly - swept<br>Standard products shown.<br>Variants available on request. |
| Split star assemblies are shown<br>on relevant customer drawings where applicable. |                                                                                            |
| Item                                                                               | Adapter Options                                                                            |
| A                                                                                  | Back Nut                                                                                   |
| B                                                                                  | Tinel adapter assembly<br>Tinel-Lock ring for single braid                                 |
| C                                                                                  | Bandstrap adapter assembly                                                                 |
| D                                                                                  | Conduit adapter                                                                            |



### HexaShield Adapters for ARINC 404/600 Connectors: Sizes 1, 2, 3 and 4 Assemblies

| Item                                                                                                                                | Description                                                                         |
|-------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| 1                                                                                                                                   | Left side support                                                                   |
| 2                                                                                                                                   | Right side support                                                                  |
| 3                                                                                                                                   | Retention bars                                                                      |
| 4                                                                                                                                   | Body assemblies<br>Body<br>Holding nut<br>Conic ring assembly<br>Star _<br>Back nut |
| 5                                                                                                                                   | Cavity plug assemblies<br>Plug<br>Holding nut                                       |
| 6                                                                                                                                   | Pan head screws - 4-40 UNC                                                          |
| 7                                                                                                                                   | Spring washers                                                                      |
| ARINC 600 Size 2 shown<br>Stars are available as plain, drilled or split.<br>See relevant customer drawings for further information |                                                                                     |

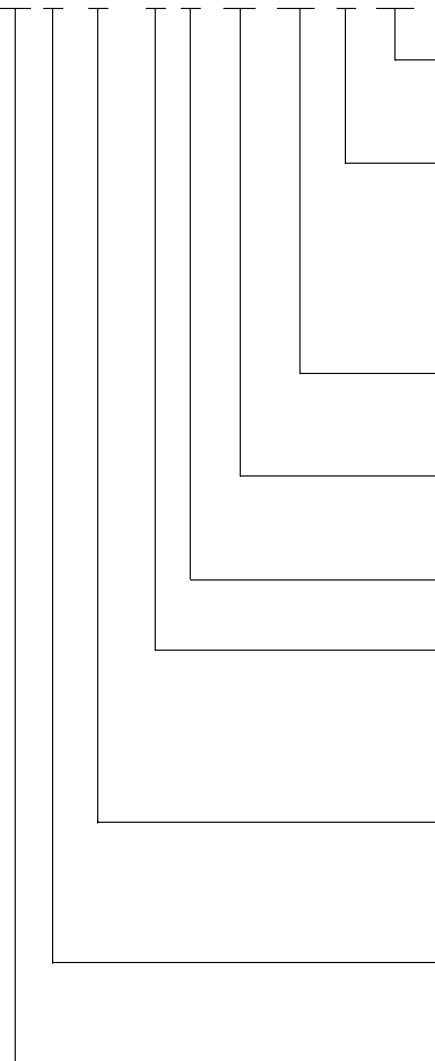




## Ordering Information: Part Numbering for Standard Products

### HexaShield Adapters for Circular Connectors

**HEXYY L -AY -00 S -YY -AY -Y -DS**



#### Drilled Star:

See applicable customer drawing for star options

#### Type of Back Nut:

- 1 = Standard back nut
- 2 = Clamping nut for tincl ring (for overbraid protection)
- 3 = Clamping nut with bandstrap
- C = Clamping nut for conduit applicator

Max. number of ferrules that can be accommodated  
See applicable customer drawing for options

#### Hexashield Size Code:

See applicable customer drawing for order number (shel

S = Swept version

#### Configuration:

- 00 = Straight body
- 45 = 45 degree angle body
- 90 = 90 degree angle body

#### Type of Plating:

- B = Cadmium plated
- C = Electroless nickel

L = Long body

See applicable customer drawing for availability

#### Connector Code Number:

- 21 = MIL-C-26482 Series 1
- 40 = MIL-DTL-38999 Series 3 and 4
- 41 = MIL-DTL-38999 Series 1 and 2
- 54 = MIL-DTL-83723 Series 1 and 3
- MIL-C-25482 Series 2



## Ordering Information (Continued)

### HexaShield Adapters for Collins Connectors

**HEXDB-AC-00-A9-1**

00 = Straight body  
90 = Right-angle body

### HexaShield Adapters for ARINC 600 Connectors

**HEXA6-AY-00-YY-AY-Y**

**Clamping nut version:**

1 = Clamping nut alone  
2 = Clamping nut for tincl ring

**Number of ferrules:**

18 for ARINC 600 size II (A and B cavities)  
25 for ARINC 600 size II (A, B and C cavities)  
18 for ARINC 600 size III (A and B cavities)  
See applicable customer drawing for options

**ARINC Connector Size:**

02 = ARINC 600 size II  
03 = ARINC 600 size III

**Configuration:**

00 = Straight body  
90 = Right-angle body

**Plating:**

B = Cadmium plated  
C = Electroless nickel

Drilled Stars are standard on ARINC 600 adapters.

### Part Numbering of Ferrule Kits\*

**HET-A-02X** for small-size cable with SolderShield terminator

**HET-A-03X** for connection of unshielded cables  
ferrules with heat-shrinkable tubing (no shield)

**HET-A-04X** for large-size cables with SolderShield terminator

**Type of Plating:**

B = Cadmium plated  
C = Electroless nickel

**HEX07-AX** ferrule - solid blank for use when a HET-A is not needed

**Type of Plating:**

B = Cadmium plated  
C = Electroless nickel

\*Not all part numbers are standard; your local TE representative will assist you in selecting the appropriate standard product

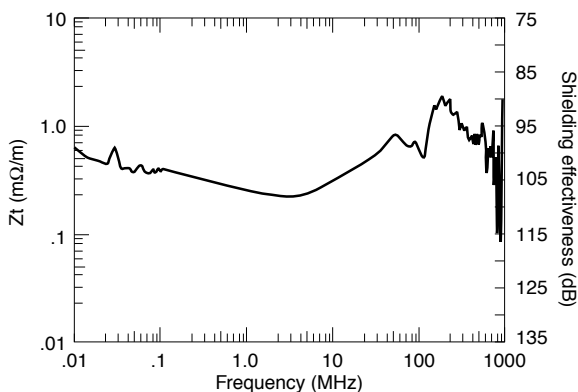


## EMC Performance

### Transfer Impedance

#### Product Facts

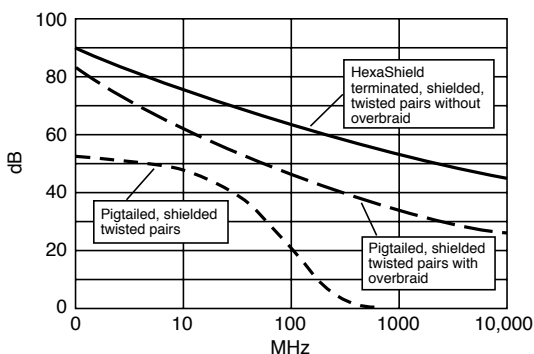
- Outperforms traditional pigtail termination, especially in HIRF performance
- Withstands 10-kA peak current lightning transients of SAE AE4L-87-3



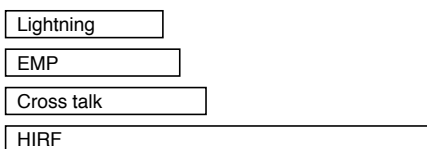
HexaShield size: 23  
 Cable: TE 5024H8424  
 (one cable installed)  
 Test method: CEI 96-1

#### Protection Level

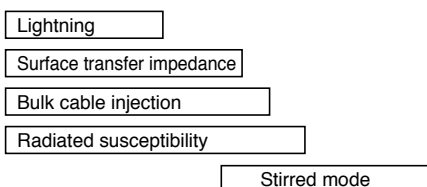
Generalized system performance (Actual system performance in any one test method may differ.)



Frequency spectrum of threats



Frequency spectrum of test methods





EMC Performance (Continued)

Typical HexaShield Applications

|                                        |
|----------------------------------------|
| Civilian and military aircraft         |
| Avionics                               |
| Fighter aircraft                       |
| Missiles and launch support systems    |
| Armored and military support vehicles  |
| Navy ships (total shipboard hardening) |
| Military communications                |
| Engines (FADEC harness hardening)      |

HexaShield Product Range

|                                              |
|----------------------------------------------|
| Accommodates the following connector types*: |
| MIL-C-26482 Series 1                         |
| MIL-DTL-38999 Series 1, 2, 3, and 4          |
| MIL-C-26482 Series 2                         |
| MIL-DTL-83723 Series 1 and 3                 |
| DBAD                                         |
| ARINC 600                                    |
| ARINC 404                                    |

\*Please contact TE for other connector types and special requests.

Flexible EMI Termination System



Individual cable braid terminations offering multiple connector pin repairs with zero pig-tail length for superior EMC performance, without the need for gross over-braid.

HexaShield F provides the following advantages:

- Installation ease reduces shield termination labor cost
- Ease of maintenance and repair allows performance of normal connector contact repairs, addition or change of a cable multiple times
- Small size and lightweight
- Sound mechanical performances of termination
- Provides strain relief on individual cables
- Better shielding performance of termination
- Available in various star sizes and platings (TE FLX40 series drawings. Contact TE for detailed information)

Applications

HexaShield F termination system is especially useful for high-speed quadrax cable (IEEE 1394) applications.

Product Facts

- Maintains electrical integrity while connecting controlled electrical cables to mil-spec connectors
- Flexible and versatile design fits most mil-spec connectors, shielded signal wires, and ARINC connectors
- Zero pigtail length braid termination
- Modular cable termination using ferrules, SolderSleeve devices, stars, and braid allows for repeated cable segment repairability
- Stars for ferrules with band strap (Tinel-Lock ring can be available) allows for easy re-entry for repair and replacement while providing a secure attachment
- Various ferrule count and star positions with optional plugs available to accommodate various cables and plugs

## LET'S CONNECT

We make it easy to connect with our experts and are ready to provide all the support you need. Just call your local support number or visit [te.com](https://te.com) to chat with a Product Information Specialist.

## Technical Support

[te.com/support-center](https://te.com/support-center)

|                      |                 |              |                    |
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Consult TE for the latest dimensions and design specifications.

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