

EPDM rubber with excellent dynamic qualities

How to give joggers wings

Cologne – Jogging is a wonderful sport. Unfortunately, it can put strain on joints and tendons in an unhealthy way. However, German inventor Helmut Fritzsche may have found a way to prevent these side-effects. Through his online store (www.hf-sport-extra.de), he supplies air-cushioned shock-absorbing inserts for running shoes that are intended to provide effective protection against certain orthopedic problems. The *Fritzschis*, as he calls them, are made from the high-performance ethylene-propylene-diene (EPDM) synthetic rubber Keltan 9565Q from specialty chemicals company LANXESS. The special feature of this rubber raw material is that it can hold its own against the previously unbeatable dynamic qualities of natural rubber, while its saturated molecular structure makes it far superior in terms of aging resistance. As a result, *Fritzschis* can be used day in, day out.

In recent years, running has become an incredibly popular sport all round the world. It is a perfect antidote to weight problems, keeps the cardiovascular system in shape and helps fend off age-related illnesses. However, the sport takes its toll on the bones. The force generated when a runner's heel slams down on the ground can put an enormous strain on the joints. Thanks to their unique design and the high-performance rubber grade Keltan 9565Q with its optimized dynamic qualities that have been specially developed by LANXESS, *Fritzschis* can reduce stress peaks and make walking and running much more enjoyable.

“The reason for the exceptional dynamic qualities of Keltan 9565Q is the particularly high molecular weight of our high-performance EPDM rubber,” says Dr. Niels van der Aar, Director of Technical Service and Application Development at LANXESS' Keltan Elastomers business unit in Geleen, the Netherlands. “Put simply, this is because the long molecules interlink extremely effectively, which gives the polymer

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network a very high load-bearing capacity. Forces that are introduced are stored and, compared to other rubbers, less energy is converted into heat, which means that the vulcanizates react with exceptional elasticity. In this way, our Keltan 9565Q is as dynamic as natural rubber, but is way ahead in terms of aging resistance.”

The latter has always been the Achilles heel of natural rubber. Air, heat and humidity – unavoidable in running shoes – can cause this natural material to become brittle over time. EPDM rubber, however, is significantly more resistant to these influences. For that reason, *Fritzschis* shoe pads based on Keltan EPDM are an excellent addition to sports and leisure shoes.

LANXESS is a leading specialty chemicals company with sales of EUR 9.1 billion in 2012 and roughly 17,500 employees in 31 countries. The company is currently represented at 52 production sites worldwide. The core business of LANXESS is the development, manufacturing and marketing of plastics, rubber, intermediates and specialty chemicals. LANXESS is a member of the leading sustainability indices Dow Jones Sustainability Index (DJSI) World and FTSE4Good as well as the Carbon Disclosure Leadership Index (CDLI).

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