印刷油墨粘性的理论分析与测量

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基金项目：

摘　要：

印刷油墨的粘性对提高印刷质量和效率有重要影响，本文阐述了雷德式油墨粘性测量系统的结构与组成，采用高精度力传感器有效解决了粘性测量问题，精度可达到0.01N，分析了油墨流变学特性与粘性测量系统的动力学过程，得到了油墨粘性值的实用估算公式并通过实验验证，结果表明：油墨粘性值与转速成线性，与温度成指数关系。研究结果为油墨的生产和使用提供了理论与实验依据。

关键词：印刷油墨；粘性理论；力传感器；油墨粘性仪

Theoretical Analysis and Measurement of Printing Ink Tack

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Abstract:

Ink tack has important influence on improving printing quality and efficiency, the paper presents the structure and composition of Reed Inkometer, a high precision force sensor has been used to detect tack-force, the result has a precision of 0.01N. It analyses the rheological characteristics of ink and dynamic process of tack-measurement system, a practical formula for ink tack estimating has been obtained and verified by experimental. Practical test shows that ink tack bears a linear relationship to roller speed, and has an exponential relationship with temperature. The research result provides theoretical and experimental basis for ink production and use.

Keywords: printing ink; tack theory; force sensor; inkometer

投稿时间：**2010-04-27**

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