

High cycle method for pultrusion molding of FRTP pipe

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Recently, fiber reinforced thermoplastic is in the spotlight. What thermoplastic resin gives to molding is the secondary workability and the recyclability. Molding system without chemical reaction can shorten the cycle than the system with thermosetting resin. In one of the high cycle molding system for continuous fiber reinforced plastic with thermoplastic resin, there is pultrusion molding system.

We have proposed one of the high-cycle-molding for FRTP with fibrous intermediate material and pultrusion systems by using braiding technology. Braided fabrics are pulled in the pultrusion die. Resin fiber in the braided fabric is solidified after heating and impregnated in the mold process, moldings are continuously withdrawn at a drawing device. At this stage pultrusion molding system has issues that productivity is still lower automotive application. Therefore, establishment of molding conditions which shortens molding time is demanded. In this research, effects of pultrusion speed and temperature condition on molding were investigated. Effects of the shape of molding die were also investigated.