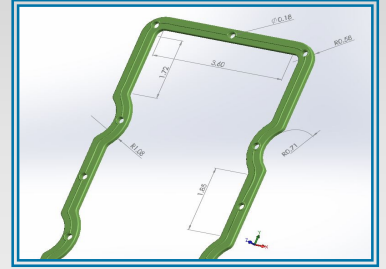




Stockwell Elastomerics

Manufacturing Solutions Through Engineered Materials

Custom Gasket Design - Stockwell Elastomerics helps a leading LED lighting manufacturer pass an IP-67 submersion test through material selection and custom shape factor to allow for low closure force and economically manufactured gaskets



Industry:
LED Lighting



Related Websites:

www.stockwell.com/LED
www.stockwell.com/GasketDesign

Stockwell's Value Proposition:

Design & Engineering - staff engineers comprehend design challenges and are available to help select materials and manufacturing processes that best fit your application needs.

Material Solutions - Stockwell Elastomerics has strategically partnered with industry leaders such as Roger Corp., St. Gobain, 3M, Wacker Silicones and Momentive Silicones to ensure the highest quality materials are used. Stockwell Elastomerics has a comprehensive inventory of engineered materials designed and manufactured to meet requirements of the most demanding gasketing applications.

Pre-Production and Manufacturing -

combining in-house CNC die cutting, waterjet cutting, injection molding, compression molding and adhesive lamination with comprehensive inventory; Stockwell Elastomerics can fulfill fast-turn prototyping, pre-production and full production requirements.

For More Information Call:

800-523-0123
service@stockwell.com
www.stockwell.com

The Challenge:

A leading LED lighting manufacturer was experiencing sealing failures on their soon to be released industrial fixture. Needing to pass a critical IP-67 water submersion test, their standard gasket material repeatedly allowed water ingress. Up against a tight release date, a solution was needed quickly to get their project back on-track for commercialization.

The Solution:

During the initial re-engineering phase, Stockwell Elastomerics worked closely with OEM design engineers to identify potential solutions. The **material selected** was a low durometer silicone. This soft gasket material allowed for low closure force that minimized deflection of the acrylic lens.

Stockwell Elastomerics quickly converted their gasket design into functional waterjet **prototypes**. Custom cut gaskets enabled them to quickly evaluate the form, fit and function of the new material and geometry. It was determined that the modified gasket design and soft silicone allowed for proper gasket compression and in turn provided a suitable IP-67 gasket.

Full Production and Sustaining:

Once the initial **pre-production build** was completed, waterjet cutting was transitioned to a die-cutting process, reducing cost for **initial commercial** runs. There was no loss of performance in the gasket and production only required a small investment for a steel-rule cutting die.

As sales of the LED fixture increased, the Stockwell Elastomerics team worked closely with sustaining engineers to **re-design** the geometry from a 2D cut part to a 3D injection molded gasket. The addition of a small sealing bead to the face of the gasket further reduced the force needed to seal the LED fixture. The modest tool cost for a silicone injection mold offered a quick ROI and an overall cost reduction for **full production** LED gaskets.

Key Capabilities Used:

- Applications Engineering for design and material solutions
- Waterjet pre-production part for validation
- Die-cut for initial phase commercialization
- Injection molding for full production volume manufacturing

Stockwell Elastomerics, Inc.
4749 Tolbut St.
Philadelphia, PA 19136
800-523-0123
service@stockwell.com