

Direct fiber feeding injection molding technology for the production of long-fiber reinforced plastic composite materials

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It is a new technology developed by our research group which is a modified form of already existing injection molding technology however, it is capable of producing long fiber reinforced composite plastic structures for the first time in the history. It is a unique technology which enables the incorporation of continuous filaments directly into the injection molding machine through a vent hole provided above the machine's barrel, rather than feeding chopped fibers through the hopper. The vent provides an additional feature to exhaust the toxic and unwanted gases produced inside the barrel zone during the resin

melting process as well. Similarly, screw has also been redesigned to avoid material from spilling out of the vent hole during screw's rotation process inside the machine barrel. Until now, numerous tests have been conducted on the polymer composites produced by this new technology and nearly all the results have clearly shown a remarkable improvement in the material's properties from various perspectives molded by DFFIM than that by conventional injection molding machine.

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