



Silicone Rubber Seals for Lighting Applications

Overview

Advanced Materials produce a wide variety of Silicone rubber seals used in Lighting Applications including mass transit systems, arcade machines, retail and show rooms, and for machinery in hospitals, as well as for high end corporate and artistic installations.

Custom Diffusion

For seals and extruded profile for which light will be diffused through, we start with a material with good clarity from the platinum cured range, these are available in a range of hardness' to suit a wide variety of applications, we can then either supply the seals completely translucent for allowing the maximum amount of light through, or we can add tiny amounts of white pigment into the mixture, for the silicone to act as a diffuser, the pigment loading percentage will be determined by a number of factors including the thickness of the silicone rubber, the distance of the light source, and controlling how much light is required in the application (frequently the desired outcome is just enough to eliminate hot spots from the LED strip behind)

Perfect Fit

One of the most common ways that we work on lighting applications, is to create an extruded silicone rubber profile to fit a metal substrate. This is frequently an aluminium extrusion, such as a handrail or trim rail, after an initial consultation, we are often sent the existing metalwork to create a custom extruded profile with the desired type of fit, such as push-fit or slide-fit, which will depend on the specific application.

Heat Resistant

For most modern lighting applications our platinum cured range of silicone rubbers offer suitable resistance to the temperature of the application, The PCxx family of materials have a temperature range of -60°C to +200°C, as well as great clarity. In the past we have also created seals for lighting applications in our opaque high temperature materials HTxxW, these types of seals are often soft compressible seals for sealing away sensitive electronics in lighting applications where the seal is for weather proofing, dampening or protection, where diffusion is not needed, but high temperature sealing up to 300°C is required. See separate data sheets for PCxx and HTxxW for full comparison.

Upgrade

In applications where Foreign Object Debris (FOD) attraction should be avoided, then consider adding the +AF Treatment to your parts, +AF is fluorination service from Advanced Materials which lessens the undesirable surface tackiness present on silicone rubber parts. Dirt particles, hair and other debris reduces visible appeal, the + AF Treatment greatly reduces this attraction. The treatment can also act as an aid when fitting the silicone into a metal channel, Surfaces to come into contact have less friction facilitating easier assembly. Silicone rubber parts which have had +AF Treatment have a pleasant smooth feeling. For more information on the +AF Treatment see the separate data sheet.

Ask the Sales Team: We usually have available a sample pack with one silicone extrusion with four different pigment loading levels 0.0%, 0.1%, 0.3% and 0.6%, customers usually find this a good starting point for determining pigment loading.