Durable eco-friendly tires

Supporting tire manufacturers

Sulfron is a modified aramid-based rubber ingredient that is highly suitable for reducing the hysteresis of tires. It also improves anti-puncture and abrasion resistance.

Tires made with Sulfron are more durable, last longer, and have lower rolling resistance, thus reducing fuel consumption without compromising on performance. These requirements are increasingly important given that the European Union has pledged to introduce mandatory standards for rolling resistance, wet grip and noise, as well as emission-based tolls within the next few years. At Teijin Aramid we’re continually developing advanced solutions that will meet both today’s and tomorrow’s needs.

Key benefits when using Sulfron

- Reduced frictional energy
- Reduced hysteresis
- Reduced heat build-up
- Reduced rolling resistance
- Improved cut, chip and chunk resistance
- Improved durability
Improving hysteresis
Sulfron, which is based on modified granules of the super-strong para-aramid Twaron, is designed to improve the hysteresis of rubber compounds, without affecting other performance characteristics. Adding Sulfron to the mix ensures greater comfort as well as less work loss and heat generation, leading to lower rolling resistance and fuel savings. Rubber compounds enhanced with Sulfron outperform other compounds due to their increased durability and their resistance to harsh environments (cut, chip and chunk).

Sulfron 3001
Sulfron 3001 is used to improve the hysteresis of rubber compounds containing carbon black or a combination of carbon black and silica as a filler, resulting in reduced rolling resistance, improved mileage and improved cut, chip and chunk resistance.

Main advantages
• up to 25% reduction in rolling resistance, depending on the compound composition
• significant improvement in heat build-up and blowout times
• improved mileage
• improved cut, chip and chunk resistance

Compounding information
In order to ensure a proper interaction between Sulfron and carbon black fillers, it’s essential to add Sulfron with or just after the fillers in the first stage of mixing. To obtain maximum performance, Sulfron and carbon black should be mixed at a temperature in the range 150-165 ºC for at least 1½ minutes.

Eco-efficiency
The use of Sulfron 3001 in treads increases the life-span of the tread and in addition lowers the fuel consumption of the truck. The assessment of environmental and economical impact of Sulfron 3001 used in heavy duty truck tires was evaluated from cradle to grave, including all life cycle costs. It was demonstrated that the savings for the whole life cycle are 100 times compared to the cost involved for Sulfron. Furthermore, Sulfron 3001 has a positive effect on the environment. The advantage for the environment is about 70 times the impact caused by application of 1.5phr Sulfron in the tread compounds. The reduced fuel consumption and increased mileage are the main reason for lower impact on the environment when using Sulfron 3001 in the tires. As both the economic and ecological burden of the production of Sulfron is negligible, the use of Sulfron 3001 in treads directly leads to an improvement in all environmental categories considered. Treads with Sulfron 3001 are both economically and ecologically better than treads without Sulfron 3001 and therefore more eco-efficient.

For further information, please email us at tires@teijinaramid.com or visit www.teijinaramid.com

Main applications for Sulfron 3001
• truck and bus tires
• off the road four-wheel-drive, heavy construction vehicles (diggers, front loaders), and agricultural tractors
• tread (base and cap) to reduce rolling resistance, enhance toughness and improve tread separation
• aircraft tires
• belt skim on top of steel cord to reduce heat and improve belt edge separation
• motor cycle tires
• bicycle tires

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