

Delphi Automotive Systems

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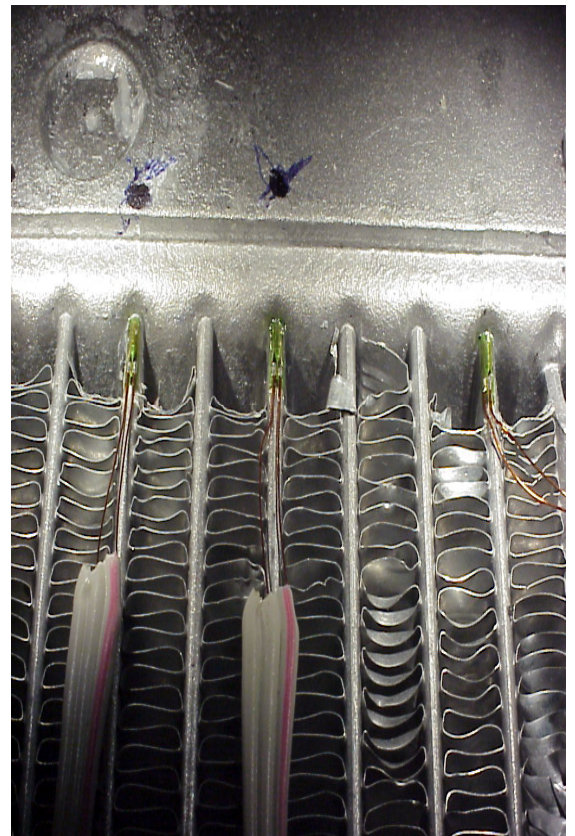
Automotive Industry: Strain Gage Testing of Radiators



Strain Gage Testing

Overview

Delphi is a leading global supplier of mobile electronics and transportation systems, including automotive radiators and heating/cooling systems. Delphi was looking to optimize its heat exchanger designs by measuring thermal strain under a variety of loading conditions. To enhance its product testing and evaluation capabilities Delphi sought a partner with extensive strain gage measurement experience, and found SimuTech.



Testimonial

“As we strive for lighter weight, optimized heat exchanger designs, it becomes more and more important to know the product’s ultimate design limitations. Product validation is usually completed using traditional testing techniques such as pressure cycle, thermal cycle and vibration testing.

STI Inc. (SimuTech - NY) has provided us with strain instrumentation expertise that coupled with our traditional testing procedures has allowed us to better understand our product design limitations.”

Karl K., Test Engineering Group, Delphi Automotive

Challenge

Traditional pass/fail product testing does not provide the detailed information required to determine design margins and efficiently optimize radiator designs. The critical strain locations on these heat exchangers require very small gages and can be difficult to access.

Solution

SimuTech Group developed specialized strain gage mounting techniques for precisely locating very small gages.

Benefits

By studying the resultant strain data and comparing the results with previous designs, Delphi can ensure that the material thicknesses being proposed for new heat exchanger models will meet durability standards.