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Master's thesis

Study, design and realization of a plastic injection mold for a cap (stopper) of a laundry machine.

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General Introduction

GENERAL INTRODUCTION

Nowadays, tool and mold making technology in plastic injection molding is one of the fastest growing industries in the world. It is generally used for the production of very large series for the automotive, house hold appliances, sports articles, health…etc., or for smaller series in aeronautics. It allows producing at high rate with a low cost, and with a great regularity, and in an automatic way massive parts and complex forms.

The plastic injection process is as follows: the plastic melts and poured into a cavity, inside a mold, when it cools, the part solidifies, the mold opens and the part is ejected.

The present work is a study of design, simulation and manufacture of a plastic injection mold for the production of a cap (stopper), mainly used for its function of closing a hole to prevent the passage of water in a washing machine.

In order to achieve the required perfection of the final product that will determine its commercial success, the commercial success, the designer must go through the "digital simulation" stage. This and as opposed to traditional methods such as experimentation, testing and mock-up, which the cost is high and the time is long, it offers a better analysis of the physical phenomena physical phenomena involved in the process, when the numerical simulation is well coupled with an experimental validation.

“Plastic is everywhere around us”

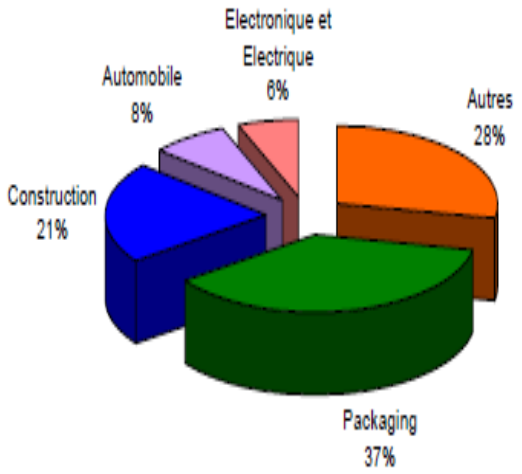

Fig 1 : Areas of application of plastics.[1]