



Media Contact:
Laura Mawbey
VP Sales and Marketing
509-667-5122
lmawbey@pacaero.com

Press Release

PA&E Announces New Ceramic Sealed Hermetic Windows

Sealing Process Offers Highest Levels of Hermetic Performance, Greater Flexibility

Wenatchee, WA – Feb. 17, 2010 – PA&E is now using its patented ceramic-to-metal sealing technology to manufacture hermetically sealed windows for optical, laser and infrared applications. The unique bonding properties and polycrystalline structure of PA&E's Kryoflex[®] material now allow the company to produce sight or wave-guide windows that maintain the highest levels of hermetic integrity under the extreme environmental conditions. This new product is particularly well suited for space or defense-related LADAR, laser designation/acquisition systems and medical endoscopes.

PA&E's ceramic-sealed hermetic windows offer engineers additional advantages beyond high hermetic performance. Because Kryoflex seals at relatively low temperatures, they can now choose from a variety of optical glasses such as sapphire, quartz and BK10. These new windows are also designed to be laser welded to a range of metals, including aluminum, titanium and iron/nickel alloys, for additional flexibility.

Windows produced with this new process are extremely robust and reliable because a key point of failure – solder joint fatigue – is eliminated. They provide a leak rate equal to or less than 1×10^{-9} cc/sec helium at 1 atmospheric differential pressure, even when subjected to extreme thermal and mechanical shock and, in medical applications, will maintain integrity after repeated autoclave sterilization.

Unlike solder- or braze-sealed windows, PA&E's ceramic-sealed hermetic windows do not require metallization. Eliminating this step can, reduce both costs and processing

time and allows anti-reflective coatings to be applied after the sealing process, ensuring that the critical A/R coating is not impacted by subsequent processing.

PA&E also offers a number of other window sealing options including: proprietary active braze sealing; a patented direct sealing process; standard braze sealing and solder sealing. For more information on hermetic windows from PA&E or to learn more about the company's other interconnect products, EMI filters, and integrated electronic packaging capabilities, contact PA&E at 509-664-8000 or visit <http://www.pacaero.com>.

PA&E, Inc. is an integrated manufacturing company, specializing in technically demanding ceramic and metal components and assemblies, hermetic connectors and advanced micro-electronic hermetic packaging for global leaders in the defense, space, medical and commercial industries. PA&E is ISO 9001:2008/AS9100 Rev B certified and NADCAP compliant.

PA&E – 434 Olds Station Road – Wenatchee, WA – 98801 – Tel: 509-664-8000 – Fax: 509-664-6868

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