CHALMERS

Increasing the miscibility of thermoplastic polyolefins (TPO) with hydrophilic polymers by the use of polyurethane as a carrier/facilitator

Short Description

TPOs possess many desirable properties with regards to environment, price and durability. It is however very hydrophobic, making it difficult to mix with strongly hydrophilic polymers. Thermoplastic polyurethanes (TPU) however have proven to easily mix with both TPOs and strongly hydrophilic polymers. The aim of this project is to investigate the possibility of using TPU as an intermediate in order to mix a hydrophilic polymer into a TPO.

Various compositions of the base materials will be compounded in different extrusion conditions to enhance the mixing quality. The compound will be evaluated using DSC IR and microscopy, as well as based on basic physical properties.