

1. Record Nr.	UNINA9910634082303321
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Titolo	Fiber-dependent injection molding simulation of discontinuous reinforced polymers
Pubbl/distr/stampa	Karlsruhe, : KIT Scientific Publishing, 2022
ISBN	1000148499
Descrizione fisica	1 electronic resource (182 p.)
Collana	Karlsruher Schriftenreihe Fahrzeugsystemtechnik
Soggetti	Mechanical engineering & materials
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Sommario/riassunto	This work presents novel simulation techniques for injection molding of fiber reinforced polymers. These include approaches for anisotropic flow modeling, hydrodynamic forces from fluid on fibers, contact forces between fibers, a novel fiber breakage modeling approach and anisotropic warpage analysis. Due to the coupling of fiber breakage and anisotropic flow modeling, the fiber breakage directly influences the modeled cavity pressure, which is validated with experimental data.