

LANXESS at the Tire Technology Expo 2018, Deutsche Messe
Hanover

New solutions for the tire industry

- **Innovative high-performance rubber additives**
- **Clean separation solutions for tire manufacturing**
- **Diverse reinforcement options for tires**

Cologne – LANXESS's Rhein Chemie business unit will be presenting its versatile solutions for the manufacture of tires at the Tire Technology Expo in Hanover, Germany, from February 20 to 22, 2018 (booth 4014). These include a wide range of environmentally friendly Rhenodiv release agents, Rhenomark tire marking paints, Rhenoshape tire vulcanization bladders, Rhenogran aramid-fiber masterbatches, and additives.

“The tire industry remains one of our most important markets,” says Dr. Dietmar Hoff, Head of Marketing Tire Products at LANXESS's Rhein Chemie business unit. “In our Rubber Additives business line, additives for rubber compounds, release agents and tire curing bladders make a major contribution to our business results. Bladders with a permanent coating make the work even easier for tire manufacturers – they help make the production process far more efficient by removing the need for constant spraying of release agents.”

Cleaner tire production due to silicone-free, washable and permanent release agents

Rhein Chemie provides tire manufacturers with innovative solutions for the production of high-quality tires. In the manufacture of sealant tires or low-noise tires, it is essential that the release agents applied or transferred to the blank are completely removed after vulcanization. This is important in order to ensure that the

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subsequently applied polymers or foams adhere. Rhein Chemie provides various solutions for this purpose.

In addition to traditional silicone-based products such as Rhenodiv BP-286 and Rhenodiv BP-2864, which are removed after vulcanization from the tires in mechanical washing systems or by means of laser technology, new, 100 percent silicone-free products such as Rhenodiv BP-166 and Rhenodiv BP-9500 are now available. These are even easier to wash off due to a new, water-soluble release agent. These products also meet the increasing requirement of car manufacturers to completely dispense with the use of silicones during the tire production process.

Permanently coated Rhenoshape bladders enable tire manufacturers to vulcanize tires with no additional release agents, eliminating the need to clean the vulcanized tires. Since the spraying process for tire blanks is no longer necessary, no contamination can occur – neither in critical tire areas nor at the workplace. Likewise, this technology ensures that no silicon is used in the tire production process.

Nitrogen-free accelerators and reinforcing options for tires

With its broad portfolio of dithiophosphates, special accelerators and fiber masterbatches, Rhein Chemie provides ideal solutions for nitrosamine-free and highly reinforced tire compounds.

Rhein Chemie's dithiophosphates (including Rhenogran TP-50 and Rhenogran SDT-50) are nitrogen-free accelerators that can replace typical sulfenamide, thiuram, and carbamate accelerators. Their advantage is that they mainly form mono- and disulfidic cross-links, which are more thermally stable and less susceptible to reversion. When the dithiophosphates are used in parallel with sulfenamide accelerators, this generates cross-linking synergies which improve the efficiency of the process.

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Under extreme mechanical, dynamic, and thermal loads, the aramid fiber masterbatches of the Rhenogran P91-40 series provide an outstanding reinforcing performance for tire compounds.

Rhenogran P91-40 helps to disperse of the highly robust and very light Twaron aramid short fiber pulp evenly into the rubber mixture.

Rhenogran P91-40 is not only suitable for use in typical tire polymers such as NR, IR, BR and SBR, but also for many other types of rubber such as EPDM, CR and NBR.

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New rubber additive Vulkanol TOF improves wet-grip performance

In addition to other properties such as rolling resistance, abrasion resistance and noise generation, the wet-grip performance of a tire is an important safety aspect. With ECO or Green Tire technology, the addition of Vulkanol TOF to a silica-filled compound for tire treads can significantly improve wet-grip performance. At the laboratory level, improvements in rolling resistance were also observed. The results of this study are presented by Dr. Hermann-Josef Weidenhaupt, an expert in rubber additives at LANXESS's Rhein Chemie business unit, in his presentation "The Way to Improve Wet and Ice Traction of Tires".

The Rhein Chemie business unit supplies the rubber industry with a broad portfolio of pre-dispersed polymer-bound additives, processing promoters, vulcanization and filler activators, light protection waxes, release agents, tire marking paints and high-performance curing bladders. Further information can be found at www.rheinchemie.com.

LANXESS is a leading specialty chemicals company with sales of EUR 7.7 billion in 2016 and about 19,200 employees in 25 countries. The company is currently represented at 74 production sites worldwide. The core business of LANXESS is the development, manufacturing and marketing of chemical intermediates, additives, specialty chemicals and plastics. Through ARLANXEO, the joint venture with Saudi Aramco, LANXESS is also a leading supplier of synthetic rubber. LANXESS is listed in the leading sustainability indices Dow Jones Sustainability Index (DJSI World and Europe) and FTSE4Good.

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You can find further information concerning LANXESS chemistry in our WebMagazine at <http://webmagazine.lanxess.com>.

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Image



At the Tire Technology Expo in Hanover, LANXESS presents its versatile solutions for the manufacture of tires. These include environmentally friendly Rhenodiv release agents, Rhenomark tire marking paints, and Rhenoshape vulcanization bladders.

Photo: LANXESS AG

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