

Polyhose PTFE Hoses: Enabling Superior Ride Quality for Electric Off-Road Vehicles

A new generation of electric vehicles is redefining what it means to explore the great outdoors. Designed to tackle roads and trails, a leading electric vehicle brand has overcome a variety of obstacles to create a functional off-roading electric pickup truck. The key to high-functioning performance and ride quality? The vehicle's uniquely designed suspension system, built with quality components sourced from the best suppliers available, including the highest quality fluid conveyance products from Polyhose.

Featuring Polyhose PTFE Hoses

Building an electric pickup truck meant to handle adventurous off-roading rides means facing the challenge of crafting a specialized system with distinct pieces to overcome the difficulties faced in an electric automobile. That's where the brand connected with Polyhose—for convoluted hoses that outperform the rest. Polyhose's PTFE hose boasts key features that set it apart.

- ✓ Hot and cold temperature resistance
- ✓ High chemical resistance
- ✓ Non-contamination properties
- ✓ Low coefficient of friction
- ✓ Deterioration resistance
- ✓ Tight bend radius on the hydraulic lines

These factors make the Polyhose PTFE hose the perfect fit for the demands of this electric truck and a crucial piece of its uniquely engineered suspension.

Critical Suspension System Components

A true adventure vehicle can conquer the trails under all conditions. In an electric vehicle, a larger battery pack is critical—on top of an already high payload capacity for passengers and gear. The need for variable ride height introduces another challenge, a feature necessary to handle tough trails with bumps and swells. In most vehicles, air springs are utilized as the spring rate increases, compensating for increased ground clearance. Shock damping is another key to maintaining ride quality with variable-rate springs.

Such a system is heavy, expensive, and power consuming. To effectively address all aspects of off-roading ride quality, the engineers behind this electric vehicle worked to design + tune their very own hydraulic cross-linked suspension. By employing variable-orifice valves, they were able to match the damping and spring rates while balancing roll control and articulation needs without the extra weight and cost of a traditional system.



Key Suspension Features

Several key elements set this electric vehicle's suspension system apart, including monotube external reservoir shocks, a cross-connection controller, semi-active technology, and high-quality sourced components. Each feature contributes to the vehicle's special ability to handle diverse terrain with confidence among electric vehicles and off-roading vehicles alike.

One of the first elements of the system, **monotube external shocks**, incorporates no valving in the internal piston. Instead, the system's hydraulic shock oil is forced in and out of the upper and lower chambers. This allows the oil to pass through variable-orifice valves, promptly adjusting flow rate to control jounce and rebound. Such a system enhances the overall ride quality of the vehicle's system, setting this electric adventure vehicle apart from others.

The **chassis controller** within the suspension system allows for constant monitoring of driver inputs, road conditions, driving mode selection, vehicle load, and more. This information is used to determine the optimal degree of roll control or suspension articulation, permitting the central valve body to direct hydraulic pressure where it is needed the most. Off-roading is bumpy—and this electric pickup truck tackles this directly with its cross-connection controller feature.

Furthermore, the vehicle's unique suspension system is considered "**semi-active**"—meaning no cameras read the road ahead. Instead, the system boasts millisecond response time to deliver quick damping and roll-control adjustment, allowing the suspension to optimize ride quality for any road conditions.

Above all, the brand's commitment to **quality sourced components** produces a hydraulic suspension system that performs above the rest. And this is where Polyhose comes in—providing the highest quality convoluted hoses for this special electric off-roading vehicle. From chemical and temperature resistance to a low coefficient of friction, Polyhose PTFE convoluted hose meets the needs of the suspension system, uniquely holding up to the challenges of an electric off-roading vehicle.



The Polyhose logo is displayed in a large, white, sans-serif font. Below the logo, the tagline "Providing Flexible Solutions Globally" is written in a smaller, white, sans-serif font.

Providing Flexible Solutions Globally



Polyhose Capabilities

Polyhose is proud to provide flexible solutions that help bring innovation to electric vehicles. With a commitment to quality, Polyhose creates value for distributors and OEM customers in North America by manufacturing the industry's widest range of products in an efficient and reliable manner.

- ✓ Rubber Hydraulic and Industrial Hose
- ✓ Thermoplastic Hose
- ✓ PTFE Hose
- ✓ Stainless Steel Flexible Hose
- ✓ Matched Fittings
- ✓ Hose Accessories
- ✓ Exitflex Paint Spray Products

With strategic expansion across North America, our fully stocked facilities ensure the shortest lead times and the widest product range in the industry. We're U.S.-based, U.S.-shipped, and ready to deliver.

Connect with Polyhose—the most efficient, reliable, comprehensive manufacturer of fluid conveyance systems in the industry.

POLYHOSE PERFORMS

The world runs on Polyhose. Ready to experience performance like never before? Connect with us today.

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