

PP/PLA 共混物结构及性能研究

Study on the structure and properties of PP / PLA blends

摘要

随着社会的发展，人类对各种材料性能的要求也越来越高，单一材料的性能缺点限制了它们的应用，为解决这一问题采用聚合物共混无疑是个好方法。这一方法不仅方便而且十分经济，可以实现各种聚合物之间优良性能的而整合并弥补各材料自身的缺陷。聚丙烯（PP）和聚乳酸（PLA）作为传统材料和新型可降解材料的代表而备受关注。

文章通过了解 PP 和 PLA

的性能的优缺点及其共混材料的研究现状、应用及发展，去探索 PP/PLA 共混材料的结构及性能，力求共混材料能够兼具 PP 和 PLA 的优点达到优势互补的目的，并且希望能够为找到 PP/PLA 共混的最佳方案、最佳工艺条件实现其广泛应用提供一定帮助，在经过大量调查当前研究后发现，目前所制得的 PP/PLA 共混材料并不能使各项性能都提升，但却可以达到改善原材料的不足目的，如提高冲击强度和降解性能。想要达到最佳共混性能，拓展共混材料的应用范围，仍需要大量的研究和探索。

关键词：聚丙烯 聚乳酸 共混

ABSTRACT

With the development of society, human beings have higher and higher requirements for the performance of various materials. The performance shortcomings of single material limit their application. Polymer blending is a good way to solve this problem. This method is not only convenient but also very economical. It can integrate the excellent properties of various polymers and make up for the defects of each material itself. Polypropylene (PP) and polylactic acid (PLA)

are the representatives of traditional materials and new degradable materials.

In this paper, by understanding the advantages and disadvantages of PP and PLA and the research status, application and development of PP / PLA blends, the structure and performance of PP / PLA blends are explored, and the purpose of complementing the advantages of PP and PLA is to be achieved. It is hoped to provide some help for finding the best scheme and process conditions of PP / PLA blends to realize their wide application. After a large number of investigations, it is found that the PP / PLA blend material can not improve all the properties, but it can achieve the purpose of improving the raw materials, such as improving the impact strength and degradation performance. In order to achieve the best blending properties and expand the application range of blending materials, a lot of research and exploration are still needed.

KEYWORDS: polypropylene poly(lactic acid) blending

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