



TopScreen™ Oil and Grease Resistant Barrier Coatings

Plastic-free, paraffin-free and eco-friendly alternatives for paper packaging that deliver excellent oil and grease resistance (OGR)



Technology Overview

TopScreen™ oil and grease resistant barrier coatings enable papermakers to provide high-quality and sustainable packaging by replacing per- and polyfluoroalkyl substances (PFAS) and polyethylene (PE) with a more easily recyclable, repulpable and compostable coating for food packaging. TopScreen coatings are:



Sustainable — Replace PFAS, polyethylene (PE) or paraffin in existing commercial applications.



Versatile — Formulas can be engineered to deliver varying degrees of water resistance, water vapor transmission rate (WVTR), release, whiteness or heat-sealable properties.



High Performing — Provide a superior barrier against oil and grease.



Easy to Apply — Can be applied via standard coating application equipment.

Technology Description

TopScreen oil and grease resistant barrier coatings are waterborne dispersions. The portfolio consists of a variety of barrier grades that address many end-use needs, from short- to long-term grease resistance to varying degrees of water resistance and heat sealability. These coating systems can be used as both single- and multi-layer applications to further customize end-use performance.

Product Name	Fast Food/ Short Term*	Long Term Barrier†	Water Repellency	Heat Sealability	Non-fossil Content (%)	Styrene-Free
TopScreen GR 61-300					0	No
TopScreen GR 393					50	No
TopScreen DL 102					55	No
TopScreen SP 200-F					30	Yes
TopScreen BW 200					90	No

very good | good | sufficient *Barrier duration of hours/days †Barrier duration of several weeks/months



Application

TopScreen™ oil and grease resistant barrier coatings perform on both food service and paper-based flexible packaging, enabling oil resistance for food-grade applications. The technology can be applied using conventional coating application processes, including metered size press, film, rod, air knife and curtain coaters, spray and gravure and flexographic presses.

There are many factors that contribute to barrier performance. The most important are:

- **Base paper quality:** A higher-quality, smoother and lower porosity paper leads to better barrier performance.
- **Sizing:** Improved sizing increases the water repellency of the paper. A water-based coating can stay on the paper surface after it is applied by the coater, where it can more efficiently close off the paper surface and reduce the amount of coating needed.
- **Coating layers:** Applying two or more thin coating layers is generally more efficient than a single thick coating layer.
- **Application system:** For defect-free coating layers with homogeneous coating weights, use appropriate coating systems, such as curtain, air knife, film press, rod and/or blade coaters.
- **Coating weight:** For sufficient barrier performance, full surface coverage is necessary, and the higher the coating weight, the better the barrier performs. However, higher coating weights also lead to higher costs and higher risk for blocking issues. Therefore, in most cases, system optimization for barrier performance, cost and manufacturability is a key step.



Sustainability

TopScreen oil and grease resistant barrier coatings are recyclable and repulpable. They are also compostable to an extent, with many applications capable of achieving EN 13432 certification.

Regulatory Compliance

TopScreen oil and grease resistant barrier coatings comply with global food contact standards, including BfR XXXVI and FDA 21 CFR § 176.170.

More Information

For more information about TopScreen oil and grease resistant barrier coatings, please contact your local Solenis sales representative or visit us online.



To learn more about how Solenis can help address your toughest challenges and more, please visit solenis.com