

Micrographs of the GM vehicles are labeled as S1, S2 and S3. The Chrysler vehicle is labeled as Y1 and Y2 as shown in Appendix B. What you see in these surfaces is a clear coating with the painted surface underlying the clear coat. There are no holes in the surface and no pieces of opaque polymer in the polymer coat. It should be noted that the clear coat thickness for the GM and Chrysler finishes was approximately 3 mils, whereas the Armor Coat finish was approximately 8 mils thick.

The next test that was conducted was an accelerated ageing test that was performed using an ASTM G-53 accelerated weathering device equipped with UVA bulbs. A portion of the Armor Coat test panel was subjected to this test for 3 days. Fourier Transform Infrared Spectroscopy (FTIR) analysis was performed on the test panel before and after being exposed to UV. The spectra for these samples are shown in Appendix C.

The FTIR spectra for the before UV exposure, sample 5 and sample 6 are the same as the spectrum obtained after UV exposure sample 7. What this means is that because no new peaks appeared in the spectrum then the polymer film was not altered by the UV exposure. That is there was no breakage of the chemical bonds in the UV film.

Micrographs of the Armor Coat finish were also taken after exposure to UV radiation. These micrographs are shown in Appendix D. The micrographs show no physical change in the polymer film as a result of exposure to UV radiation.

Adhesion testing was also carried out on the Armor Coat finish both before and after exposure to UV radiation. The testing was carried out in accordance with the tape adhesion procedure prescribed by ASTM D3359. This method involves using a knife or other cutting tool to scribe a cross-hatch pattern into the panel, followed by the application of a special pressure-sensitive adhesive tape. The tape is then rapidly removed, and the adhesion is assessed in accordance with the method's rating system. Ratings can range from "5B" corresponding to no loss of adhesion, to a "0B" corresponding to 65% or more delaminating.

Ten tests were conducted on samples of the Armor Coat finish before exposure to UV radiation and the same number after exposure to UV radiation. The results before UV gave two "5Bs", six "4Bs" and two "3Bs". After UV exposure the results were one "5B", five "4Bs" and four "3Bs". Similar results were obtained for the GM and Chrysler finishes, indicating that they all have similar adhesion and UV protection properties.