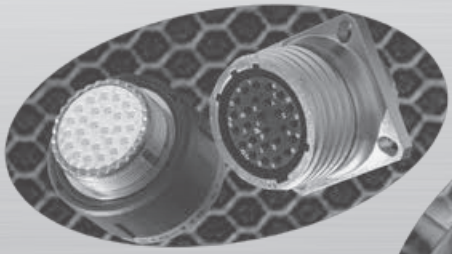
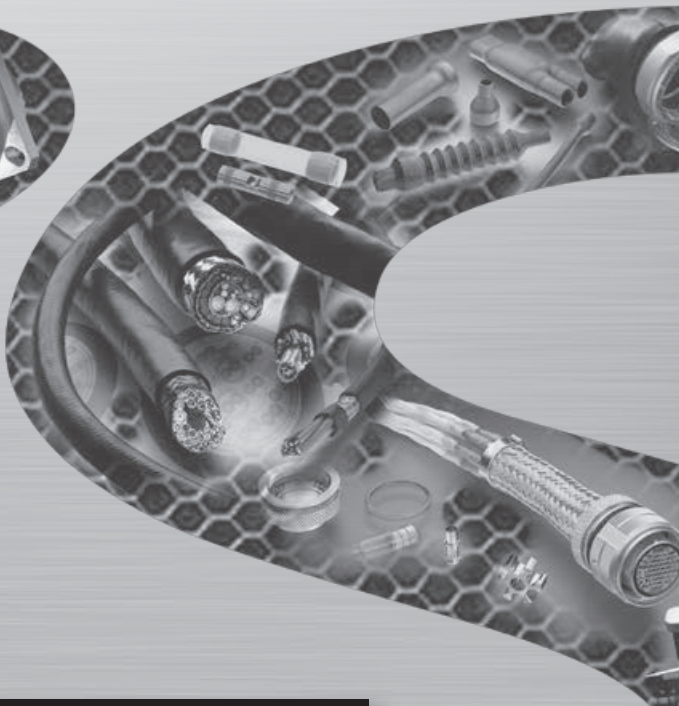
iS Rayfast

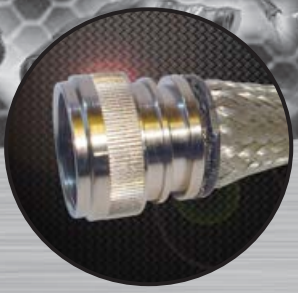




Adaptors & Assemblies

Sealing and Strain Relief

The correct backshell for the job



Comprehensive range of **CONNECTOR ADAPTORS, ACCESSORIES and BACKSHELL ASSEMBLIES**

High performance sealing and strain relief.

For all your connection requirements, we have the solutions, offering an extensive range of adaptors, assemblies and connector accessory products from world leading manufacturers.

Connector Adaptors

For high performance sealing and strain relief, we offer a variety of adaptors for applications in many industries, including Aerospace, Defence, Marine and Mass Transit.

Available as;

- Braided Adaptors
- Solid Adaptors
- Spin-Coupling Adaptors
- Tinel-Lock Adaptors
- Bandstrap Adaptors

These adaptors are;

- Available in many configurations to match applications.
- Easy to install
- Ideal for high reliability applications
- Kitted for customer convenience

Backshell Assemblies

We stock a comprehensive range of KTKK assemblies designed for the defence and marine market places. KTKK's are available with Rayaten® screened moulded parts to suit a wide range of connectors. The KTKK and TCFS product families come with the added advantage of pre-installed adhesives, which can drastically reduce the installation time and cost of harness building.

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Definitions

Introduction

For high performance sealing and strain relief, offering the perfect solution for harsh environment wiring applications. IS-Rayfast offers a variety of adapters for applications in many industries, including aerospace, marine and mass transit.

These adapters are:

- Available in many configurations to match applications
- Easy to install
- Ideal for high-reliability applications
- Kitted for customer convenience.

In this section we present an outline of Solid and Spin Coupling adaptors to more specialist Spin-Lock, Shielded and Tinel-Lock adapters, plus accessories.

Adaptor Type

Covered in these pages are six adaptor types: Solid (sometimes called “fixed”), Spin-Coupling, Spin-Lock, Shielded, Tinel-Lock and Bandstrap. Each is designed to offer a suitable interface between a connector and a heatshrinkable moulded part.

Adaptor Code

A numerical code is used to identify connectors with similar adapter interfaces. This code is used to determine the adaptor family and part number.

Adaptor Part Number

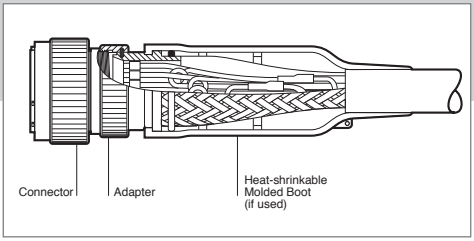
The part number is the sequence of numbers and letters that describes the adaptor family (or series), size, material, finish and modifications. The part numbering system is explained later in this section.

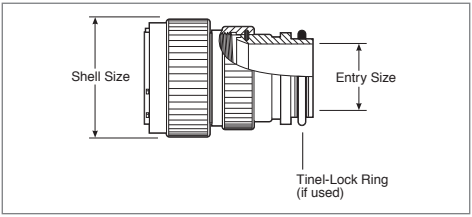
Adaptor Family

Several families (or series) of adapter products are offered. Each adaptor part number begins with an alpha numeric prefix denoting the product family.

Entry Size

Entry size is the diameter of the hole through which the cable enters into the adaptor. For example, the 08 entry is 12.7mm. Entry sizes are specified on shielded and Tinel-Lock adapters only.





Ring Designator

This is a two-letter code that is part of each Tinel-Lock adapter part number. It specifies the size of the Tinel-Lock ring suited to specific types of cable braid.

Shell Size

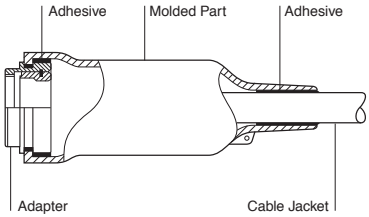
This is the size of a connector as specified by the connector manufacturer. It is normally a two-digit number between 08 and 24, although certain connectors are obtainable in either larger or smaller sizes and some use letter codes.

Order Number

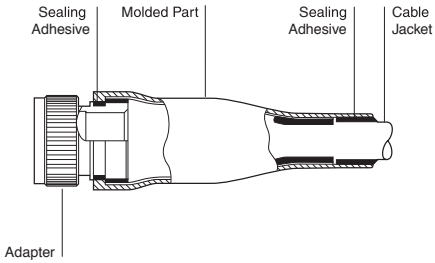
This is a two-digit number that specifies the size of the adaptor that will mate to the corresponding shell size of a connector. The order number is frequently the same as the connector shell size, but should be checked by reference to the appropriate product page(s) in this catalogue.

For further information or assistance with your specific requirements, please contact us.

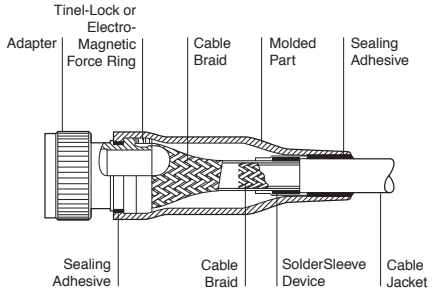
Key Types of Adaptors



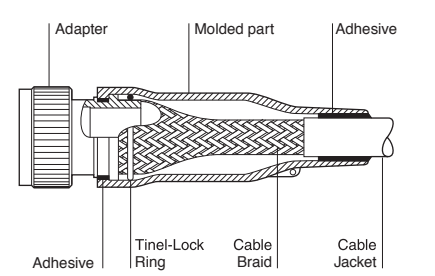
Solid Adaptors (Fixed)



Spin-Coupling Adaptors



Shielded Adaptors



Tinel-Lock Adaptors

Introduction

Several types adaptors for unscreened and screened termination systems are available. The choice is largely dependent upon the screening level required and the braid termination method. The four principal adapter types are:

- Solid (fixed)
- Spin-Coupling
- Shielded
- Tinel-Lock

Solid Adaptors (Fixed)

Designed for use where no access is required; for example, when potting is necessary or a lower space profile is needed. These adaptors have a boot groove to accommodate a lipped heat-shrinkable boot. Repair cannot be made without removing the boot.

Spin-Coupling Adaptors

Have a rotatable coupling nut and a grooved body, designed to accommodate lipped type heat shrinkable boots. Spin-couplings with an appropriate moulded part are used for environmental protection and strain relief of unscreened cable terminations. Additionally cable repairs can be made without damaging the boot.

Shielded Adaptors

These are essentially spin-coupling adaptors with a short length of tubular braided shield attached to the rear. The tinned copper wire braid can be pulled down onto a wide range of cable diameters, allowing a standard entry size to be used with most cable sizes. The shield can be terminated to the cable braid using a SolderSleeve device, which provides screen continuity through to the connector.

Tinel-Lock Adaptors

This termination system consists of a modified spin-coupling adaptor with a Tinel-Lock ring. The Tinel-Lock ring is made from a special shape memory metal that shrinks uniformly when heated. The Tinel-Lock ring is used to terminate copper cable braid directly onto the rear of the adaptor. The adaptor entry size and ring designator must be selected to suit the cable diameter and braid type. The resulting 360° termination withstands severe shock, vibration, temperature cycling and corrosion.

Selecting Material and Finish

To ensure optimum compatibility, select the adaptor material and finish to match those of the connector, using the tables below.

Modern circular connectors are manufactured from aluminium with a black zinc nickel Cadmium free plating and are RoHS compliant.

Material Codes

Material Description	Material Code Solid, Spin-Coupling & Shielded Adaptors	Tinel-Lock Adaptors	Typical Applications
Aluminium alloy	19	A	Standard material for normal applications
Stainless steel	62	S	Corrosion-resistant and high-temperature (firewall) applications.
Nickel aluminium bronze	01	B	Exposed marine environments

Other materials available on request.

Finish Codes

Finish Description	Colour	Finish Code	Typical Applications
Cadmium, per SAE AMS-QQ-P-416, Type II, Class 3. Over electroless nickel (500 hr salt spray).	Olive drab	B	Corrosion resistance for exposed environments.
Electroless nickel per SAE AMS-C-26074, Class 4, Grade B.	Bright Silver	C	High conductivity for optimum screening performance.
Anodised, hard, per MIL-A-8625, Type III, Class 2	Black	G	Non-conductive finish for aluminium adaptors.
Passivated, per SAE AMS-QQ-P-35 or MIL-S-5002	-	J	Surface treatment for corrosion resistant steel.
Zinc Cobalt over Electroless Nickel	Olive Drab	U	Marine applications and RoHS compliant
Unplated, shotblast - Glass Bead	-	W	Non reflective finish for nickel aluminium bronze adaptors.
Zinc Nickel per ASTM B841	Black	Z	Cadmium free plating for Military ground systems. RoHS compliant

Other finishes available on request.

Determining the Entry Size

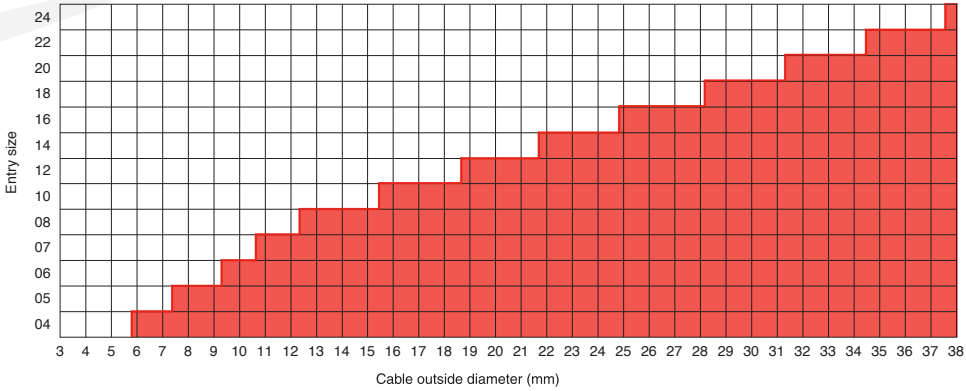
Once you have the wire bundle size, use the chart below to select entry size. Chart shows the min. entry sizes for cables from 3 to 38 mm in diameter. In other words, the white spaces on the chart represent all of the cable outside diameters each entry size will fit.

Follow these steps:

- Find the cable diameter on the chart.
- Please note the lowest entry size that will fit the cable diameter.

If the adaptor is shielded or has a Tinel-Lock ring, there are additional considerations, which are noted below.

For further information or assistance on selecting the correct entry size or constructing your required adaptor part number, please contact us.



Shielded Adaptors

The extreme flexibility of the braid on these adaptors accommodates a large range of cable diameters. It is therefore recommended that the standard entry size for any given adapter part number be specified as indicated on the relevant data sheet. Nonstandard entry sizes are available on special order. Use the selection chart above to ensure that the standard entry size will pass over the jacketed cable diameter.

For more information on tubular braiding for electrical EMI/EMC screening please refer to Protective Sleeving section and products such as Raybraid®

Tinel-Lock Adapters

With Tinel-Lock adapters, the cable braid must be opened up to fit onto the outside diameter of the adapter entry. For optimum performance, select the smallest entry size that will pass over the jacketed cable diameter. Repair of the connector will be easier using the boot and shield rollback if a slightly larger than minimum entry size is used.

The selection chart above shows the minimum entry sizes for cable diameters in the range of 3 mm to 38 mm. This will ensure that the jacketed cable passes through the adaptor for easy assembly. It should be checked to be sure the braid will open sufficiently to fit the entry size selected and to ensure that the braid and boot can be rolled back.

For more information on Tinel-Lock rings please see later in this section.

Roll Back Repair

Roll-back Repair with Adaptors

More than 85 percent of cable repairs are made within 75 mm of the connectors, usually because of a broken pin or wire. By reheating the heatshrinkable boot and unscrewing the adapter coupling nut, the boot can be “rolled back”, providing access to the rear of the connector for repair.

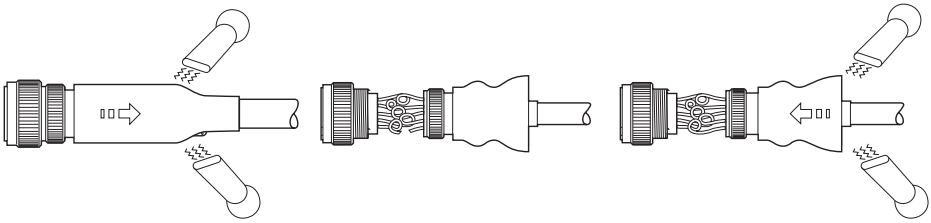
This technique is applicable to spin-coupling, shielded and Tinel-Lock adapters, (providing there are wire loops, the broken pin or wire can be repaired using this technique). For further information a code of practice guide is available on request.

Illustration below helps to show how this is achieved.

Let us Help you

For your connector adaptors or backshell assemblies, please contact us with the following information where applicable.

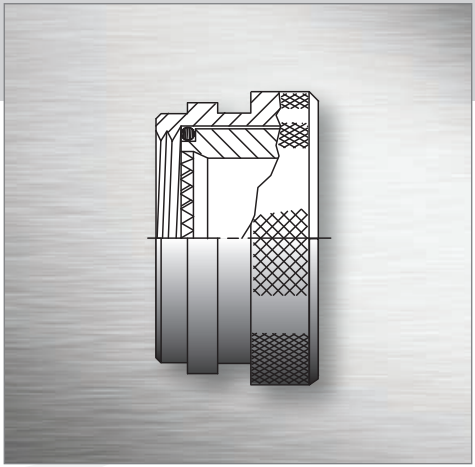
- Adaptor type
- Connector part number or specification.
- Connector required or the manufacturer.
- Connector shell size
- Connector material and plating (this may be in the part number).
- Wire bundle diameter and cable jacket diameter.
- Entry size
- Angle of adaptor, or range required.
- Type of cable screen (e.g. size and number of strands, single or double layer).



Heat the moulded part at the shoulder area. Unscrew adaptor and roll back.

Carry out the repair

Re-heat the moulded part in the folded area. Re-position the adaptor back and secure.



Selection Table

Shell Size			Entry Ø mm
Order No.	Ind. Ref.	Mil. Ref.	
08	9	A	6.35
10	11	B	9.32
12	12	C	12.70
14	15	D	15.88
16	17	E	19.05
18	19	F	20.62
20	21	G	23.80
22	23	H	26.97
24	25	J	30.18

Entry Ø sizes are nominal (based on those for the code 40 adaptor family), actual size may differ subject to adaptor family designation selected.

Solid adaptors are designed for use where no access is required, for example when potting is necessary or a lower space profile is required.

These adaptors have a boot groove to accommodate lipped heat-shrinkable moulded parts. For more information please refer to moulded part section of this catalogue.

218M5 Adaptor family
Code 18 MIL-C-5015 (MS3100)

203M6 Adaptor family
Code 21 MIL-C-26482 Series I

209M3 Adaptor family
Code 40 MIL-C-38999 Series III & IV.

202M1 Adaptor family
Code 41 MIL-C-38999 Series I & II.

201M9 Adaptor family
Code 54 MIL-C-26482 Series II; MIL-C-5015 (MS3400)

225M6 Adaptor family
Code 76 Patt 603 and BS9522 N0001

The above adaptor family designations are for the most common applications, for others not listed here please contact us.

209M3 16 - 19 B

PART NUMBER EXAMPLE

Finish Code: See earlier in this section

Material Code: See earlier in this section

Manufacturers Prefix: Code 18 only

Order Number Ref: See selection table above

Adaptor Family designation: See this page

Spin-Coupling Adaptors

Part Numbering

Spin-coupling adaptors have a rotatable coupling nut and a grooved body designed to accommodate lipped-type heat-shrinkable boots. Spin-couplings with an appropriate moulded part are used for environmental protection and strain relief of unscreened cable terminations. Cable repairs can be made without damaging the boot.

Using the part numbering elements below construct your part number, or contact us for details.

218M6 Adaptor family
Code 18 MIL-C-5015 (MS3100)

203M9 Adaptor family
Code 21 MIL-C-26482 Series I

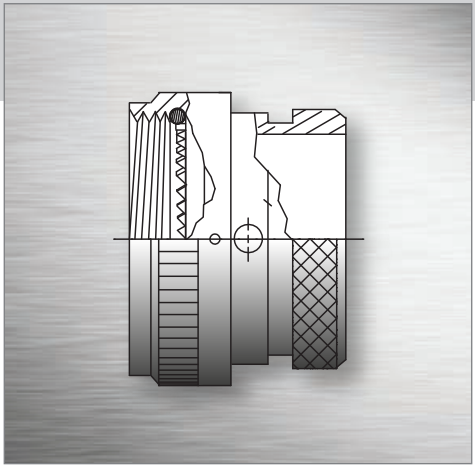
209M4 Adaptor family
Code 40 MIL-C-38999 Series III & IV.

202M2 Adaptor family
Code 41 MIL-C-38999 Series I & II.

201M1 Adaptor family
Code 54 MIL-C-26482 Series II; MIL-C-5015 (MS3400)

225M5 - Adaptor family
Code 76 Patt 603 and BS9522 N0001

The above adaptor family designations are for the most common applications, for others not listed here please contact us.



Selection Table

Shell Size			Entry Ø mm
Order No.	Ind. Ref.	Mil. Ref.	
08	9	A	6.35
10	11	B	9.52
12	12	C	12.70
14	15	D	15.75
16	17	E	18.92
18	19	F	20.62
20	21	G	23.80
22	23	H	26.97
24	25	J	29.85

Entry Ø sizes are nominal (based on those for the code 40 adaptor family), actual size may differ subject to adaptor family designation selected.

209M4 16 - 19 B

PART NUMBER EXAMPLE

Finish Code: See earlier in this section

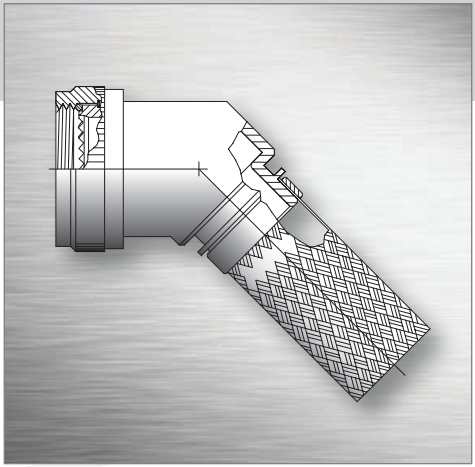
Material Code: See earlier in this section

Manufacturer Prefix: Code 18 only

Order Number Ref: See selection table above

Adaptor Family designation: See this page

Part Numbering



Shielded spin adaptors include tubular braid attached to the rear of the adaptor, that accommodates a range of cable diameters. This allows a standard entry size to be used with most cable sizes and can be terminated to the cable braid using a SolderSleeve® device.

Using the part numbering elements below construct your part number, or contact us for details.

218M7 Straight adaptor family
218M8 45° adaptor family
218M9 90° adaptor family
Code 18 **MIL-C-5015 (MS3100)**

206M0 Straight adaptor family
206M1 45° adaptor family
206M2 90° adaptor family
Code 21 **MIL-C-26482 Series I**

208M7 Straight adaptor family
208M8 45° adaptor family
208M9 90° adaptor family
Code 40 **MIL-C-38999 Series III & IV.**

204M0 Straight adaptor family
204M1 45° adaptor family
204M2 90° adaptor family
Code 41 **MIL-C-38999 Series I & II.**

203M0 Straight adaptor family
203M1 45° adaptor family
203M2 90° adaptor family
Code 54 **MIL-C-26482 Series II; MIL-C-5015 (MS3400)**

Selection Table

Shell Size			Entry* Size	Entry Ø mm
Ord. No.	Ind. Ref.	Mil. Ref.		
08	9	A	04	6.35
10	11	B	07	11.09
12	12	C	09	12.70
14	15	D	10	15.87
16	17	E	12	19.05
18	19	F	14	22.23
20	21	G	16	25.40
22	23	H	18	28.57
24	25	J	20	31.75

Entry Ø sizes are nominal (based on those for the code 40 adaptor family), actual size may differ subject to adaptor family designation selected. * Denotes the maximum entry size permissable for given shell.
Standard braid length is 150mm, longer available.

PART NUMBER EXAMPLE

208M7 16 - 19 B 10

Entry Size: Contact us for details

Finish Code: See earlier in this section

Material Code: See earlier in this section

Manufacturer Prefix: Code 18 only

Order Number Ref: See selection table above

Adaptor Family designation: See this page

Tinel-Lock® Adaptors

TXR Series

Part Numbering

A modified spin-coupling adaptor with a Tinel-Lock ring that is made from a special shape memory metal that shrinks uniformly when heated. This adaptor is used to terminate copper cable braid directly onto the rear of the shell. The resulting 360° termination withstands severe shock, vibration, temperature cycling, corrosion and provides excellent screening continuity.

Using the part numbering elements below construct your part number, or contact us for details.

TXR18 Straight adaptor family
Code 18 MIL-C-5015 (MS3100)

TXR21 Straight adaptor family
Code 21 MIL-C-26482 Series I

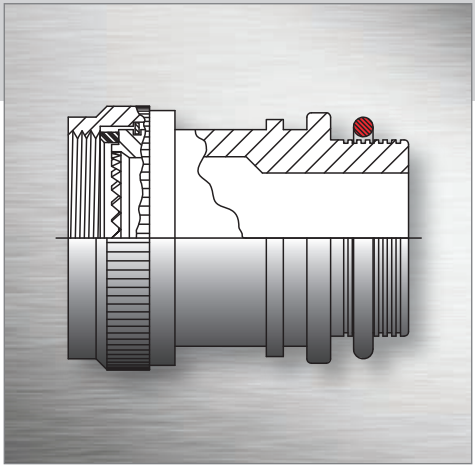
TXR40 Straight adaptor family
Code 40 MIL-C-38999 Series III & IV.

TXR41 Straight adaptor family
Code 41 MIL-C-38999 Series I & II.

TXR54 Straight adaptor family
Code 54 MIL-C-26482 Series II; MIL-C-5015

TXR76 Straight adaptor family
Code 76 Patt 603 and BS9522 N0001

The above adaptor family designations are for the most common applications, for others not listed here please contact us.



Selection Table

Shell Size			Entry* Size	Entry Ø mm
Ord. No.	Ind. Ref.	Mil. Ref.		
08	9	A	04	6.35
10	11	B	07	11.09
12	13	C	08	12.70
14	15	D	10	15.87
16	17	E	12	19.05
18	19	F	14	22.23
20	21	G	16	25.40
22	23	H	18	28.57
24	25	J	20	31.75

Entry Ø sizes are nominal (based on those for the code 40 adaptor family), actual size may differ subject to adaptor family designation selected. * Denotes the maximum entry size permissable for given shell.

TXR40 A Z 00 - 16 10 AI

PART NUMBER EXAMPLE

Ring Designator: AI, BI or CI see opposite page

Entry Size: See table above or contact us

Order Number Ref: See selection table above

Angle: 00 = straight; 45 = 45°; 90 = 90°

Finish Code: See earlier in this section

Material Code: See earlier in this section

Adaptor Family designation: See this page

The Tinel Lock ring is made from a special shape memory metal that shrinks uniformly when heated and is used to terminate copper metal braid directly onto the rear of an adaptor.

Key Features

- Low profile, buckle free termination.
- One piece construction
- Operating Range, -65ºC to 200ºC
- Can be installed in seconds.

Available with the Tinel-Lock Adaptor on the opposite page as part of the assembly, but also available seperately as described on this page.

Ring Designator Selection Table

Description	Part Ref.
Single layer 36 AWG braid	AI
Single layer 34 AWG braid	AI
Single layer 32 AWG braid	AI
Single layer 30 AWG braid	BI
Double layer 36 AWG braid	BI
Double layer 34 AWG braid	BI
Double layer 32 AWG braid	CI

TR XX XX

- AI or BI as per table
- Ring Size (Matches TXR entry size)

The outside surface of the ring is marked with two stripes of thermochromic paint which change colour when appropiate installation temperature reached.

'AI' Rings are identified by the absence of coloured a dot, whilst 'BI' rings are marked with a **RED** dot and 'CI' rings are marked with a **BLUE** dot.

SETR Side Entry Tinel-Lock Ring Series - Repair and Retro-fit Option

The 'SETR' side entry is a split version of the standard 'TR' Tinel-Lock ring, but allows the joining of harness shield to a customer built connector backshell or other termination device, without re-positioning the ring on the harness (side entry). This ring can also be removed easily.

SETR Part Numbering Information

Part Number	SETR Dimensions (mm)				
SETR Series	Int.Ø Latched Min.		Int.Ø Max Free Recovered		Jaw Opening
	AI	BI	AI	BI	Nominal
SETR-04AI or BI	10.08	10.57	9.63	10.11	6.35
SETR-06AI or BI	13.28	13.92	12.67	13.28	9.65
SETR-08AI or BI	16.51	17.02	15.75	16.23	12.7
SETR-10AI or BI	19.86	20.37	18.90	19.38	15.24
SETR-12AI or BI	23.16	23.65	22.02	22.50	19.05
SETR-14AI or BI	26.42	26.92	25.10	25.58	22.35
SETR-16AI or BI	29.74	30.25	28.22	28.68	25.40
SETR-18AI or BI	33.05	33.53	31.34	31.80	28.70

Bandstrap Adaptors

BND Series

Part Numbering

Bandstrap adaptors feature a corrosion-resistant steel band to terminate the cable screen. The resulting 360° termination creates an effective electrical connection, providing screen continuity between braid and adaptor. The terminated cable can then be protected and sealed using a heat-shrinkable moulded part, providing strain relief to the cable.

Using the part numbering elements below construct your part number, or contact us for details.

BND18 Straight adaptor family
Code 18 **MIL-C-5015 (MS3100)**

BND21 Straight adaptor family
Code 21 **MIL-C-26482 Series I**

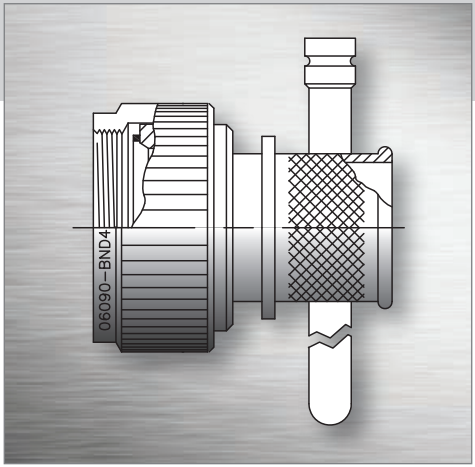
BND40 Straight adaptor family
Code 40 **MIL-C-38999 Series III & IV.**

BND41 Straight adaptor family
Code 41 **MIL-C-38999 Series I & II.**

BND54 Straight adaptor family
Code 54 **MIL-C-26482 Series II;**
MIL-C-5015 (MS3400)

Bandstrap tool available TIE-DEX-II-TOOL, for all adaptor options available, please contact us.

The above adaptor family designations are for the most common applications, for others not listed here please contact us.



Selection Table

Shell Size			Entry* Size	Entry Ø mm
Ord. No.	Ind. Ref.	Mil. Ref.		
08	9	A	04	6.35
10	11	B	07	11.12
12	12	C	09	14.30
14	15	D	10	15.88
16	17	E	12	19.05
18	19	F	14	22.23
20	21	G	16	25.40
22	23	H	18	28.58
24	25	J	20	31.10

Entry Ø sizes are nominal (based on those for the code 40 adaptor family), actual size may differ subject to adaptor family designation selected. * Denotes the maximum entry size permissable for given shell.

BND40 A Z 00 - 16 10 A

PART NUMBER EXAMPLE

Band Code: B European; or A Americas & Asia

Entry Size: See table above or contact us

Order Number Ref: See selection table above

Angle: 00 = straight; 45 = 45°; 90 = 90°

Finish Code: See earlier in this section

Material Code: See earlier in this section

Adaptor Family designation: See this page

The BND Bandstrap clamping strap is used throughout industry for terminating screens onto connectors and adaptors, offering;

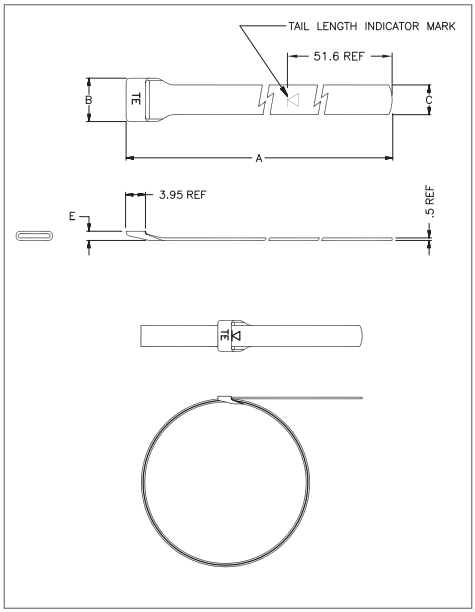
- Low profile design
- Light weight construction
- Space reduction
- Ease of installation

Also available supplied in a pre-coiled form, please contact us for more information.
Supplied with the 'Bandstrap Adaptor on the previous page as part of the assembly, but also available seperately as described on this page.

BND Band Strap Series - One Step

Part Number	Dimensions					Pre-Coiled
	Entry Sizes	A Nom.	B Nom.	C Nom.	E Nom.	Diameter
BND-0812S	03 to 14	206.3	5.0	3.2	1.3	21.8
BND-1425S	04 to 24	362.1	8.9	6.4	3.3	44.5
BND-1825S	26 to 34	457.2				63.5

All dimensions in millimetres.



Notes;

- The band straps are constructed from 300 series passivated corrosion resisting steel.
- Recommended instalation tools:
  BND-0812X: TIE-DEX-II-A30199
  BND-1425X, BND-1825X: TIE-DEX-II-A40199

Superior EMC/EMI Shielding Performance

Hexashield is designed to provide optimum EMC protection solutions for both commercial and military applications, representing a significant improvement over pigtail termination methods. Providing 360° EMC shielding on the termination area of each individual cable, HexaShield adapters provide outstanding shielding effectiveness.

Using the part numbering elements below, construct your part number, or contact us for details.

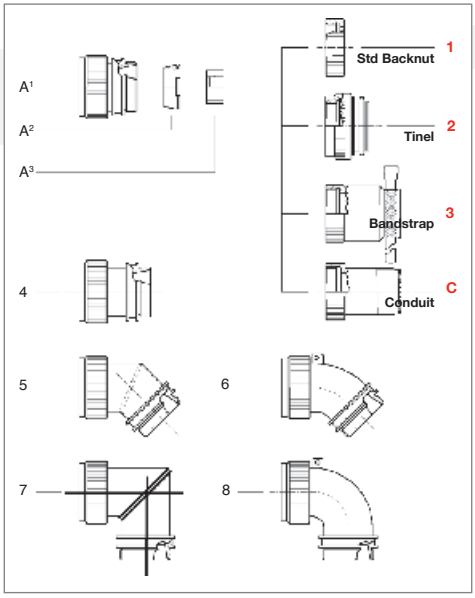
HEX18 Adaptor family
Code 18 MIL-C-5015 (MS3100)

HEX21 Adaptor family
Code 21 MIL-C-26482 Series I

HEX40 Adaptor family
Code 40 MIL-C-38999 Series III & IV.

HEX41 Adaptor family
Code 41 MIL-C-38999 Series I & II.

HEX54 Adaptor family
Code 54 MIL-C-26482 Series II;
MIL-C-5015 (MS3400)



Features and benefits

- Simple installation
- Easy re-entry
- Simplified maintenance repair
- Excellent mechanical and environmental resistance
- Efficient strain relief
- Flexibility
- Versatility

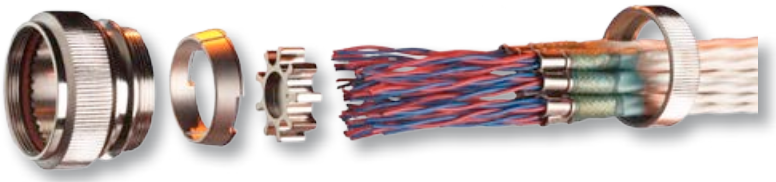
EMC Performance

- Withstands 10-kA peak current lightening transients of SAE AEL-87-3 rev. B.
- Outperforms traditional pigtail termination, especially in HIRF performance.

Hexashield adaptors are also available for ARINC 600 connectors, please contact us for details.

Kit Description

A^1	Straight adaptor
A^2	Conic ring
A^3	Star: Plain (Std), Drilled (Option), Split (Option)
4	Straight adaptor, longer body
1	Standard backnut
2	Tinel adaptor
3	Bandstrap adaptor
C	Conduit adaptor
5	45° adaptor, welded
6	45° adaptor, swept
7	90° adaptor, welded
8	90° adpator, swept



PART NUMBER EXAMPLE

HEX40 L-A B-00 S-11-A2-1-DS

Drilled Star Option: Contact us

Type of Backnut: 1, 2 , 3 or C see illustration

Ferrules: Nunber of ferrules that can be fitted. These need to be ordered seperately see info below.

Shell Size Code: (09,11,13,15,17,19,21,23,25) according to appropriate code to MIL spec

Version: S Swept version (items 6 and 8) Omit if standard welded version required.

Angle: 00 = Straight; 45 = 45°; 90 = 90°

Plating: B = Cadmium, C = Electroless Nickel

Material: A Aluminium alloy

Body Type: L Long body (see item 4), blank if std body

Adaptor Family designation: See opposite page

Ferrule Quantity by Shell Size

Shell Size		Ferrule Quantity	
Ref.	Mil.	Std.	Opt.
09	A	1	-
11	B	2	-
13	C	3	-
15	D	5	-
17	E	6	7
19	F	7	-
21	G	9	11
23	H	10	13
25	J	12	17

Table based on 38999 Series III and IV

Ferrule Kit - Part Numbers

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.

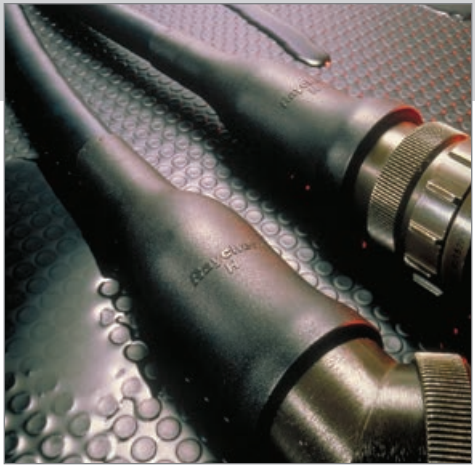
Type of plating
B = Cadmium plated
C = Electroless nickel

HET07-AX ferrule - solid blank for use when a HET-A is not needed

Backshell Assemblies

KTKK and TCFS

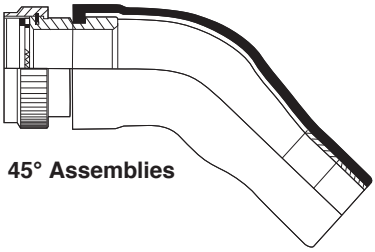
Introduction



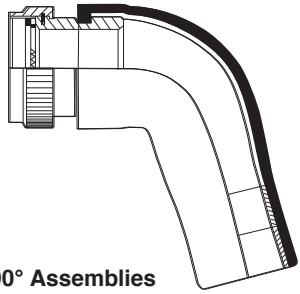
Our extensive range of backshell assemblies and kits fit a wide variety of Marine and Defence applications. Both KTKK and TCFS/R assemblies are available as either unscreened or screened with Rayaten screened moulded parts, to suit a wide range of connectors.

KTKK and TCFS/R product families come with the added advantage of pre-installed adhesives, which can drastically reduce the installation time and cost of harness building.

Straight Assemblies



45° Assemblies



90° Assemblies

KTKK cable assemblies are one-part assemblies for screened and unscreened cables. Constructed from heat-shrinkable screened moulded parts and connector adapters, the assembly consists of parts already well proven in harsh military environments.

Installation is simply effected by coupling the adapter to the connector and shrinking the rear of the moulded part onto the cable with a hot air gun.

The moulded part has a hot-melt adhesive pre-installed to provide a bond between the cable jacket and the moulded part.

When used in conjunction with shielded (screened) cables, the assembly provides electrical continuity between the cable shield and the connector with Rayaten moulded parts.

Rayaten moulded parts are shielded, heat-shrinkable parts providing shielding levels better than 80 dB at 100 MHz.

Full instructions for assembling are suppled with each KTKK. For more information on the materials and adhesives please refer to moulded parts and Adhesives sections of this catalogue.

For more information please contact us.

Boot Materials Available

Material		Specification
-25 fluid-resistant modified elastomer	-25S fluid-resistant modified elastomer, shielded	RW-2077
-100 low fire hazard material	-100S low fire hazard material, shielded*	RW-2078
* Please note that the selection tables on the following tables only include for 100S Low Fire Hazard Material		

Pre-Coated Adhesives Available

Material	Coatings, unshielded	Coatings, shielded
-25	S1048 (/86) high-temperature hot melt adhesive	-
-25S	-	S1030 (/180) low fire hazard hot melt adhesive
-100	S1030 (/180) low fire hazard hot melt adhesive	-
-100S*	-	S1275 conductive adhesive for use with Rayaten moulded parts
* Please note that the selection tables on the following tables only include for S1275 adhesive.		

KTKK Series Assemblies

Screened Low Fire Hazard Material (100S)

Part Numbering

Code 40 • MIL-DTL-38999 Series III & IV Connectors - Aluminium with Cadmium Plate

Shell Size	Straight Assemblies		45° Assemblies		90° Assemblies	
	Part Number	Cable Range	Part Number	Cable Range	Part Number	Cable Range
08	KTKK 0670	5.0 - 7.0	KTKK 0660	5.0 - 7.0	-	-
10	KTKK 0671	6.0 - 9.0	KTKK 0661	6.0 - 9.0	KTKK 1181	6.0 - 9.0
12	KTKK 0672	7.2 - 11.0	KTKK 0662	7.2 - 11.0	KTKK 1182	7.2 - 11.0
14	KTKK 0673	7.2 - 11.0	KTKK 0663	7.2 - 11.0	KTKK 1183	7.2 - 11.0
16	KTKK 0674	8.5 - 17.0	KTKK 0664	8.5 - 17.0	KTKK 1184	8.5 - 17.0
18	KTKK 0675	8.5 - 17.0	KTKK 0665	8.5 - 17.0	KTKK 1185	8.5 - 17.0
20	KTKK 0676	10.0 - 21.0	KTKK 0666	10.0 - 21.0	KTKK 1186	10.0 - 21.0
22	KTKK 0677	10.0 - 21.0	KTKK 0667	10.0 - 21.0	KTKK 1187	10.0 - 21.0
24	KTKK 0678	15.8 - 29.0	KTKK 0668	15.8 - 29.0	KTKK 1188	15.8 - 29.0

Code 40 • MIL-DTL-38999 Series III & IV Connectors - Nickel Aluminium Bronze

Shell Size	Straight Assemblies		45° Assemblies		90° Assemblies	
	Part Number	Cable Range	Part Number	Cable Range	Part Number	Cable Range
08	KTKK 2610	5.0 - 7.0	KTKK 3130	5.0 - 7.0	-	-
10	KTKK 2611	6.0 - 9.0	KTKK 3131	6.0 - 9.0	KTKK 2621	6.0 - 9.0
12	KTKK 2612	7.2 - 11.0	KTKK 3132	7.2 - 11.0	KTKK 2622	7.2 - 11.0
14	KTKK 2613	7.2 - 11.0	KTKK 3133	7.2 - 11.0	KTKK 2623	7.2 - 11.0
16	KTKK 2614	8.5 - 17.0	KTKK 3134	8.5 - 17.0	KTKK 2624	8.5 - 17.0
18	KTKK 2615	8.5 - 17.0	KTKK 3135	8.5 - 17.0	KTKK 2625	8.5 - 17.0
20	KTKK 2616	10.0 - 21.0	KTKK 3136	10.0 - 21.0	KTKK 2626	10.0 - 21.0
22	KTKK 2617	10.0 - 21.0	KTKK 3137	10.0 - 21.0	KTKK 2627	10.0 - 21.0
24	KTKK 2618	15.8 - 29.0	KTKK 3138	15.8 - 29.0	KTKK 2628	15.8 - 29.0

Code 41 • MIL-DTL-38999 Series I & II Connectors - Aluminium with Cadmium Plate

Shell Size	Straight Assemblies		45° Assemblies		90° Assemblies	
	Part Number	Cable Range	Part Number	Cable Range	Part Number	Cable Range
08	KTKK 0640	5.0 - 7.0	KTKK 0630	5.0 - 7.0	-	-
10	KTKK 0641	6.0 - 9.0	KTKK 0631	6.0 - 9.0	KTKK 0721	6.0 - 9.0
12	KTKK 0642	7.2 - 11.0	KTKK 0632	7.2 - 11.0	KTKK 0722	7.2 - 11.0
14	KTKK 0643	7.2 - 11.0	KTKK 0633	7.2 - 11.0	KTKK 0723	7.2 - 11.0
16	KTKK 0644	8.5 - 17.0	KTKK 0634	8.5 - 17.0	KTKK 0724	8.5 - 17.0
18	KTKK 0645	8.5 - 17.0	KTKK 0635	8.5 - 17.0	KTKK 0725	8.5 - 17.0
20	KTKK 0646	10.0 - 21.0	KTKK 0636	10.0 - 21.0	KTKK 0726	10.0 - 21.0
22	KTKK 0647	10.0 - 21.0	KTKK 0637	10.0 - 21.0	KTKK 0727	10.0 - 21.0
24	KTKK 0648	15.8 - 29.0	KTKK 0638	15.8 - 29.0	KTKK 0728	15.8 - 29.0

Please note that the above tables represent the most common variants, other versions available on request.

Code 54 • Pattern 602 Connectors - Aluminium with Cadmium Plate

Shell Size	Straight Assemblies		45° Assemblies		90° Assemblies	
	Part Number	Cable Range	Part Number	Cable Range	Part Number	Cable Range
08	KTKK 0612	5.0 - 7.0	KTKK 0780	5.0 - 7.0	-	-
10	KTKK 0613	6.0 - 9.0	KTKK 0781	6.0 - 9.0	KTKK 1241	6.0 - 9.0
12	KTKK 0614	7.2 - 11.0	KTKK 0782	7.2 - 11.0	KTKK 1242	7.2 - 11.0
14	KTKK 0615	7.2 - 11.0	KTKK 0783	7.2 - 11.0	KTKK 1243	7.2 - 11.0
16	KTKK 0616	8.5 - 17.0	KTKK 0784	8.5 - 17.0	KTKK 1244	8.5 - 17.0
18	KTKK 0617	8.5 - 17.0	KTKK 0785	8.5 - 17.0	KTKK 1245	8.5 - 17.0
20	KTKK 0618	10.0 - 21.0	KTKK 0786	10.0 - 21.0	KTKK 1246	10.0 - 21.0
22	KTKK 0619	10.0 - 21.0	KTKK 0787	10.0 - 21.0	KTKK 1247	10.0 - 21.0
24	KTKK 0620	15.8 - 29.0	KTKK 0788	15.8 - 29.0	KTKK 1248	15.8 - 29.0

Code 76 • Pattern 105 Connectors - Aluminium with Cadmium Plate

Shell Size	Straight Assemblies		45° Assemblies		90° Assemblies	
	Part Number	Cable Range	Part Number	Cable Range	Part Number	Cable Range
08	KTKK 0465	5.0 - 7.0	KTKK 0603	5.0 - 7.0	-	-
10	KTKK 0466	6.0 - 9.0	KTKK 0604	6.0 - 9.0	KTKK 1251	6.0 - 9.0
12	KTKK 0467	7.2 - 11.0	KTKK 0605	7.2 - 11.0	KTKK 1252	7.2 - 11.0
14	KTKK 0468	7.2 - 11.0	KTKK 0606	7.2 - 11.0	KTKK 1253	7.2 - 11.0
16	KTKK 0469	8.5 - 17.0	KTKK 0607	8.5 - 17.0	KTKK 1254	8.5 - 17.0
18	KTKK 0470	8.5 - 17.0	KTKK 0608	8.5 - 17.0	KTKK 1255	8.5 - 17.0
20	KTKK 0471	10.0 - 21.0	KTKK 0609	10.0 - 21.0	KTKK 1256	10.0 - 21.0
22	KTKK 0472	10.0 - 21.0	KTKK 0610	10.0 - 21.0	KTKK 1257	10.0 - 21.0
24	KTKK 0473	15.8 - 29.0	KTKK 0611	15.8 - 29.0	KTKK 1258	15.8 - 29.0

Code 79 • Pattern 608 Connectors - Nickel Aluminium Bronze

Shell Size	Straight Assemblies		45° Assemblies		90° Assemblies	
	Part Number	Cable Range	Part Number	Cable Range	Part Number	Cable Range
08	KTKK 0444	5.0 - 7.0	KTKK 0580	5.0 - 7.0	-	-
10	KTKK 0445	6.0 - 9.0	KTKK 0581	6.0 - 9.0	KTKK 1021	6.0 - 9.0
12	KTKK 0446	7.2 - 11.0	KTKK 0582	7.2 - 11.0	KTKK 1022	7.2 - 11.0
14	KTKK 0447	7.2 - 11.0	KTKK 0583	7.2 - 11.0	KTKK 1023	7.2 - 11.0
16	KTKK 0448	8.5 - 17.0	KTKK 0584	8.5 - 17.0	KTKK 1024	8.5 - 17.0
18	KTKK 0449	8.5 - 17.0	KTKK 0585	8.5 - 17.0	KTKK 1025	8.5 - 17.0
20	KTKK 0450	10.0 - 21.0	KTKK 0586	10.0 - 21.0	KTKK 1026	10.0 - 21.0
22	KTKK 0451	10.0 - 21.0	KTKK 0587	10.0 - 21.0	KTKK 1027	10.0 - 21.0
24	KTKK 0452	15.8 - 29.0	KTKK 0588	15.8 - 29.0	KTKK 1028	15.8 - 29.0

Please note that the above tables represent the most common variants, other versions available on request.

TCFS & TCFR Series

Cable Feedthrough Assemblies

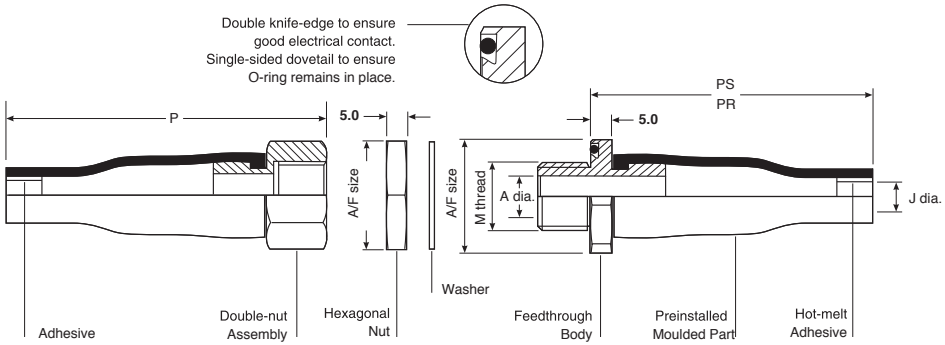
Product Family Overview

Provides environmental sealing and screen continuity to a bulkhead as a cable passes through. The assembly consists of a specifically designed locknut and O-ring seal, onto the rear of which is pre-installed a heat-shrinkable moulded part. Feedthrough installation is simply effected by tightening the locknut on the rear of the bulkhead, which compresses the O-ring and ensures that a knife-edge provides electrical contact between the assembly and bulkhead.

These moulded parts are screened providing shielding levels better than 80 dB at 100 MHz.

Key Features

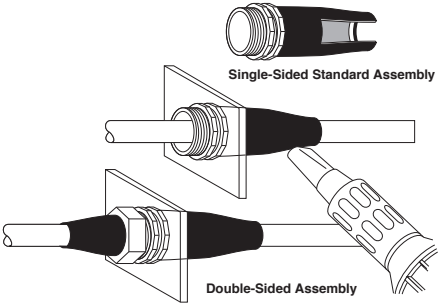
- Screened or unscreened cables
- One-piece part
- Each size covers a wide cable range
- Light weight
- Single- or double-sided assembly



Product Dimensions

Feedthrough Size		J Diameter		M Thread	A Dia.	A/F		P ±10%			Hole Size
		Sup.	Rec.		Max.	Body	Nut	P	PS	PR*	
TCFS-12	TCFR-12	6.5	5.0	M12 x 1.5	7.5	24	17	52	50	43	13.0
TCFS-16	TCFR-16	8.5	6.0	M16 x 1.5	10.2	29	22	57	65	48	17.0
TCFS-20	TCFR-20	10.5	7.2	M20 x 1.5	14.0	34	27	61	77	52	21.0
TCFS-24	TCFR-24	16.5	8.5	M24 x 1.5	19.2	38	30	74	90	65	25.0
TCFS-30	TCFR-30	20.5	10.0	M30 x 1.5	24.2	48	36	73	115	64	31.0
TCFS-36	TCFR-36	28.5	15.8	M36 x 1.5	30.2	52	41	104	140	95	37.0
-	TCFR-48	35.5	n/a	M48 x 1.5	40.2	67	55	144	110	135	50.0

*PR dimension for shorter TCFR Series
Dimensions in millimetres unless otherwise stated.



TCFS 12 62C - 0 20 100 A H

PART NUMBER EXAMPLE

Adhesive System :

E	Epoxy (please contact us)
H	S1030 hot melt
W	S1048 hot melt

Moulded part Type:

A	Straight unscreened
B	90° unscreened
C	Straight screened
D	45° screened
E	90° screened (16 to 36 only)

Moulding Part Material :

-25	Semi-rigid elastomer, or 25S if screened
-100	Low fire hazard, or 100S if screened

Thread Length:

20	Sandard length (mm), also available in 5mm increments, minimum 15mm

Assembly Modification Code :

0	Standard assembly
1	Double sided assembly
2	Same as 1 but with potting ports
3	Locknut

Feedthrough Material/Finish:
See material and finish code tables earlier in this section.

Size : See dimensions table left

Part :

TCFS	Full length moulded part
TCFR	Shortened moulded part (straight only)

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