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CURRENT INSIGHTS FROM INDONESIA INTO APPLICATION OF HOT MELT ADHESIVES IN CORRUGATED BOARD AS WELL AS PACKAGING MATERIALS WITH BARRIER PROPERTIES

Brown Paper and Carton Box Overview in Indonesia

Indonesia's archipelagic geography with 270 mio. population presents unique challenges and opportunities for the distribution of finished goods products across the country.

There are over **170 corrugated cardboard production lines** in the country with annual production volume of corrugated packaging exceeds **4.5 million tons**. While the overall brown paper production volume in Indonesia reached approximately **6.2 million tons** in 2023.

Hotmelt Application in Corrugated Boxes in Indonesia

Hot melt adhesives are widely used in FMCG (fast consumer goods) industries, particularly in application for corrugated boxes, due to their fast-setting properties, strong bonding capabilities, and versatility. In Indonesia, hot melt adhesives find their application in two different types of corrugated boxes. There are american and wrap around corrugated boxes.

Hot melt adhesive will be directly applied on surface of brown paper for wrap around boxes during cartoning process. Other application of hot melt adhesive is PP – hotmelt tape that find its application more for american box.

Brown paper properties are becoming very important for succesfully application of hotmelt in corrugated boxes. There are minimum three critical parameters of brown paper: Paper roughness, moisture content of paper and layers bonding of paper, in order to support adhesion force of hotmelt in cartoning process. This paper parameters will be discussed further in this presentation.

MARKET FOR FLEXIBLE FILM IN INDONESIA

Market Overview

The flexible film market in Indonesia is experiencing significant growth with market size (2024): The market size for flexible packaging, including flexible films, in Indonesia was approximately USD 1.9 billion and projected market size (2033): The market is expected to reach USD 2.8 billion by 2033, with a compound annual growth rate (CAGR) of 4.2% from 2025 to 2033

Study Case of Monomaterial with Barrier Specification for Frying Snacks

In this study, some of monomaterial flexible film with additional barrier coating will be experienced accelerated shelf life test for predicting shelf life of products in advance with Arrhenius methodes in storage temperature of 40°C and ambient humidity of 70%.

Conclusion and Recommendation

Oxygen barrier coating could offer improvement on performance of flexible film for O2TR and thus could extend shelf life of products. Additional oxygen barrier coating for metallize CPP or BOPP can reduce O2TR from 25 to 10 or even to 0.1 depending on what kind of barrier material that is to be coated on metallized CPP or BOPP and its coating weight with sufficient solid content. From this study case is polyurethane to be utilized for O2TR : 10 and for 0.1 the supplier can not disclose the content of barrier coating.