



Krytox™ AUT U14

Performance Lubricants

Automotive Dynamic Seal Noise Reduction Application

Using Krytox™ AUT U14 and Comprehensive Technical Service to Solve OEM Tailgate Seal Noise Issue

North American Automotive OEM Struggles with Noise, Vibration, and Harshness (NVH) Issue

During road testing, the OEM identified a recurring noise, vibration, and harshness (NVH) issue on one of their best-selling platforms and was forced to enter into containment to resolve the problem. Stick-slip was causing the noise issue on the elastomer seal between the tailgate and rear window. The window seal had a dilute PFPE oil, applied by the Tier 1 supplier to avoid the problem they were facing, but that oil was not getting the job done. Initially, the OEM identified a PFPE grease as a potential solution, but the Tier 1 supplier communicated a concern regarding grease contamination on adjacent surfaces and the OEM recognized the need to identify a different solution for this NVH issue.

The Challenge

With their existing PFPE oil, the OEM had insufficient lubrication between the tailgate and window seal, and, without a clear solution, they faced critical business risks. Most notably, the resulting NVH issue generated substantial negative customer feedback. With their existing strong brand reputation, this feedback left them vulnerable to losing both brand equity and future platform sales. Additionally, with many vehicles released either before containment or using grease as a temporary NVH solution, the OEM faced the more significant potential of aftermarket costs due to warranty repairs or recall.

The Solution

The OEM, familiar with Krytox™ high-performance lubricants, approached Chemours for support identifying a solution to this NVH issue and sent samples of both the window seal and incumbent lubricant for analysis. Chemours compared the OEM's existing PFPE oil to Krytox™ AUT U14, a PFPE oil specially formulated for wetting slip-coated elastomer seals, by analyzing cross-sections of lubricated samples in a scanning electron microscope (SEM). This analysis in **Figure 1** found that the incumbent PFPE oil was not staying at the sealing surface but instead penetrated the EPDM, reducing the lubricant contributing to noise prevention. In contrast, the majority of Krytox™ AUT U14 remained at the application surface to prevent NVH.

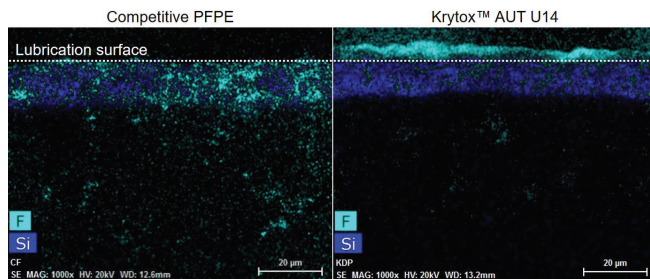


Figure 1. Scanning Electron Microscope (SEM) images of a cross-section of weather stripping lubricated with either Krytox™ AUT U14 vs. the incumbent PFPE oil. The EPDM surface is located at the top of the image (white). Silica mapping (dark blue) shows the slip-coat applied by the rubber supplier. Fluorine mapping (light blue) shows where the PFPE oil is located.

The NVH benefit of Krytox™ AUT U14 was further validated using Zin Ziegler (ZZ) testing, a standard for measuring the noise potential of different material pairings. This testing showed that the contact of the OEM's window seal against a painted metal surface had a reduced risk of noise after applying Krytox™ AUT U14. The OEM proceeded with testing Krytox™ AUT U14 on their seals and, after successful road performance, worked with Chemours and their Tier 1 supplier to specify Krytox™ AUT U14 into the part design.



Key Advantages

- Prevented further risk of aftermarket costs or loss of sales
- Reduced risk of stick-slip noise, even with surface contamination, using only 4 g/m² of oil
- Uniform surface wetting and a UV detectable additive improved production line quality control and application consistency
- Washout and contamination resistance supported NVH reduction for the life of the vehicle
- Compatibility with metals, plastics, elastomers, and paint

Why Krytox™ High-Performance Lubricants?

Today's technological evolution in the auto industry is possible only because engineers aren't taking any chances. They rely on the certainty long-lasting Krytox™ high-performance lubricants provide: precision formulas engineered to help drive performance by reducing component failure, extending vehicle life, and eliminating noise—even under the broadest range of temperatures and harshest conditions. For 60 years, we've considered reliability and performance non-negotiable. That's why we're the perfect partner for whatever is next.

Together, let's reconsider possible.

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