

Technical articles

R. ELLER

TPEs on the road to electric vehicles and autonomous vehicles 20

Automotive accounts for about 45 % of global TPE consumption. Within the automotive sector, ownership patterns are shifting toward electric vehicles (EVs), autonomous vehicles (AVs), semi-autonomous vehicles (semi-AVs), and various forms of ride sharing have entered the market. These shifts have created new functional roles for automotive TPEs.

F. KÜHNAST, M. MERTES, D. BRÖKER, N. VENNEMANN, C. KUMMERLÖWE, A. SIEBERT

Effect of oxidic filler particles on dielectric properties of thermoplastic elastomers based on SEBS 36

This paper describes the effect of the oxidic filler particles barium titanate, titanium dioxide and zinc oxide on the dielectric properties of a commercial thermoplastic elastomer based on poly(styrene-block-ethylene/butylene-block-styrene) (SEBS) containing a high amount of plasticizer. The relative permittivities were determined in the frequency range between 20 Hz and 1 kHz by use of an alternating current testing bridge (LCR meter).

CH. HOPMANN, C. ZIMMERMANN

Efficient testing and development of a visco-elasto-plastic material model for thermoplastic elastomers 42

Thermoplastic elastomers (TPE) show a strong non-linear material behaviour in combination with a stress softening after initial loading and a high residual deformation after unloading. This material property depends on the stress state as well as on the temperature. In order to consider this characteristic during the design and development of TPE parts, suitable material models have to be developed.

Reports

Special: additive manufacturing	16
Colourful advantage in ski boot market.....	18
AutomotiveInnovations 2019 and Electromobility Report 2020.....	22
Global automotive markets 2020	26
TPEs for electromobility	29
German Plastics Center invites to TPE conference and meeting of the TPE Forum in Nuremberg	30
Celebrate Plastics! German Institute for Plastics Processing (IKV) further expands its leading position	34
Jury meeting for the further development of the SPE Automotive Award	47
The global bio-based polymer market 2019	48
The Italian market for plastics and rubber machinery	54
Chinaplas: Postponement 2020 and change of date and venue for 2021	55

Departments

Editorial	3
TPE News	6
Industry news	6
Technology and product news.....	10
People in the news.....	15
Suppliers list.....	56
Imprint	66