



Thin biodegradable barrier coatings for packaging materials

Thinner and lighter recyclable barrier materials for packaging industry to protect the product from moisture, drying and oxidation with novel Atomic Layer Deposition (ALD) solution.

Competitive advantage

- Thin and light material that blocks oxygen, water, grease and flavours as well as many other gases
- Biodegradable
- High purity and mild deposition conditions in terms of temperature and pressure
- No need to utilize aluminium films but only finite amounts of inorganic oxides
- Enables combining printable electronic devices and functional materials on paper substrates and biopolymer films

Application and market

- Catalysts
- Electrical devices like displays and solar cells.
- Smart packaging: Efficient medical packages and solutions for valuable and sensitive products and luxury goods.

Technical description

The ALD forms a solid film which is practically insoluble and due to its structure unable of migration. The barrier layer formed by ALD is placed in between the material structure as a layer, and the food is in contact only with the polymer as typical in packaging solutions.

Intellectual property

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Why partner with VTT?

10 reasons for technology partnering with VTT

1. Key factor in Finland's success story with a track record to prove it
2. Licensing and co-venturing opportunities
3. Portfolio of more than 1,000 patents and inventions
4. New business and product concepts based on strong IP and world class research
5. Combined experience of more than 2,000 motivated researchers in eight focused areas of technology
6. Active member in hundreds of scientific & business communities
7. Excellent track record as coordinator and partner in EU projects
8. Collaboration with TOP 50 R&D companies in Finland
9. Global R&D partnership with 50 Fortune 500 companies
10. Market driven multi-disciplinary solutions

Additional information

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