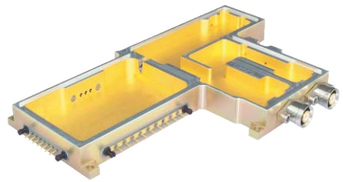
Hermetic Solutions For Extreme Environments

Integrated Packaging



Using technologies such as Kryoflex® and explosively bonded metals, SOURIAU PA&E designs and manufactures hermetic packaging for extreme environments — whether it's integrating components that protect satellites deep in space or connectors for oil-drilling tools that bore deep below the earth's surface. By pairing our Kryoflex and explosively bonded metal technologies, we can build hermetic packages using precision laser welding rather than solder joints, thus eliminating the two most common causes for hermetic package failure: solder joint fatigue and cracked glass.

Rectangular DC Connectors

SOURIAU PA&E's hermetically-sealed rectangular DC connectors exceed most mil-spec requirements and are designed for use in military and commercial applications, where environmental conditions require an extremely rugged and reliable hermetic seal. The uniquely-controlled CTE characteristics, chemical bonding properties and polycrystalline structure of Kryoflex allows SOURIAU PA&E to manufacture these hermetic connectors with 304L stainless steel shells and gold-plated beryllium-copper contacts to maintain excellent electrical performance and environmental characteristics.

Ceramic EMI Filters

SOURIAU PA&E's military-qualified Filter Products Group specializes in the design and manufacture of high-reliability low-pass EMI filters. Utilizing multi-layer ceramic discoidal capacitors and ferrite inductors, SOURIAU PA&E's engineering staff are experts at designing EMI filtering solutions for electronic circuits operating in hostile EMI environments. In-house manufacture and testing, in accordance with MIL-PRF-28861, Class B (QPL) and SOURIAU PA&E Class H, are standard practice.

Bonded Metals

SOURIAU PA&E has been the innovative leader in the explosive metal working field for over 30 years. Our customers have access to some of the world's most exciting metal working technologies, such as: Explosive Metal Bonding, Explosive Metal Forming, Explosive Shock Hardening and Dynamic Powder Metal Compaction. These high-strain rate technologies offer unique metal working advantages that can help our customers achieve the "impossible."

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ISO 9001:2008/
AS9100

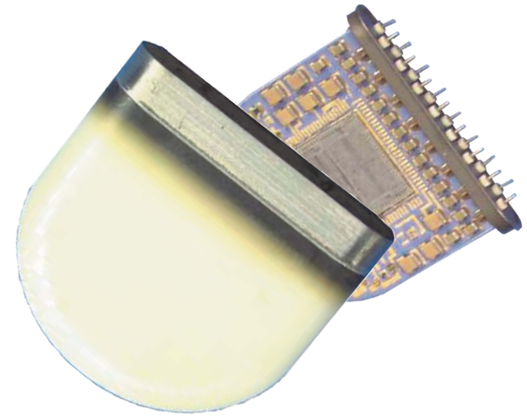
Esterline Connection Technologies

IMPLANTABLE MEDICAL ELECTRONIC PACKAGING

SOURIAU PA&E

Implantable Medical Packaging

- √ Turn-key package/feedthru solutions
- √ Unique material combinations
- √ Field proven technologies
- √ RF transparency



SOURIAU PA&E makes it possible for medical device developers to create new, life-saving devices that are smaller, stronger, and more reliable. Our medical components are used in applications such as cochlear implants, neurostimulators, and cardiac-function devices, and more.

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Vacuum Brazing/Diffusion Bonding

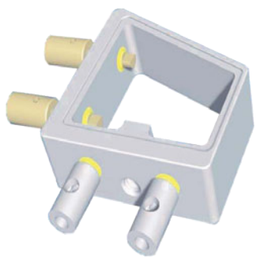
SOURIAU PA&E offers processes to join dissimilar materials such as titanium, alumina, zirconia, and more. We've been making medical feedthrus and assemblies for more than 25 years.

Advanced Implantable Viability

SOURIAU PA&E's packaging designs address potential rejection issues by using materials with a proven track record of implantable viability. For example, we utilize advanced ceramic materials in a housing that enable a cochlear implant to reside safely within the human body.

Smaller, More Durable Components

SOURIAU PA&E has developed a ceramic-to-metal joining technology to make components smaller without compromising performance. Our RF transplant ceramic enables device manufacturers to communicate with devices from outside the body. Using smaller components and strengthening advancements, we have increased the durability of implantable medical devices.



Kryoflex

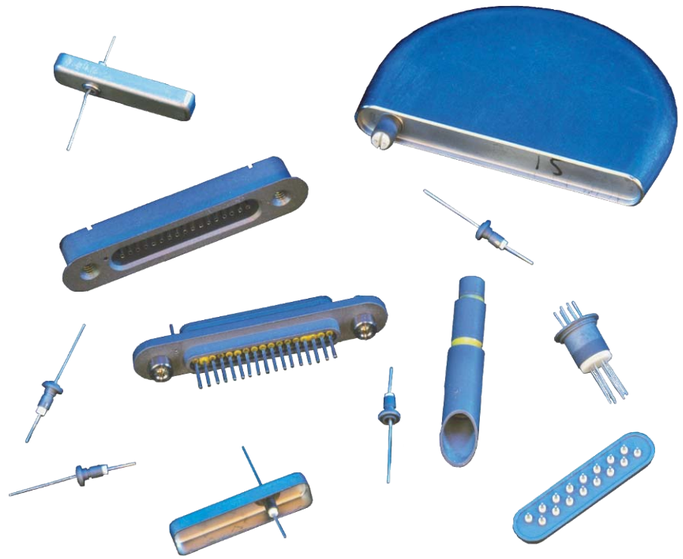
Kryoflex is a family of polycrystalline ceramics developed by SOURIAU PA&E for hermetically sealing together materials used in electrical feedthrus and is very effective at prohibiting the influx of any fluids or gases into the internal electronic circuitry. Kryoflex is used to manufacture ultra-reliable feedthrus for a wide variety of implantable devices.

EMI/RFI Filters

When it comes to filtering out unwanted low-, mid- and high-frequencies on a variety of implantable devices or simply filtering out noise on OEM diagnostic equipment, SOURIAU PA&E's EMI/RFI Filter products are the right solution for you. We manufacture discoidal capacitors ranging in size from .040" OD to 1.100" OD and in capacitance values from 5pF to 5mF with voltage ratings of 50 – 500 VDC and current ratings from .1 – 100 amps.

Medical Implantable Packaging

Devices implanted in the human body are at the leading edge of medical science. Advancing that technology, and making more implantable devices possible, requires overcoming several complex challenges. For example, medical implants must be as small as possible. However, the performance of new devices is often constrained by material selection and thickness. External communication with the implant is critical. Current communication technology relies on case material characteristics and size. Reliability and implantable viability are always issues because it is imperative that the body does not reject a newly-implanted device.



Examples of implantable packages and feed-thrus from SOURIAU PA&E.

SOURIAU PA&E is at the forefront in overcoming challenges faced by medical implant designers. We developed a ceramic-to-metal joining technology to make components smaller without compromising performance. SOURIAU PA&E's RF transparent ceramic enables device manufacturers to communicate to devices from outside the body. With smaller components and strengthening advancements, we increase the durability of implantable devices. We've also helped to overcome rejection issues by designing devices using materials with a proven track record of implantable viability.

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