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液态锡及锡铅合金对聚丙烯的促流作用

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摘要: 用球形颗粒填充聚丙烯(PP)的流变模型及两组分同心层状结构的流变模型的串联, 推导出了液态低熔点金属/聚丙烯(LMPM/PP)复合体系的粘度与组成的关系式。通过测定LMPM/PP复合体系的流变曲线可知, 加入少量LMPM, PP熔体粘度显著下降, 表明液态 LMPM对聚丙烯有明显的促流作用。随着LMPM用量的增加, LMPM/PP复合体系由假塑性流体变为牛顿流体。随着偶联剂用量增加, 体系的粘度先上升后下降。

关键字: 低熔点金属 聚丙烯 促流 流变模型

PROMOTING FLOW ACTION OF LOW MELTING POINT METAL ON POLYPROPYLENE

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Abstract: The rheological formula of the composites of low melting point metal and polypropylene (LMPM/PP) was deduced by the combination of the rheological model of PP filled with spherical particle and the model of concentric laminated flow of two components. From the rheological curve of LMP M/PP composites, it is known that the viscosity of PP descends notably with small amount of LMPM addition. And it shows that LMPM has a remarkably promoting flow action on PP. The rheological behavior of composites will change from the pseudoplastic fluid to Newtonian fluid with increase of the LMPM's content. And the composites' viscosity raises first and then descends as the content of coupling agent increases.

Key words: low melting point metal polypropylene promoting flow action

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