Dura-Con™

CINCH

Dura-Con™

Micro D Connectors

Dura-Con™

Weight and Space

Dense centerline spacing and lightweight materials make Dura-Con the ideal connector where weight and space must be kept to a minimum while maintaining maximum reliability.

Shock and Vibration

The Cinch Dura-Con contact, due to its low mass, provides electrical continuity under extreme conditions of shock and vibration.

High Reliability Twist Pin Contact

The heart of the Dura-Con system is the twist pin contact. This contact is made from a precision miniature spring cable with a welded tip. The expanded cable creates a helix of seven spring members around the pin maintaining contact with the socket no matter what radial forces are applied. This spring cable can withstand many flex cycles without exhibiting any evidence of metal fatigue. Reliable mating is further ensured by protecting the pin contact in a tightly controlled recessed cavity.

Applications

Cinch Dura-Con connectors are MIL-DTL-83513 qualified and are used in missile systems, avionics, radar, minefield, space defense and many other military applications where reliability is crucial. This highly adaptable design has also seen many commercial applications including medical, telecommunications, computer, down-hole and transportation.

Termination Options

Insulated Wire – Available in 24 to 30 gauge wire at custom lengths specified by the customer.

Uninsulated Wire – Allows greater flexibility when installing the connector. Available in 24 to 28 gauge wire.

Solder Cups – Used in applications that require the lowest contact resistance and require termination by the customer.

Metal Shells D

- MIL-DTL-83513 Qualified
- Available in 8 sizes: 9, 15, 21, 25, 31, 37, 51 and 100
- High strength and lightweight aluminum shell provides EMI/RFI shielding capability
- Ideal for harsh environments
- Moisture and humidity seal with gasket
- Available in connector savers

Metal Shells

Plastic Shells D

- MIL-DTL-83513 Qualified
- Available in 7 sizes: 9, 15, 21, 25, 31, 37 and 51
- Economic alternative to metal shell when shielding is not required
- Smaller size and less mass than metal shell
- Connector savers also available

Plastic Shells

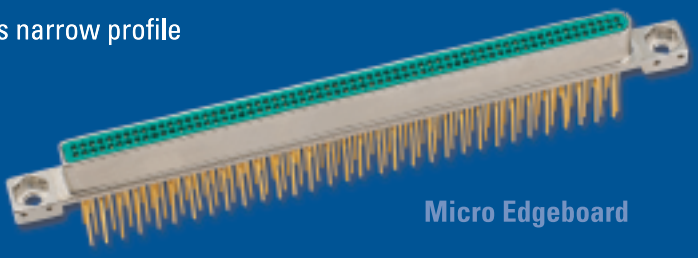
Printed Circuit Board

- MIL-DTL-83513 Qualified
- Available in 8 sizes (see metal shells D)
- For use with flex circuitry, printed circuit, multi-layer boards and flat cable
- Three standard styles: Straight, 90 degrees and 90 degrees narrow profile

Printed Circuit Board

Micro Edgeboard

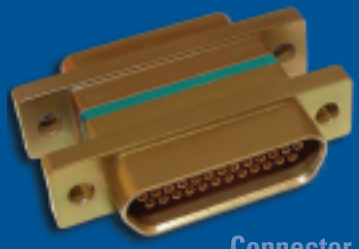
- Available in two standard sizes 128 and 184
- 184 position available in narrow width version (.250)
- Designed for mother-daughter board applications and board to wire and pigtail assemblies
- Meets applicable requirements of MIL-DTL-55302



Micro Edgeboard

Connector Savers

- Available in metal and plastic shells
- Reduces possible damage to the connector and test equipment
- Connectors are wired point to point



Connector Savers

Microminiature Strip

- Provides a dense, reliable interconnect device in minimum profile package
- Available up to 30 contacts in length
- Guide pin option is available for polarization

Microminiature Strip

Custom Interconnects

Cinch brings years of experience and knowledge to your custom application. We pride ourselves in working with the customer to provide a custom solution and developing prototype and modified assemblies to fit your unique needs. Whether it is a simple change or a one of a kind connector, you can count on Cinch to work with you to solve your interconnect requirements.

Harness Assemblies

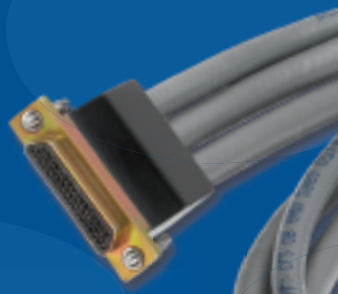
Should your harness requirements be simple point to point or complex with many branches, we can assist you in the design all the way through to production. Cinch has been building micro harnesses for military and commercial applications for over 20 years. If you need a quick quote and fast delivery Cinch should be your first choice.

Hermetic Interconnects

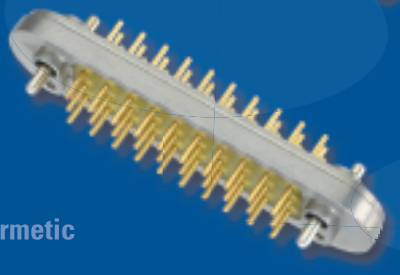
Cinch has developed an epoxy potting method that will allow connectors to pass rigid helium leakage rate tests of 1×10^{-6} thru 1×10^{-9} at far lower costs than traditional fired glass or ceramic hermetic connectors. This process has been used successfully on Dura-Con connectors, feed through headers and is adaptable for many other connector styles.

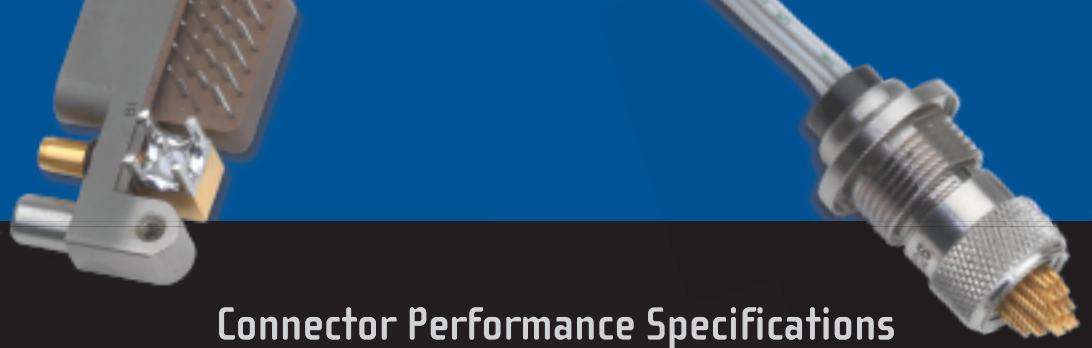
Custom

Harnesses



Hermetic





Dura-Con™

Connector Performance Specifications

Property	Requirement	Test Method
Current Rating	3 amp maximum	
Dielectric Withstanding Voltage:		
Sea level	900 VAC	MIL-STD-1344, Method 3001
70,000 Feet	300 VAC	
Contact Resistance	8 milliohms maximum	MIL-STD-202, Method 307
Low Level Contact Resistance	32 milliohms maximum	MIL-STD-1344, Method 3002
Insulation Resistance	5000 megohms minimum	MIL-STD-1344, Method 3003
Magnetic Permeability	2.0 μ maximum	ASTM A342
Mating Force	(10 ounces max.) X (# of contacts)	MIL-DTL-83513
Unmating Force	(0.5 ounces min.) X (# of contacts)	MIL-DTL-83513
Contact Retention	5 pounds minimum	MIL-STD-1344, Method 2007
Operating Temperature	-55° C. to +150° C.	
Durability	500 mating cycles minimum	MIL-DTL-83513, Para. 4.5.16
Salt Spray (Corrosion)	48 hours	MIL-STD-1344, Method 2004, Condition E
Outgassing	1.0% Total Mass Loss (TML)	SP-R-0022 (NASA) or ASTM E595
	0.1% total volatile	
	Condensible Material (TVCM)	
Crimp Tensile Stength:		
Wire Type M22759/11	5 pounds minimum	MIL-DTL-83513, Para. 4.5.20
Wire Type M22759/33	10 pounds minimum	
Fluid Immersion	Perchloroethelyne, 2 hours	MIL-DTL-83513, Para. 7.5.18
	Lubricating Oil (MIL-L-23649), 20 hrs.	
	Coolanol 25, 1 hour	
Shock	50 G's	MIL-STD-1344, Method 2004, Condition E
Vibration	20 G's	MIL-STD-1344, Method 2005, Condition IV

Proven Excellence

For over 70 years, Cinch has been a reliable supplier of a variety of quality connector products to various industries. We are a multi-national manufacturer with manufacturing facilities in the U.S., U.K. and Mexico.

Cinch has applied its extensive expertise in interconnection technology to engineer and manufacture connectors of various complexities using state-of-the-art technology and tooling. Mechanical design is accomplished using Pro/E® 3D solid modeling and AutoCAD® supported by nonlinear and linear Finite Element Analysis, and Mold Flow software.

Our engineers utilize in-house capabilities in high frequency interconnect simulation, SPICE model generation and high frequency testing to develop the optimum product.

All products are validated in Cinch's First Article, mechanical, electrical, and environmental test facilities ensuring the finished products meet our customers' most stringent specifications.

Simply, your connectors are manufactured in state-of-the-art facilities that are committed to customer satisfaction and continuous improvement.

CINCH

1700 Finley Road
Lombard, IL 60148

Phone: 630.705.6000
1.800.323.9612
Fax: 630.705.6060
E-mail: info@cinch.com
www.cinch.com

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