

Mechanical and thermal properties of Talc/POE/PP composite and POE for filter module parts

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Filter module systems can be used for waste water treatment, manufacturing of mineral pigments, recovery of fibers, filtration of metallic salt solutions and ore from flotation processes, separation of oil and so on. The effectiveness of a filter apparatus depends on the construction and the material of the filter medium support tray. Some common materials are wood, aluminum, cast iron, ductile iron, stainless steel and material compounds out of steel and rubber. These elements are showing a lot of disadvantages as for example low chemical resistance, high weight, limited working life and fluid absorbency. Polypropylene turned out to be the best material due to its most favorable price-power-performance and its interesting combination of excellent properties. Herein, different amounts of the talc was incorporated in PP for filter recess and filter base. Poly olefin elastomer (POE) was employed as filter membrane. Their parts were also thoroughly investigated in terms of tensile properties, flexural properties, izod impact properties, thermal stability and so on.

·This work was supported by a grant(10046535) by the Ministry of Trade, Industry and Energy (MOTIE), Republic of Korea (2014).