

## Technical articles

S. ZEPNIK

### Thermoplastic vulcanizates (TPV) from recycled and partially biobased raw materials ..... 196

Circular economy and sustainable plastic solutions are global key strategies which are in focus not only by many plastic producers and converters but also by governmental regulations. Mocom Compounds GmbH & Co. KG, compounder of thermoplastic polymers and former division of Albis Plastic, addresses this world-wide trend by implementing a long-term global sustainability strategy producing more sustainable high performance thermoplastics for a wide range of technical applications. The company recently developed and commercially launched Alfater XL Eco, a thermoplastic vulcanizate elastomer (TPV) which is produced from PP recycle (rPP). This article gives an overview on the properties and potential applications of these innovative materials.

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### Innovative, carbon black-filled compounds and masterbatches at the interface of the plastics and dye industries. Applications and benefits of Caparol NEFA MB masterbatches for thermoplastic elastomers – part 1 ..... 200

Dispersive and distributive mixing processes are a major element in the manufacture of thermoplastic masterbatches and compounds. Continuously working twin-screw extruders and kneader systems are mainly used for compounding. A crucial restriction of these mixing machines is the limited dwell time of the components to be mixed. Caparol Industrial Solutions GmbH is a company that has specialised in the manufacture of primarily liquid and paste-form pigment and additive concentrates. Discontinuously working mixing and dispersion machines, such as roller mills, butterfly mixers or dissolvers are used in particular in the production of these concentrates. This is where the electrically conductive carbon black compounds and masterbatches of the NEFA MB EL product group come into play. The combination of discontinuous mixers and twin-screw extruders can manufacture very highly filled, conductive performance concentrates on the basis of SEBS copolymers. Compounds in the NEFA MB EL product group are characterised by specific electrical resistances less than one ohm-centimetre (measured according to DIN EN ISO 3915) with hardnesses in the range of Shore A 80 to Shore D 60 and elongations at break of more than 400 %. Used as a masterbatch, electrostatically dispersive properties can be achieved with NEFA MB-EL concentrations in TPVs, for example, from an adding concentration of just 25 %.

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### TPE bonding to polar substrates..... 208

New innovations in overmolding thermoplastic elastomers (TPE) have been developed based on styrene block copolymers (SBC) to achieve significant bonding to wide variety of polar substrates including polycarbonate (PC), acrylonitrile-butadiene-styrene (ABS), PC/ABS, and polyesters. These innovative TPEs offer value compared with several competitive materials, offering equivalent or better performance, and ease of processability. These TPEs are being evaluated in a wide range of applications.

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