Application Note PHARM025

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PHARM025: Observation of Abnormalities in Laminated Film

Introduction

During the processing of aluminum laminate film, minute abnormalities such as irregularities and pinholes can occur, causing appearance defects and functional degradation. It is difficult to identify the cause of these abnormalities by visual inspection alone, and this can cause delays in countermeasures. Micro X-ray CT enables three-dimensional magnified observation of the internal structure, and is effective in understanding the structure of abnormal areas and the mechanism of their occurrence. Here, we introduce an example of observation of an uneven aluminum laminate film.

Non-destructive imaging

Analysis:	Container
Use:	Manufacturing (Packing)
Analyzed materials:	Aluminum laminate film
Analysis software:	VGSTUDIO MAX

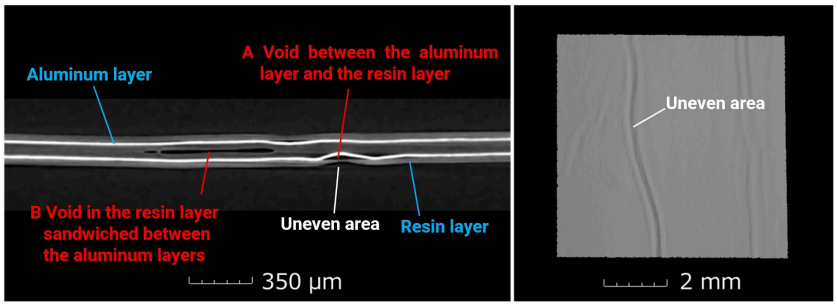

Figure 1: Cross-section and 3D images of aluminum laminated film

Conclusion

Figure 1 shows CT cross-sectional and three-dimensional images of an aluminum laminate film in an uneven area. In area A, a void was observed between the aluminum layer (white) and the resin layer (gray), and in area B, a void was observed in the resin layer sandwiched between the aluminum layers. In addition, the resin layer on the top surface of the uneven area is approximately one-third thinner than the normal area. In this way, micro X-ray CT can clearly and nondestructively visualize the internal defect structure of the film, which cannot be identified from the external appearance.

Related products

CT Lab HX

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