Application Note POLYMER004

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POLYMER004: DSC Measurement to Quantify the Melting Point and Glass Transition of Nylon

Introduction

The processing suitability of polymers and polymeric materials is greatly influenced by thermal behaviors such as melting, crystallization, and glass transition. DSC is a method to visualize "invisible risks" at the processing site and support reliable decisions by capturing thermal behaviors such as melting, crystallization, and glass transition in a highly sensitive and quantitative manner.

Thermal analysis

Analysis:	Raw and intermediate materials
Use:	Material development
Analyzed materials:	Nylon (polyamide)

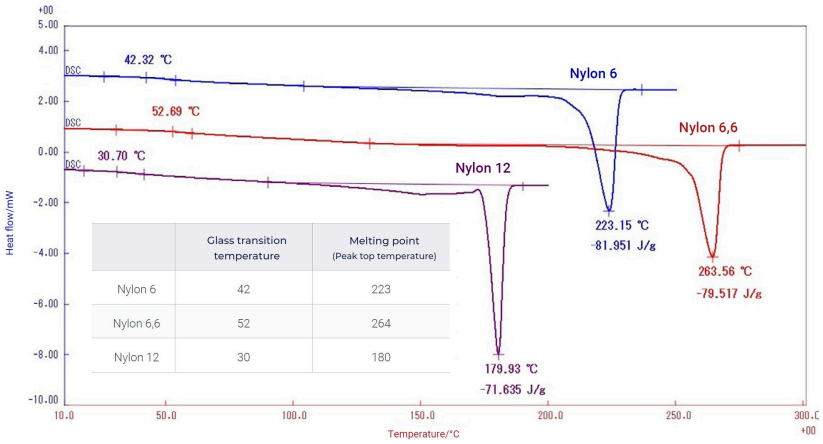

Figure 1: DSC results of three nylons

Conclusion

DSC measurements on various nylons clearly showed differences in their glass transition temperatures and melting points. Nylon 6,6 showed higher heat resistance than other materials.

Based on the quantitative analysis by DSC, it is possible to establish the optimum processing temperature and operating ambient temperature on the basis of evidence, rather than relying on intuition or catalog values.

Related products

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DSC with industry-first self-diagnostic feature and industry's highest temperature range