

CUSTOMER SUCCESS STORY

Aerospace & Military System Integrator

Engineering / R&D Services
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Brad Taras
Dura-Con Product Manager

Dura-Con™

Product

Dura-Con Micro-D Hermetic Connectors

Application

Electrical connectors are used to link two separate entities. For some systems each of these entities might be contained within distinct environmental conditions like low pressure vacuums, high pressure chambers or dissimilar atmospheres. When it comes to preventing leakage into a controlled atmosphere, a hermetic seal is required. A hermetic seal is much more demanding than water tight or those defined by the IP rating, hermetic is considered to be higher than IP 69, with a sealing capability of 10^{-8} mbar l/s.

Problem Statement

Most hermetic seals utilize a glass seal, but glass is well known to be brittle and often will be compromised in high vibration and shock environments. Also, glass requires investment in fixtures to produce samples, which increases lead-times and costs.

Cinch Solution

Cinch utilizes a proprietary epoxy compound resin to accomplish a hermetic seal on its connectors that is rated to 10^{-9} mbar l/s in helium gas. The epoxy is used similarly as the standard non-hermetic encapsulating epoxy. The process requires no custom tooling, which reduces lead-times and cost. This solution was first developed nearly 10 years ago on missile programs that are required to have a 30 year shelf life. The technology has since been used very successfully on a variety of defense programs throughout the world.

Competitors Projects

Competitors offer hermetic connectors with glass seals. Competitors have not been able to replicate the Cinch epoxy hermetic seal, but have to rely on traditional glass seals to achieve the same performance demonstrated in Cinch epoxy applications.

Value Proposition

Increase Mean Time Between Failure (MTBF) of your applications that will benefit from a hermetic seal to reduce corrosion by implementing a Cinch Dura-Con Hermetic Micro-D.

Increase Mean Time Between Failure (MTBF) of your high vibration and shock applications by substituting glass hermetic seals with Cinch's epoxy based hermetic seals.

Reduce production costs and lead time of your designs by implementing Dura-Con micro-D connectors directly between your application's hermetic interface.

Cinch Dura-Con™	DCDH	37	P	4C4	-1	B	N
Dura-Con Hemetic							
<u>No. of Contacts</u>							
9, 15, 21, 25, 31, 37, 51							
<u>Contact Type</u>							
P = Pin (Plug)							
S = Socket (Receptacle)							
<u>Termination Type</u>							
4C4 = Uninsulated, Gold Plated, #24 AWG Solid Copper							
S = Solder Cup (Skip to Mounting Hardware)							
<u>Lead Length in Inches</u>							
-00.5 = 0.5" of Uninsulated Wire							
<u>Mounting Hardware</u>							
B = No Hardware							
<u>Shell Plating</u>							
N = Electroless Nickel							

