

Rubber Faces a Tough Environment

Changing application and market requirements challenge the status quo

Today, most users or potential users of rubber components face a changing environment. The environment can evolve based on changing application or market conditions. In some cases, regulations dictate new requirements. To avoid problems from rubber or elastomer components in a specific application, Ashtabula Rubber suggests answering three questions:

1. What materials are in contact with the elastomer, and have these materials changed composition?
2. Has the temperature of the operating environment changed?
3. Is the performance requirement of the rubber component expected to change?

The answers could lead to reevaluating the design options and redesigning the product.

From a competitive standpoint, today's market environment is anything but static. To cope with tighter cost constraints than ever before and get to market sooner, many engineers are turning to Liquid Injection Molding (LIM) or Liquid Silicone Rubber (LSR) products. The electrical properties, operating temperature range and high chemical resistance are just a few of the performance advantages offered by this material. Another cost-saving approach is integration — combining two functions into one to reduce assembly and other costs. With these innovative possibilities, it could be time for a change.

◀ RUBBER AND LOW SULFUR DIESEL FUEL

Effective June 2006, oil companies began distributing low sulfur diesel fuel to meet the U.S.

Environmental Protection Agency's (EPA) requirement for diesel fuel for on-road motor vehicles. The new fuel's sulfur content decreased from 500 ppm to 15 ppm. This change in material composition certainly justifies reevaluating the elastomer products used in these vehicles. In addition, other EPA regulations for truck engines have resulted in an operating temperature increase of almost 50F. The

combination concerned engineers at Ashtabula

Rubber who investigated alternate formulas for automotive customers. "Anytime you deal with a changing environment, it's important to understand the entire application as well as the full scale of the changes taking place," says Aaron Hall, engineering manager, Ashtabula Rubber Co. "The more we know about the operating environment, the better we are able to find the right material and design for our customers." For more information on Ashtabula Rubber design capabilities, go to <http://rbi.ims.ca/4933-524>.

