

## Abstract

# Soft sustainable plastics with biobased and cork-filled TPEs

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Abstract: Sustainable solutions for soft applications are possible with Thermoplastic Elastomers (TPE) made from biobased raw materials and natural fillers. Innovative TPE can have high content of biobased material (up to > 90%) combined with a customisable hardness between 20 Shore A and 50 Shore D. Because biobased TPE can be processed similarly to non-biobased TPE they can be used for a wide range of applications which have different key properties. Examples for these applications are grips for toothbrushes made from TPE which are based on raw materials suitable for food contact, grips for sports equipment with high abrasion resistance, outdoor appliances with high UV resistance, automotive interior parts with low emission and building & construction applications like window sealings with a low compression set.

Some of the mentioned applications are 2K processes with adhesion to different hard components (e.g. PP, PE, ABS, PET, PLA). Furthermore, it is possible to give the materials a natural look and a unique haptic feel by incorporating renewable cork in the TPEs. This can offer a sustainable option especially for consumer products like grips and handles.

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