



Innovation for Customers

Nitto Case Study

Major Airline Saves Money on Corrosion Prevention Tape

A major airline saves 20-30% on material cost and reduces tape removal time by 80% by switching to AEROSEAL® SC-140.

Backstory

A major airline wanted to replace its corrosion prevention tape because of the high cost of material and labor involved in using the product. Its current tape provided adequate corrosion prevention, but left behind residue that required extensive labor to remove and clean. The airline needed a product that would cost less, minimize labor, and provide a similar level of corrosion prevention. The airline chose three new products (Nitto's AEROSEAL® SC-140, Product B, and Product C) to evaluate for corrosion prevention performance and ease of removability.

Testing

The first part of the evaluation process was simple soak tests. They were performed on the three new products to determine the ability of the bond line to prevent moisture ingress under the tape, thus protecting the metallic structure from being exposed to moisture and prevent corrosion. Samples of all three products were bonded to clear plastic discs and soaked in four different fluids for 50 days.

AEROSEAL® SC-140 performed satisfactory and Products B and C were found to have full bond line penetration. A second set of soak tests was performed, with results similar to the first test. After both soak tests were completed, Product C was rejected as it did not meet expectations.

The final step in the evaluation was to test the final two products, AEROSEAL® SC-140 and Product B, on a 737-800 airplane operating in Guam for two dedicated corrosion inspection cycles. The two products were applied in the cargo floor structures with AEROSEAL® SC-140 in the forward cargo compartment typically used for hauling fish – the ultimate corrosion test.

At the first inspection cycle after 120 days, no corrosion was found in the forward cargo floor structure sealed with AEROSEAL® SC-140 - despite evidence of a fish spill. The cargo panel removal for the entire forward cargo compartment was completed within 40 minutes. Little to no tape residue was found on the structure after removal.



Soak test

The aft cargo compartment was sealed with Product B and no corrosion was found. However, removal of the aft cargo floor panels took at least 2 hours because they were “bonded” to the floor structure. The crew had to take extra care in removing the floor panels to prevent physical damage. In addition, the crew spent approximately 20 man-hours to clean and remove residue left behind by Product B.



Aeroseal® SC-140 on floor structure



Aeroseal® SC-140 removed cleanly from floor structure

Results

From the evaluations, the airline deemed AEROSEAL® SC-140 to have equivalent or better capability than Product B for preventing moisture ingress through the bond line. AEROSEAL®'s SC-140's adhesive layer provided an added protection against moisture ingress, which provided better corrosion protection than the competing product. They also estimated a cost savings of 20-30% over their existing product.

In the evaluation, AEROSEAL® SC-140 was 80% faster to remove. The airline estimated that the “clean” removal of AEROSEAL® SC-140 offers a labor savings of 30-50 man-hours on each 737-800 airplane.

The airline chose Nitto's AEROSEAL® SC-140 as the best solution for both performance and cost, and approved AEROSEAL® SC-140 for use within their organization.

Disclaimer: The results of this case study were provided by a satisfied customer. Results may vary based on relevant circumstances and Nitto is not providing any implied or express warranties by sharing this case study.

Nitto
Aerospace

45880 Dylan Drive, Novi, MI 48377

TEL: 1-888-804-2627

www.nitto.com

SOLUTIONS THAT DELIVER PLANES **FASTER**
AND MAKE MAINTENANCE **EASIER.**