DUPONT™ Kevlar®

AUTOMOTIVE

DESIGNED FOR THE ROAD AHEAD

DuPont™ Kevlar® is designed to keep up with the demands of a rapidly evolving automotive industry. From batteries and hoses to tires and brakes, Kevlar® helps improve the safety, performance and durability of components for a wide range of vehicles. Inside the tires and under the hood, Kevlar® offers temperature resistance, strength and reinforcement to keep innovation moving forward.

- Tires
- Belts
- Hoses
- Friction materials

DUPONT™ KEVLAR® FOR AUTOMOTIVE

Belts

Hoses

Transmission paper

ICE/Hybrid/BEV

Friction materials

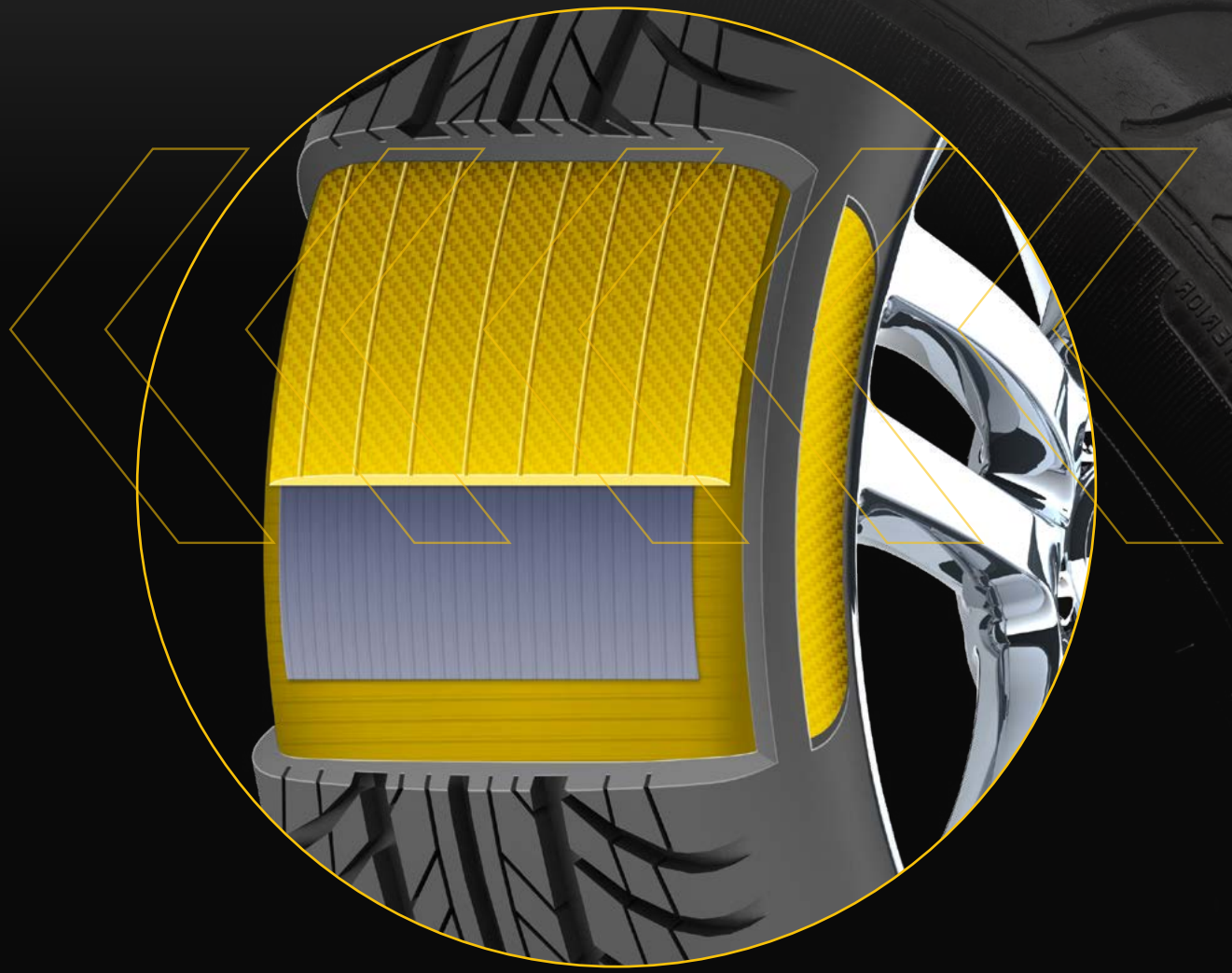
Tires

TIRES

REINFORCED WITH KEVLAR®

From improved handling and stability to smoother and safer rides, DuPont™ Kevlar® helps enable unmatched performance and longer life for tires—even in extreme conditions and high speeds. And when it comes to increasing fuel efficiency and lowering emissions, Kevlar® has you covered there too.

IMPROVE EVERY RIDE WITH KEVLAR®



Using a DuPont™ Kevlar® single-ply and hybrid carcass can reduce weight and rolling resistance while maintaining performance, comfort, durability and handling attributes.

15% weight reduction

Up to 10% reduction in rolling resistance

30% of noise is attributed to tires—tire cap plies designed using Kevlar® for improved structural noise

300 Km/H—Speeds delivered with ultra-high performance tires with Kevlar®

20% improvement in creep performance

20% improvements in cut resistance achievable

DUPONT™ KEVLAR® ELEVATES THE PERFORMANCE OF TIRES

Agriculture & OTR tires

Enhanced cut and puncture resistance in sidewalls and crowns.

HP/UHP tires

Improved flat spotting, rolling resistance, durability and handling.

Motorcycle tires

Improved performance, safety and durability with reduced overall weight.

Truck tires

Excellent chemical stability that's 5X stronger than steel on an equal weight basis.

Racing tires

Exceptional strength, stiffness and dimensional stability at extreme speeds.

Aircraft tires

High strength, light weight and low elongation for enhanced protection.

Bicycle tires

Puncture resistance and the flexibility to easily fold, store and carry.

Reduces tire weight

Reduces rolling resistance

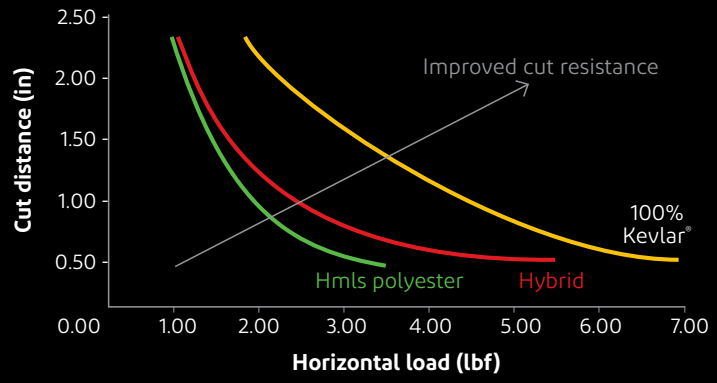
Less structural noise

Reliable performance at high speeds

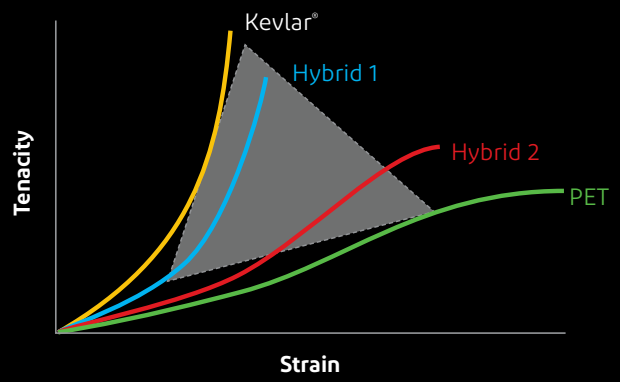
Improves creep performance

Enhances cut and puncture resistance

Cut resistance of typical tire cords



Tensile properties



Hybrid cords can be customized to achieve desired stress/strain curve

BELTS

REINFORCED WITH KEVLAR®

DuPont™ Kevlar® can enable thinner, lighter, more durable designs with improved creep performance to help retain shape and tension throughout every revolution, resulting in longer spools, fewer splices and reduced operational costs.

REDEFINE WHAT'S POSSIBLE WITH DUPONT™ KEVLAR®

Transmission belts

Enhanced strength, durability and dimensional stability for shock and impact resistance.

Agricultural machinery belts

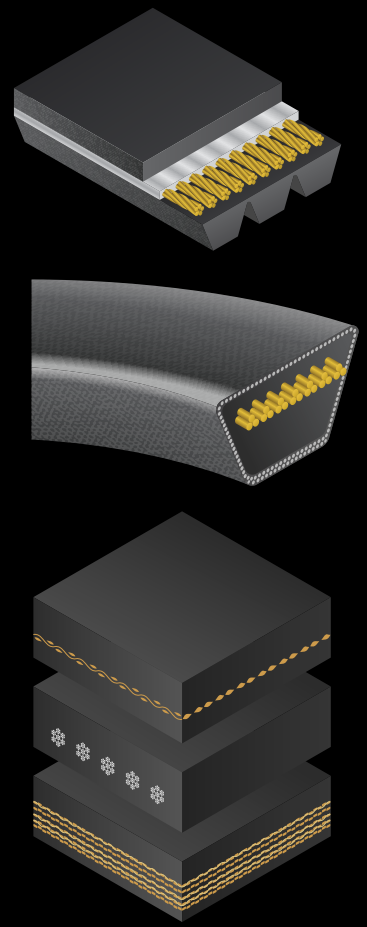
Superior strength and durability that's highly resistant to oil, temperature, humidity and friction.

Conveyor belts

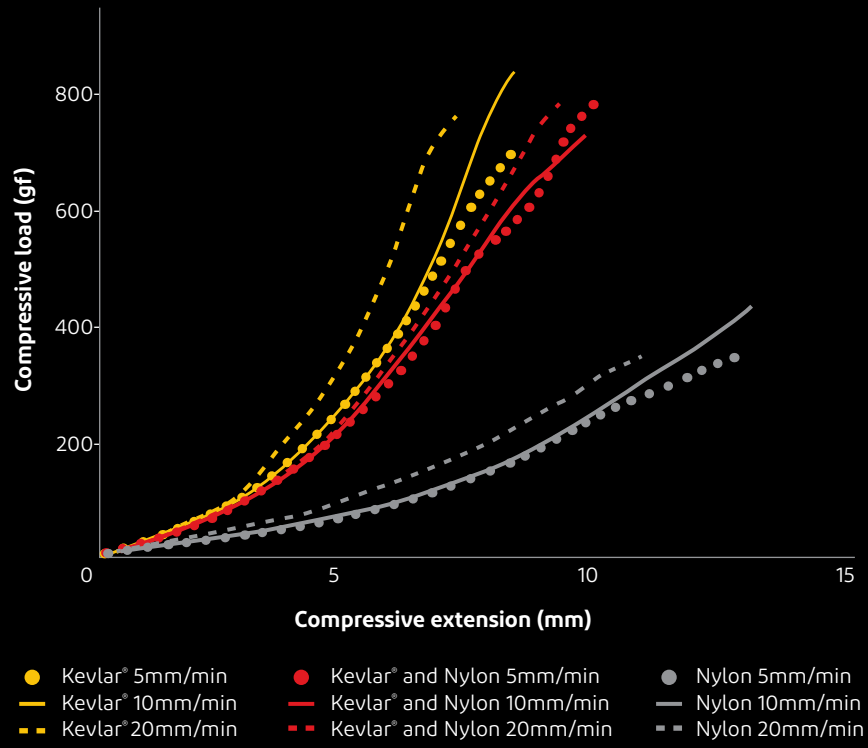
High-temperature resistance and strength to handle heavy loads in stressful environments without stretching.

CVT belts

Excellent dimensional stability for reduced noise and jerking during acceleration.



Compressive Load (gf) x Compressive Extension (mm) for all velocities



*Even though tests with cutting velocity of 5 mm/min and 10min/min look alike, the cutting velocity of 5mm/min is seen as the worst case because it fails due to a smaller load.

HOSES

REINFORCED WITH KEVLAR®

DuPont™ Kevlar® offers durability and enhanced fatigue resistance to maintain performance under continuous exposure to extreme temperatures, pressures and harsh chemicals for more reliable, longer-lasting hoses.

REDEFINE WHAT'S POSSIBLE WITH DUPONT™ KEVLAR®

Radiator hoses

Improved heat and chemical resistance for enhanced structural integrity under pressure and corrosive conditions.

Heater hoses

High temperature, abrasion and wear resistance for long-term performance and durability.

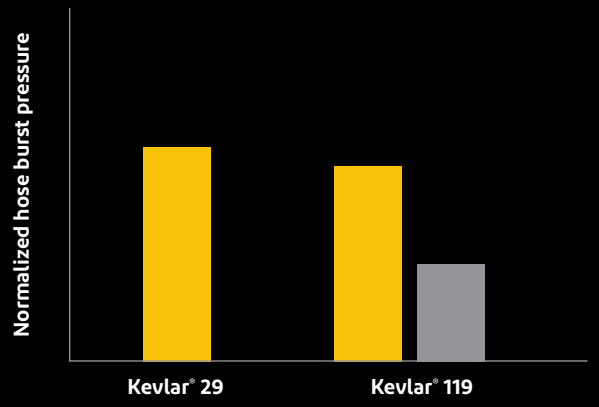
Hydraulic systems hoses

Exceptional pressure resistance, flexibility, durability, thermal stability and chemical resistance.

Turbo hoses

Incredibly strong and resistant to high temperatures and designed to resist wear and tear from engine vibrations and movement.

Radiator Hose Fatigue Performance

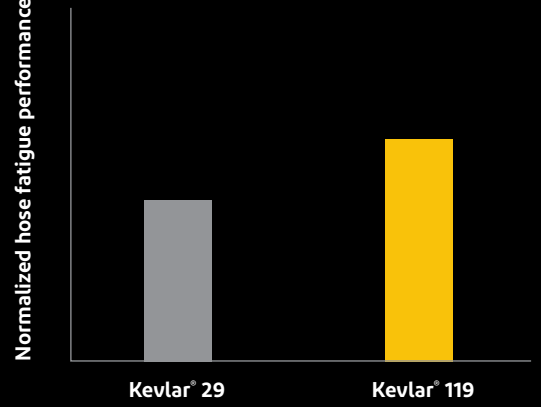


Normalized hose burst pressure retention after pressure vibration temperature (PVT) impulsed 0–5.2bar of 50/50 ethylene glycol/ water fluid and chamber temperature of 130°C. 200 vibrations per minute at 10mm deflection.

Normalized original hose burst pressure

Normalized hose burst pressure after fatigue

Turbo Hose Fatigue Performance



Normalized hose fatigue performance after pressure impulse temperature (PIT) impulsed 0.2–3.6bar of air, fluid and chamber temperature of 165°C.

FRICTION MATERIALS

REINFORCED WITH KEVLAR® PULP

DuPont™ Kevlar® Aramid Pulp can be used as a specialty additive, offering excellent reinforcement and viscosity control for enhanced performance of friction materials, including brake pads, gaskets and automatic transmission papers.

REDEFINE WHAT'S POSSIBLE WITH DUPONT™ KEVLAR®

Braking applications

Enhances wear resistance and thermal stability for longer-lasting brake pads with reduced noise and vibration.

Automatic transmissions

Improved performance and service life through high tensile strength and durability that can handle high loads without deforming or failing.

Gaskets

Impressive thermal stability and mechanical strength to withstand higher temperatures and help reduce emissions.