How Precision Parts Are Applied in Critical Industries

Polyetheretherketone, better known as PEEK, is utilized in numerous critical industries. PEEK cuts very well under the UV laser spectrum and is popular to customers we support as a strong and stiff thermoplastic.

Manufactured gaskets and shims are made, for example, out of .005" to .010" thick PEEK with dimensions of 0.0150" I.D. x 0.020" O.D and a tolerance of +/0.001"/-0.000". Even if the size was 3.00" O. D. x 2.250" I.D., that tolerance will still be held. This gives engineers the confidence needed in the material and process for use and function.

Filter belts, with a size of 6.500" x 55.00" and a thickness of .020", are made for the food industry. The openings for example are 0.175"x0.175" with a tolerance of +/- 0.001". The UV laser process allows for the accuracy of the geometry throughout the part. There is no distortion to the integrity of the substrate.

The medical industry uses many types of tubing, and one of those is PEEK. PEEK tubes are being used in development for numerous medical devices. Through cooperation with our customer and supporting many R&D runs, a great solution was developed. This project supports a non-invasive medical procedure seeking to allow an inert gas to flow through a device. With an O.D. of .035" mils and an I.D. of .027", this aids in women's health and is improving the quality of life to many women. This tubing is a crucial part in the integrity of the devices function.

The alternative energy industry is on the forefront of technological advances. With the increasing costs of current energy outlets, various methods of applying battery energy are in development. As progress is made, there is a need to insulate and keep substrates separated for batteries. This separation from one material to the next is just one aspect of PEEK used in this industry. One example is a 2-mil thick separator of 1.500" x1.00" with a tolerance of +/- .001". Battery research is rapidly growing and continuing to demand parts used as spacers in complex stacks of varying materials. Because of these demands and multitudes of research, the process of laser cutting PEEK is becoming a solid technology for use in alternative battery production.

Since PEEK is 70% lighter than steel, it is being used in the automotive industry for seals and gaskets. This lighter weight improves fuel efficiency while being able to withstand corrosion, resistance to friction, and abrasion.

A-Laser welcomes all inquiries whether simple or complex, to provide high quality manufactured solutions. Keep in mind that many projects are done in combination with other materials that form a stack-up for the needed solution.

Please read more at:

How Precision Parts Are Applied in Critical Industries - A-Laser Precision Laser Cutting

A-Laser Precision Laser Cutting - Laser Ablation, UV and IR Lasers