

Structure and Properties of Meltblown Polyetherimide as High Temperature Filter Media

Authors : Gajanan Bhat, Vincent Kandagor, Daniel Prather, Ramesh Bhav

Abstract : Polyetherimide (PEI), an engineering plastic with very high glass transition temperature and excellent chemical and thermal stability, has been processed into a controlled porosity filter media of varying pore size, performance, and surface characteristics. A special grade of the PEI was processed by melt blowing to produce microfiber nonwovens suitable as filter media. The resulting microfiber webs were characterized to evaluate their structure and properties. The fiber webs were further modified by hot pressing, a post processing technique, which reduces the pore size in order to improve the barrier properties of the resulting membranes. This ongoing research has shown that PEI can be a good candidate for filter media requiring high temperature and chemical resistance with good mechanical properties. Also, by selecting the appropriate processing conditions, it is possible to achieve desired filtration performance from this engineering plastic.

Keywords : nonwovens, melt blowing, polyetherimide, filter media, microfibers

Conference Title : ICTEYM 2017 : International Conference on Textile Engineering and Yarn Manufacture

Conference Location : Stockholm, Sweden

Conference Dates : July 13-14, 2017