

“Gas barrier” coating

Permeability can be described as the movement of a gas through a semipermeable barrier and is an important phenomenon to monitor in multiple applications, from packaging to electronic components.

The packaging industry is heavily impacted by issues related to gas permeability, playing a fundamental role in various sectors, including the food industry. The functions of packaging are to:

- 💧 Protect the product;
- 💧 Extend the shelf life;
- 💧 Improve storage and logistics.

The permeation of gases such as oxygen, carbon dioxide, or moisture creates significant problems in the creation of highly performing packaging, as it negatively affects the chemical, physical, and sensory characteristics of the product itself. Functionalizing packaging with elements known as "gas barriers" increases the product's shelf life by substantially reducing oxidative processes that deteriorate the product, leading to better preservation.

In the electronics manufacturing sector, the rate of water vapor permeability through packaging systems directly affects the product's lifespan and is therefore a critical parameter for understanding the durability of packaged electronic components.

HOW CROSSING CAN HELP

Our experts have patented a permanent surface treatment applicable to surfaces of various nature, such as plastic materials and metal surfaces. The "gas barrier" surface treatment can be applied across different manufacturing sectors and can be formulated to be applied without modifying the client's production lines.

The process of developing the technology under specific operating conditions involves analyzing the client's products and production processes, followed by an optimization phase of the formulation developed by Crossing through application tests on an increasing scale.

In the packaging sector, with the surface treatment patented by Crossing, it is possible to enhance the barrier properties of traditional materials, such as plastics, achieving performances comparable to those of multilayer packaging currently on the market, with the advantage of obtaining a recyclable material according to current regulations.

Contact us for more information on this and other services offered to businesses. (info@crossing-srl.com).