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The progress of Microcellular foam injection molding (MFIM) technology

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At the end of 1990s, the preparation technology of microcellular plastics (MCP) by using supercritical fluids (SCF) has been developed and commercialized. The products produced by the process, which are usually called as “novel material for 21st Century”, have many advantages compared to those produced by conventional foaming process. In this paper, the recent progress of microcellular foam injection molding (MFIM) process is reviewed. Different techniques and facilities used in MFIM process, and their advantages and disadvantages are discussed such as MuCell[®] technology and accumulator type injection molding machine. Other investigations associated with MFIM process are also presented such as interrelationship between the formation of microvoids and the dispersion of nanoscale fillers and the using of pre-saturated plastic pellets in injection molding process.