

GASKETS AND SEALS FOR HEV BATTERY ENCLOSURE

CUSTOMER

Global designer and manufacturer of electronic components and integrated systems for the automobile industry.

PART

Gaskets and seals for an HEV Battery Enclosure

MATERIAL

Rogers PORON® Foam 4790-92 Series and tesa 4965 double-coated tape

MARIAN ADVANTAGE

Innovative design with nested parts and aid assembly aid; Expert material knowledge and recommendations

CHALLENGE

The customer's design for an HEV battery system included an enclosure that required a group of seals and gaskets that would protect the sensitive contents of the enclosure from moisture, dust, and debris. Additionally, the design required that the seals and gaskets protect the system from failure due to vibration and impact. Lastly, as seen in all businesses, decreased cost and increased efficiency - without sacrificing quality - were important factors to the success of this program.



Representation of a HEV Battery

SOLUTION

MATERIALS: Marian recommended Rogers PORON® 4790-92 series foam laminated with tesa 4965 to make up the gasket materials. PORON® 4790-92 is extra soft with slow rebound. The Marian sales engineer knew it was an excellent gasket material that would seal out dust, moisture, and debris long-term with its excellent compression force deflection. The PORON® foam also offered vibration and impact resistance. The foam would be laminated with tesa 4965. The Marian sales engineer recommended this double-coated tape because of the aggressive bond it would hold between the foam and the enclosure housing. He also knew that

the strong double-coated tape would give the soft PORON® foam stability and keep it from stretching during manufacture and assembly.

DESIGN: The Marian sales engineer worked closely with the customer's design team to design a die-cut part with a nested grouping of seals and gaskets. Marian also included an extended liner in the design, containing 2 die-cut holes. The assembler at the customer used the holes in the extended liner to hang the die-cut part on hooks at his/her workstation. This made it quick, easy and clean for the operator to pull each nested sub-component from the liner.

CUSTOMER BENEFITS

HIGH QUALITY - Marian chose materials that would meet all of the requirements of the customers' design. With these high quality materials, the customer could be confident that the gaskets and seals would not fail or compromise the battery system.

COST SAVINGS - Marian's innovative design contributed to a better material yield, cost savings, and easy assembly for the customer.