Abstract

The injection process is a very important part of the manufacture of thermoplastics. They are used for the fabrication of a wide variety of products because they comply perfectly with the overall objectives of low cost, precise size and almost the complete elimination of defects in the finished product.

Many publications and scientific studies have been completed about the determination and control of the set of variables that affect the above-mentionned technological process.

There are more and more applications for thermoplastics in a variety of areas such as the automotive and sports sectors. This thesis researches if computer programs can predict the behavior of materials that are used in the injection process.

The quality of the predictive data depends on the properties of the materials injected, the variables of the tests and the mathematic models that can be used to simulate the behavior.

Thanks to the simulation process, results can be combined and ordered so they can be used for comparison in real trials and they can be analyzed in order to confirm the conclusions on the behavior.