

FLUOROPOLYMERS DRIVE INNOVATION IN U.S. AUTOMOTIVE MANUFACTURING

Fluoropolymers are critical to the U.S. automotive industry, helping to improve performance, safety, and sustainability in modern automobiles. Due to their unique combination of heat and friction resistance, electrical insulation, and chemical durability against aggressive substances, fluoropolymers help to ensure reliable vehicle performance in the harshest environments and operating conditions. From fuel hoses and gaskets to battery films, wiring insulation, and turbocharger seals, fluoropolymers support technological innovations, extending the life of components, and reducing maintenance and replacement costs. As automakers pursue advanced mobility and reduced emissions standards, fluoropolymers remain indispensable for driving efficiency, safety, and durability in this critical industry.

Fluoropolymer Benefits to the Automotive Industry



Safety and Reliability

Helps ensure critical components perform consistently with reduced risk of malfunctions, fires, fluid leakage, or degradation.



High Performance Under Extreme Conditions

Exceptional resistance to heat, weather, chemicals, and corrosion, resulting in lower maintenance and replacement costs.



Extended Lifespan

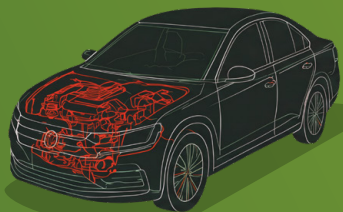
Resistant properties provide low-friction surfaces, improving thermal management, increasing efficiency and longevity, and reducing fuel consumption.



Lightweighting and Fuel Efficiency

Supports fuel economy and driving range by enabling lighter components and reduced vehicle weight.

Fluoropolymer Applications in Automobiles



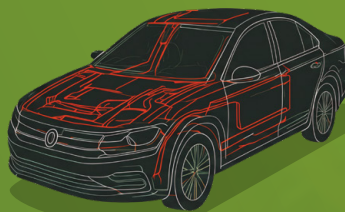
Engine and Fuel Systems

Fuel lines and hoses: Help prevent leaks and corrosion in fuel, turbocharger, and hydraulic system hoses.

Seals and O-rings: Strengthen fuel injectors, caps, and other engine components to prevent fuel, oil, and coolant leaks.

Gaskets: Withstand high temperatures and help prevent leaks in cylinder heads, intake manifolds, and air intake gaskets.

Low-friction coatings: Reduce power requirements in automatic transmissions and other moving parts.

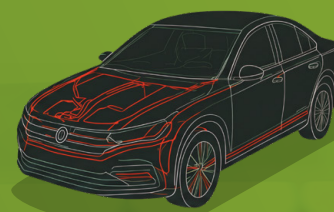


Electrical Systems

Electric systems: Strengthen oxygen sensors, wire harnesses, and exterior venting proximity sensors.

Wire and cable insulation: Increase the reliability and fire resistance of wiring in the hot engine compartment.

Lithium-ion batteries: Provide chemical stability and resistance to heat and corrosion in electrical vehicle batteries.



Critical Mechanics

Brake lines: Absorb pressure and improve performance of anti-lock braking system (ABS) brake lines.

Chassis: Reinforce shock absorber piston seals, stabilizer bar bushings, steering ball joints, piston rings, and axle venting.

Powertrains: Enhance internal shift seal rings, oxygen sensor seals, air conditioning piston rings, and valve stem seals.

Protective coatings: Help make external parts more resistant to wear, harsh chemicals, and other environmental challenges.

Risks of Broad Restrictions on PFAS

PFAS regulations that would restrict fluoropolymers could significantly impact the automotive industry's ability to meet emissions targets and other performance requirements.

- **Fuel System Failures:** Loss of fluoropolymer seals and hoses could increase fuel permeation, emissions, and chances of failure.
- **Safety and Compliance Challenges:** Alternatives often fail to meet high-temperature and chemical resistance standards, risking component failure.
- **Economic Impact:** Widespread bans could affect multiple critical U.S. sectors, with billions in stranded assets and unnecessary expenses.
- **Supply Chain Disruptions:** Bans would stall production, make replacement parts unavailable, and increase costs for parts manufacturers, dealers, and other parts of the automotive industry.
- **Job Losses:** Economic and industry consequences of bans could jeopardize hundreds of thousands of U.S. manufacturing jobs tied to the automotive sector.

Fluoropolymers enable safer, cleaner, and more efficient mobility. From electrical systems to exterior components, these high-performance chemistries deliver unmatched durability and resistance to heat, corrosion, and other challenges. Fluoropolymers remain essential for automotive innovations that drive reliability and performance.

For more information, please visit fluoropolymerpartnership.com