

MARIAN

BISCO® HT-800 Sealing Gasket for Commercial LED Light

CUSTOMER

U.S. based global leader in commercial LED lighting

PART

Sealing Gasket

MATERIAL

BISCO® HT-800 Medium Silicone Foam

APPLICATION

LED Luminaire Aluminum Housing Sealing Gasket

CHALLENGE

Our customer manufactures and sells LED Luminaires that are intended for use in exterior environments, warehouses, and hazardous locations. The advantages of LED lighting are significant energy savings, including longer product life-cycle, which results in less replacements and maintenance. The LED luminaire product in this story offered a 5 year warranty and an estimated 5-10 year operational lifespan. For a product to meet the application requirements for this lifespan, lighting designers must choose materials that can perform under tough conditions without fear of failure for a long time.

The light assembly is recommended for use in environments of ambient temperatures anywhere from 40° below zero to +150°F. On top of that, the internal temperature of an LED assembly can be quite a bit higher than ambient temperatures as the LED array creates much more internal heat than traditional luminaires.

Additionally, this light assembly is recommended for outdoor use as well as indoor. In the exterior environments the light will be subject to extreme UV exposure, rain, sleet, snow and everything else Mother Nature can throw at it. A moisture or dust leak could potentially lead to product failure.

SOLUTION

The lighting designers came to Marian to produce a gasket to seal the exterior aluminum housing of the LED luminaire. Given the conditions, Marian recommended BISCO® HT-800 Medium Density Silicone Foam.



BISCO® HT-800...

- Can withstand constant temperatures from -67°F to 392°F
- Maintains a water-tight seal,
- Does not “relax” or suffer serious compression set even when compressed for long periods of time (5 to 10 years) at elevated temperatures ,
- Has outstanding resistance to UV exposure,
- Can be cleanly die cut with precision (by Marian Inc.),
- Is flame retardant, meeting UL 94 V-0 flame rating,
- Is readily available through Marian, Inc., a Rogers Corp Preferred Converter.



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SOLUTION (CONT.)

Customer testing proved all of the features of BISCO® HT-800 to be true. With a gasket made from HT-800, this light assembly is able to pass IP-64 and UL standards for lights and light housings.

The light is assembled by hand and although HT-800 is available with PSA on one side, the adhesive was not required for this gasket. Marian engineers determined the most efficient process and inexpensive tooling needed to manufacture a die-cut gasket to the specified dimensions and tolerance of the luminaire housing.

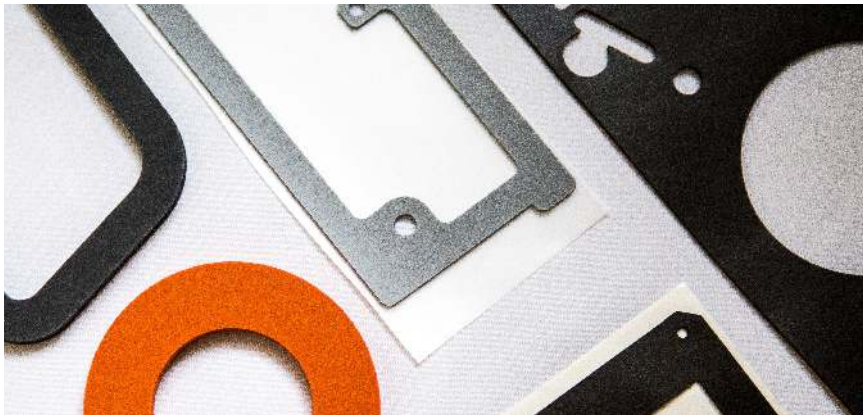


This image is not the actual LED light in this story, it is a representation.

CUSTOMER BENEFITS

A gasket cut from BISCO® HT-800 by Marian, Inc. afforded the customer the following:

- Peace of mind in that the gasket would perform flawlessly for longer than the product guarantee;
- Speed to market in that HT-800 is readily available and Marian moves extremely fast when it comes to material samples, CAD-produced prototypes, PPAP submission, first production
- Confidence that their customers will be more than satisfied with their design and product's performance.



This image displays silicone foam gaskets, including BISCO® HT-800 (the gray material). All of these gaskets have been die-cut by Marian for specific sealing / gasketing applications.