عنوان مقاله:

Visualization of Talc Amount Effect on Expansion Behaviour of HMS PP Extruded Foam

محل انتشار:

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خلاصه مقاله:

Remarkable functional characteristics and low material costs of polypropylene (PP) foams have rendered them as a promising substitute for other thermoplastic foams in industrial applications.This paper investigates the effect of nucleating agent (talc) on expansion behaviours of non-crosslinked high-melt-strength (HMS) polypropylene (PP) foamed using supercritical carbon dioxide (CO2). A charge coupling device (CCD) camera was installed at the die exit to carefully monitor the shape of the extruded polypropylene foam. The expansion behaviour of HMS PP was observed and visualized by using varying amounts of talc. Different die geometries which are related to die pressure and pressure drop rate and varying amounts of CO2 is also used in experiments. Experimental results indicated that talc content did not play an important role to enhance the expansion ratio of the foamed sample. Results also indicated that the expansion ratios of PP foams exhibited mountain-shaped curves. This demonstrated the existence of an optimum temperature range for maximum expansion. However, the typical mountain-shaped expansion curves .were not observed for some cases

کلمات کلیدی:

Visualization, Expansion behaviour, PP foams, Talc