

中文题目： 点滴瓶塞注塑模具设计

摘 要

模具属于机械的产品，它主要是由成型零件等组成。如成型工作零件、导向零件、定位零件、支撑零件、抽芯机构、推出机构等。模具与相应的成形设备（如冲床、塑料注射机、压铸机等）配套使用时，可直接改变金属或非金属材料的形状、尺寸、相对位置和性能，使之成形为合格的制件。

此次主要是为点滴瓶瓶塞设计一个注塑成型模具。首先分析了该塑件成型工艺特点，然后应用 UG 和 Pro/E 创建了塑件的几何模型，初步对其做了演练和设计。根据塑件体积小、结构简单结构材料是流动性较好的 PE 塑料等及成型要求，选择了单分型面、设计了浇注系统并确定了型腔数，考虑到是大批量生产，为了提高工作效率和质量同时也是为了满足生产要求，选择了一模 16 腔，然后通过计算注射量、注射压力、锁模力、开模行程选择了注射机的类型和规格并对其进行了相应参数的校核。对于模架的选择，首先考虑到了是一模多腔，为了方便塑件的脱模和结构的简化，采用了推板推出机构进行塑件的脱模，最后确定了模架的类型和尺寸。应用设计了点滴瓶瓶塞塑件注射模具装配图及其零件图。

关键词：模具；一模多腔；塑件

Abstract

The mould belongs to the product of machinery, which is mainly composed of forming parts and so on. such as forming working parts, guiding parts, positioning parts, supporting parts, core pulling mechanism, pushing mechanism, etc. When the die is used in conjunction with the corresponding forming equipment (such as punching machine, plastic injection machine, die casting machine, etc.), the shape, size, relative position and performance of metal or non-metallic material can be directly changed to make it form part.

This is mainly for drip bottle plug design an injection molding mold. Firstly, the characteristics of the molding process are analyzed, and then the geometric model of the plastic parts is created by using UG and Pro/E. According to the small size of plastic parts, simple structure material is good fluidity PE plastic and so on and molding requirements, select the single profile, design the gating system and determine the number of cavity, considering that it is mass production, in order to improve the working efficiency and quality but also to meet the production requirements, select the 16 cavity, and then through the calculation of injection volume, injection pressure, mold locking force, mold opening stroke selected injection machine type and specifications and check the corresponding parameters. For the selection of mould frame, it is considered that the mould frame is multi-cavity first, in order to facilitate the demoulding of the plastic parts and the simplification of the structure, the push plate pushing mechanism is used to demoulding the plastic parts, and the type and size of the mould frame are finally determined. An assembly drawing and part drawing of injection mould for bottle stopper plastic parts of drip bottle CAD were designed.

Keywords: mold; multi-cavity; plastic parts

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