

Preliminary Statement on new Rolling Resistance Requirements as outlined by the Proposal of the European Parliament and of the Council on Advanced Safety Features and Tires

Evonik Degussa GmbH supports the outlined proposal in its full range of rolling resistance requirements. Electronic stability controls, tire pressure monitoring systems and noise reduction regulations are excluded from this statement.

The needs to reduce CO_2 emissions and therefore improve fuel efficiency are evident and do not need any further clarification. Vehicle tires can contribute up to 25% to the total fuel consumption. Hence the use of low rolling resistance tires (LRRT) should be encouraged.

Up to now there is no clear definition of a low rolling resistance tire nor is it possible to conclude from existing labels on the tire about its fuel efficiency. Thus any market driven increase of the LRRT share is limited to a certain extent. The end user cannot obtain the right information necessary for a decision on the purchase of LRRTs. Here a legislative regulation is necessary. The establishing of a maximum value for the rolling resistance coefficient and the introduction of bands define LRRTs and inform about the fuel efficiency.

It is well-known that tire properties are interdependent. In general optimizing one characteristic results in a mutual impairment - improving one property means worsening another. It has to be guaranteed that under no aspects sacrificed circumstances safety are bv an optimization of the rolling resistance. ECE regulation 117 (not part of this statement) should guarantee this by the introduction of proper limits for the wet grip.

In the past it has been shown that by using new material concepts a significant reduction of rolling resistance is possible without negatively affecting safety issues. In contrast the introduction of the silica-silane technology in the early 90's led to an improvement in wet grip by approx. 7%. Rolling resistance was reduced by 20 to 30%. Silica and

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silane, developed by Evonik Degussa GmbH, relate to filler systems. Tire rubber mixtures comprise polymers and reinforcing fillers as major ingredients (~70%). With respect to material influences energy loss and consequently rolling resistance are mainly determined by these products. The silica-silane technology replaced carbon black in the tread compound of passenger car tires leading to the described improvements. Today the market penetration of silica-silane containing treads is nearly 100% inside the European Community. This proves that a significant reduction of rolling resistance is possible, that safety requirements can be guaranteed on a high level and that the market acceptance can be gained in a short period of time.

The proposed limits for the rolling resistance are based on actual tire technology. As research and development are going on it is to be expected and it has to be encouraged that new generations of tires will all fulfill these requirements and exhibit an even further reduced rolling resistance. New material concepts are already available and being introduced to the tire market by now. Compared to actual technology a new carbon black family, the Ecorax[©] concept, can improve the rolling resistance of commercial vehicle tires by up to 20%. The new silane Si 363[©] as a part of the silica-silane technology reduces rolling resistance of passenger car tires furthermore by up to 13%. Tire tests revealed that wet grip stays on a high level.

Taking all this into account it can be stated that from a filler system suppliers view setting limits for rolling resistance is justified. A reason for a partial or complete exemption for a particular tire category cannot be seen. Therefore, we support the outlined proposal in its full range of rolling resistance requirements.