

Technical articles

P.R J. UTH, J. UTH, M. BESSLER

The two-roll plasticiser (TRP).

A new process technology closes a gap in the processing of rework materials in the tyre industry 22

The TRP Reworker is a resource-saving technology for the economical processing of rework materials based on the two-roll plasticiser (TRP) with integrated roll-ex gear pump. In an automatic process, unvulcanised rubber compounds are processed particularly gently and continuously in order to return this rework material to the production process.

S. ALOUI, W. WURPTS, H. DECKMANN

Methods for simultaneous dynamic-mechanical and dielectric analysis – Part 1:

Dielectric investigation of elastomer composites under static deformation 26

Electrically conductive fillers can be used as "markers" for condition monitoring of elastomer components, provided the exact correlation between the mechanical and dielectric properties of the material is known. Part 1 of a series of three articles on simultaneous dynamic-mechanical and dielectric analysis, deals with the influence of a defined static mechanical deformation on the dielectric spectra of a carbon black-filled HNBR.

R. BOSCH

Novel activator for DPG replacement and property improvement..... 32

This paper demonstrates the properties of a novel ionic liquid activator as a DPG replacement and cure additive. The novel activator shows good cure time yet demonstrates scorch safety and some accelerator and zinc efficiency. This paper will focus on the DPG replacement for tyre and conveyor belt segments of rubber manufacturing.

K. S. BANDZIERZ, L. A. E. M. REUVEKAMP, J. DRYZEK, W. K. DIERKES, A. BLUME, D. M. BIELINSKI

Effect of polymer chain modifications on elastomer properties – Part 2 38

Modifications to the polymer chains by curatives, formed by sulfur and fragments of accelerators lead to polymer chain modifications in the elastomers. Emulsion styrene-butadiene rubber (E-SBR) samples, cured with tetramethylthiuram disulfide with sulfur (TMTD/S₈), and zinc dialkyl dithiophosphate with sulfur (ZDT/S₈), were studied. They were characterized in detail in terms of crosslink density and crosslink structures.

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