

Barrier coating of paper and board - what are the challenges and opportunities

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Abstract

Millions of tons of paper and board are coated or laminated for barrier properties annually. These coated products are used primarily for packaging purposes, where the barrier coating provides protection against moisture, grease, light/UV, mineral oils, CO₂, oxygen, aromas, etc. The leading technology used for rendering barrier properties to paper and board is extrusion coating and lamination. With this technology, polymers like polyethylene or polypropylene can be applied on the surface of the paper and board products to achieve the desired barrier properties.

Today, there is a growing interest to find biodegradable packaging materials which are made out of renewable sources and which can be recycled. This need to replace fossil based plastics for packaging purposes with, for instance, wood based fiber materials could offer interesting growth opportunities for the paper and board industry. New emerging technologies could make barrier coating possible directly on a paper or board machine and in that way avoid a separate off-line treatment. Both this new trend in coating technology as well as and the use of new non-fossil based, compostable polymers for sustainable barrier coatings will be discussed. In addition, some examples of newly developed packaging products based on 100 % bio-based materials will be presented.