

Design of Injection Mold for Toy Fire Truck Floor

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This article describes the forming process and mold design process of the toy fire truck floor. In the design process, the plastic parts are first analyzed for process, and then the mold is split by UG software, and the three-dimensional mold is established by the core and cavity created by the split. At the same time, Moldflow is used for CAE analysis and counter pouring. The gate system selects different gate numbers for analysis and comparison to determine the optimal gate position and other parameters of the plastic parts. Finally, AutoCAD is used to draw a two-dimensional assembly drawing of the mold and a two-dimensional part drawing. The main difficulty of this design task is that there are side holes on both sides of the toy fire truck that need to be formed at one time, so a lateral core pulling mechanism is required. This article describes in detail the selection of the mold base, the selection and parting process of the parting surface, the selection and design process of the runner, the choice of gate type, the selection of the ejection mechanism, the design of the side core pulling mechanism and the design of the cooling system.