



CHROMATOGENIE

Innovative technology for making materials hydrophobic

Hydrophobization is a key technological challenge for the future of paper-cardboard and other plastic substitutes. And chromatogénie, a disruptive process, is a perfect solution! Thanks to expertise developed over the course of numerous pilot tests, it is now possible to create hydrophobic papers that can be integrated into the life cycle of "traditional" papers. This process is supported by analytical methods that validate and optimise its effectiveness.

Carnot PolyNat Institute

Scientific / technological breakthrough

Pilot tests have confirmed that processed papers/ cardboard may be printed, converted, de-inked, recycled and biodegraded! Chromatogénie has also been shown to have no effect on the mechanical and optical properties of paper. For example, corrugated paper submitted to "grafting" absorbs three times less water, while remaining transformable and recyclable! Based on an in-depth technical-financial analysis and the economic criteria of the sector, an investment in this type of manufacturing machine could be a profitable one. Given the small quantities of reagent deposited, the minimal levels of impurities present remain below the critical migration threshold. Toxicological analyses have also shown that the aqueous extract of treated blotting paper is activity-free, an advantage in terms of any future validation of suitability for contact with food!



Competitive advantage for the economic stakeholders

There are many potential markets for this solvent-free «green» technology. To take just a few of many possible examples, it can be used to produce highly affordable rain-resistant corrugated cardboard, papers for medical applications, technical papers for industry or agriculture or groundwater filters.

This technology may be used to render any cellulosic material or material with hydroxyl links (glass, etc.) impervious to water or humidity. It does not on its own alter the porosity of the materials, but when combined with a surface treatment, it can produce materials with natural barriers to water, grease and even gas.

