



» APPLICATION BULLETIN

UPGRADE YOUR RIDE

Vehicles are an integral part of our lives, serving as both a necessary mode of transportation and a reflection of our individuality. They provide us with unique opportunities for exploration, enabling us to venture into new territories and expand our horizons. Beyond transportation, cars continuously transform industries, economies, and social dynamics, influencing the way we live, work, and interact with one another. Vehicles are a fundamental part of our existence, from commuting to work and running errands to embarking on memorable road trips, fostering independence, connectivity, and a sense of adventure.

As automotive industry technology evolves, we're consistently innovating and improving the technology and materials used in vehicles and aftermarket parts to improve performance and utility. The benefits of using long fiber thermoplastic (LFT) composites in these automotive applications to achieve these objectives are well documented. Compared to metal,

LFTs can reduce structural component weight by up to 40%, contributing to lower overall vehicle weight, fuel savings, and emission reductions. These composites also offer superior corrosion resistance compared to traditional metals, providing longer service life and reduced maintenance costs, making them an excellent option for automotive applications. For exterior automotive components, advanced LFT technologies offer enhanced UV stability to maintain color and gloss over time. Furthermore, LFT composites are injection-moldable, providing a highly repeatable process that increases production efficiency and reduces scrap.

Our diverse range of advanced polymers and long fiber reinforced composites gives you the freedom to innovate, create high-strength components that eliminate unnecessary weight, and unleash fresh designs that offer superior performance while remaining economically viable to produce.

NEXT-GEN UPGRADES

Transform your aftermarket parts with efficient, lightweight long fiber thermoplastic solutions that redefine performance with strength, toughness, and design freedom.

MANUFACTURING EASE

Injection moldable, design freedom, insert molding, part consolidation

SOLUTION: Long fiber reinforced composites

POSSIBILITIES: Seating shells, seat base components, tubular door frames, accessory linkages

SURFACE AESTHETICS

Color matches, fiber-rich or glossy surfaces, carbon fiber appearance, UV stability

SOLUTION: Moisture-resistant and UV enhanced long fiber reinforced composites

POSSIBILITIES: Lighting bars, side steps, bed steps, bike mounting brackets, cargo carriers

SUSTAINABILITY

PIR/PCR content incorporation with high strength, lightweighting for fuel economy

SOLUTION: Recycled content long fiber reinforced composites

POSSIBILITIES: Roof rack structures, fender flares, rail covers, tail light protectors

DIMENSIONAL STABILITY

Tight tolerances, minimal warp

SOLUTION: Long fiber reinforced composites with polyketone (PK)

POSSIBILITIES: Roof rack structures, running boards, brackets, component housings

STRENGTH

High strength-to-weight ratio, comparable to metal

SOLUTION: Long fiber reinforced composites

POSSIBILITIES: Tubular door frames, accessory motor mounts, tailgate locking systems

IMPACT RESISTANCE

Durable in rugged environments and uses

SOLUTION: Maximum toughness long fiber reinforced composites

POSSIBILITIES: Side steps, bed steps, roof racks, brackets, bed extenders, tie downs

LIGHTWEIGHTING

30–40% weight reduction when switching from metal

SOLUTION: Long carbon fiber reinforced composites

POSSIBILITIES: Motor mounts, seating components, accessory mounts

EXTREME PERFORMANCE

High and low temperature performance, maintained properties with UV exposure, moisture performance

SOLUTION: Long fiber reinforced composites

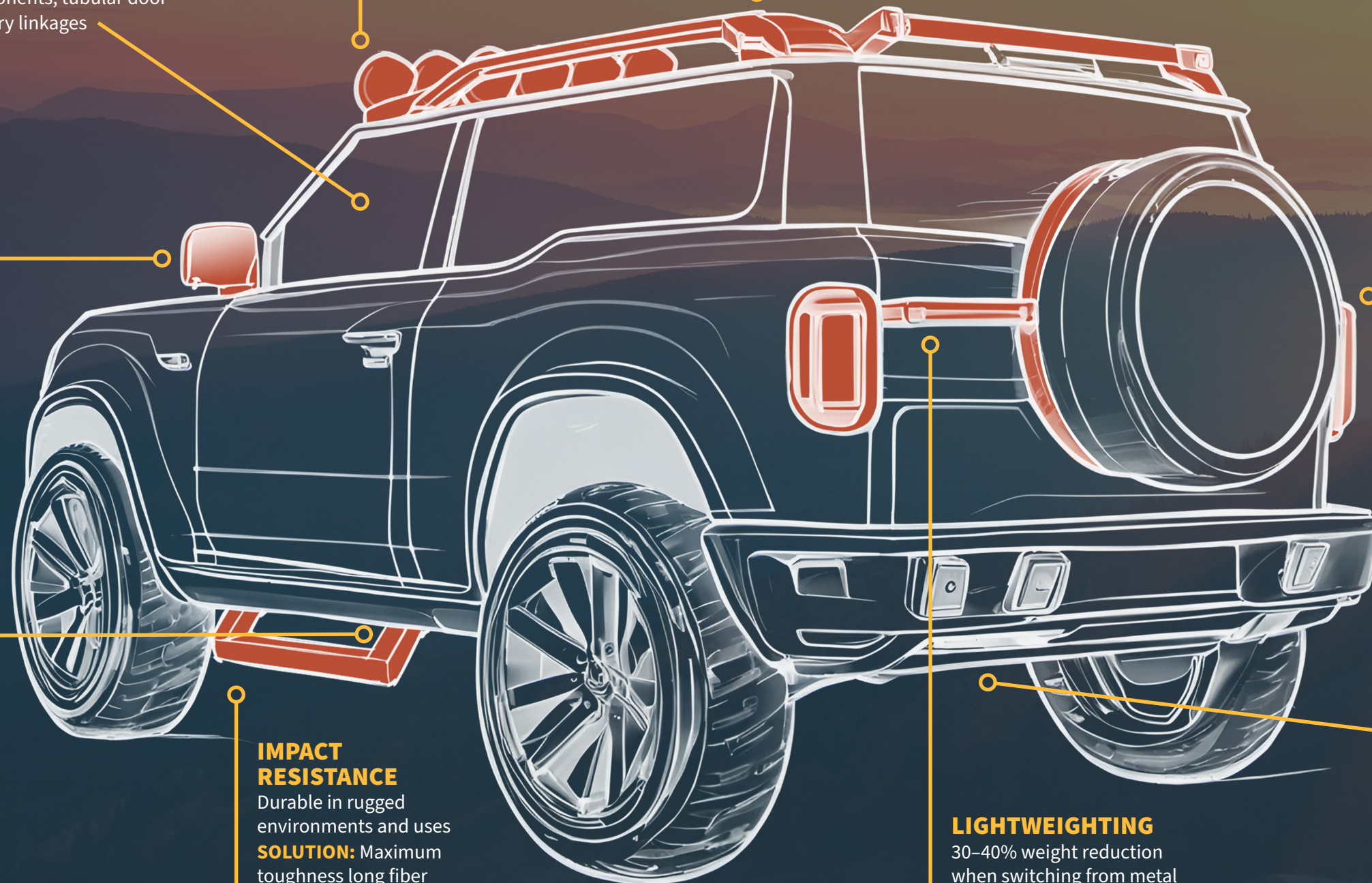
POSSIBILITIES: Tail light protectors, fender flairs, guards, underbody components

CORROSION RESISTANCE

Metal replacement, eliminate secondary coatings

SOLUTION: Long fiber reinforced composites

POSSIBILITIES: Underbody skid plate components, fuel doors, fasteners



GEAR UP FOR SUCCESS



From style to performance, Avient has aftermarket manufacturers covered. Engineered polymer formulations are designed to perform in demanding environments. Our long fiber composites offer an excellent opportunity for automotive aftermarket designers to enhance their components' performance, aesthetics, and sustainability. With the numerous benefits, including extreme performance, high impact resistance, high strength,

UV performance, and more, designers can create components that meet their unique requirements while also contributing to a more sustainable future.

At Avient, we are committed to supporting you as you bring your next groundbreaking automotive aftermarket idea to fruition. Together, we can elevate the driving experience, surpass expectations, and shape the future of automotive aftermarket components.

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