

Green Cords: A Renaissance In Tire Building

Bonding of textile fibers to elastomeric matrices is important for the satisfactory performance of many heavy-duty mechanical rubber goods like Tires.

Adhesive formulations with high fatigue resistance and compatibility with different kinds of rubber compounds are the most critical factors expected from an adhesive system.

Treatment of the cords with Resorcinol-Formaldehyde-Latex (RFL) solutions to reach satisfactory adhesion to rubber is the general practice in the industry.

Among the ingredients, Formaldehyde is the simplest but highly reactive and toxic organic compound.

Despite increasing environmental and safety concerns, no other adhesive system had so far been developed as an alternative to Resorcinol-Formaldehyde-based adhesives, which have been widely applied since 1935.

However, in the coming years and with the upcoming regulations, Formaldehyde-free adhesives or adhesives with reduced Formaldehyde emissions are expected to strengthen their position in the market.

Similarly, acceptable levels of Formaldehyde emissions from products such as wood panels have been continuously reduced.

To meet future regulatory requirements, Kordsa developed a new RF-free adhesive dip solution system under the "Green Products" program.

Instead of toxic Resorcinol and Formaldehyde, the new formula uses greener chemicals, which are in conformity with REACH regulations.

The mechanical properties of RF-free dipped fabrics are either superior or comparable to those of RFL-dipped fabrics. Performance testing of tires made with RF-free dipped fabrics is in final stages.

Green Tire

Beyond this progress, transforming this green cord approach to Green Tire is now being discussed thanks to growing public awareness on the topic.

As of 1st November 2012, all passenger tires sold in the European Union have been labelled with an official EU tire label.

Today, there are three important parameters that form the basis of evaluating tire performance: wet grip, fuel efficiency and exterior noise.

In the near future, we can expect an additional parameter on the labels to contain specific information regarding «Green Performance», which consists of Green Raw Material Selection during production processes.

Furthermore, we should not be surprised when we encounter Green Tires on the roads to emphasize environmental friendliness.

As the Reinforcer, Kordsa is now ready to reinforce the tire industry with its sophisticated green dip formulation; not only to create value for its customers but also to create value to the community it belongs to...

To discover more about RF-Free Dip Solution developments,

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