

Lecture Valášek:

Natural fiber fillers in polymer composites

The use of natural resources for engineering materials is necessary primarily from the perspective of saving primary resources and the relationship between industry and environment. Natural fibers can optimize the desired mechanical properties of composite materials in many ways. In order to do so, it is necessary to undergo a series of steps, ranging from fiber surface treatment to final composite production. The lecture focuses on the description of chemical surface treatment of plant-derived fibers (*Elaeis guineensis*, *Cocos nucifera*, *Musa textilis*) from the Asia region. It focuses on determination of fiber porosity, influence of chemical surface treatment on resulting mechanical characteristics of fibers and interaction of fibers with polymer matrix. The lecture also describes vacuum techniques important for the manufacture of composite parts.