

Thermal and Mechanical properties of Silica/GF/POP/PP composite for filter module parts

황소산, 심상은[†], 김영선, 조선태, 이민철

인하대학교

(seshim@inha.ac.kr[†])

Filter module systems can be used for manufacturing of mineral pigments, recovery of fibers, filtration of metallic salt coal 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 aluminum, stainless steel, ductile iron and material compounds out of steel and rubber. These elements are showing a lot of disadvantages as for example low chemical and high weight, unfavorable drainage, considerable abrasion, limited working life, fluid absorbency and bad sealing. Polypropylene turned out to be the best material due to it's most favorable price-power-performance and its interesting combination of excellent properties.

Herein, different amounts of the silica, gf, POP was incorporated in PP for filter recess and filter base. Their parts were also thoroughly investigated in terms of tensile properties, flexural properties, izod impact properties, thermal stability and so on.

Acknowledgement

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