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High Barrier Coated Paper for Dry Food Packaging

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Barrier Paper for Food Packaging Applications

Moisture control is crucial in food packaging — you either want to keep the moisture inside or outside of the packaging to preserve the food.

Packaging material performance is guided by moisture and oxygen transmission rates. When food grade paper is needed for dry food packaging to keep contents fresh, provide a long shelf life, and allow customers to derive the maximum value from the product, great barrier coatings are essential.

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Sierra's High Barrier Food-Grade Paper

Sierra® developed and qualified a high barrier food-grade paper for use in a dry food package application for major food companies. This functional barrier coating has been run on both white and natural papers of different basis weights and from different paper mills.

To produce the final product, we employed a roll-to-roll gravure process to apply a series of aqueous barrier coatings to 60# white and natural grade papers. A flotation drying process is used to rapidly dry both sides of the paper simultaneously, and independent laboratory testing verified that the final product met the target specifications of .15 oxygen permeation rate and a .05 moisture vapor transmission rate (MVTR).

Our facility also passed both a Good Manufacturing Processes (GMP) and a Six



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Sigma review, ensuring that the product is manufactured using the same procedures under the same conditions every time and that we were capable of achieving strategic results over the long term.

Sierra® identified a reliable supply chain to source only raw materials that meet both FDA guidelines and the other strict compliance requirements of the food industry. We continue to supply this packaging paper in 60” wide, 50” diameter rolls, which are then printed and treated with poly coating for heat seal in the final customer package.

To learn more about this project, read below, or contact Sierra Coating to learn how we can help you with your food packaging application.

Custom Paper for Dry Food Package Project Highlights

Product Name	Paper for dry food package with high barrier coating
Product Description	<ul style="list-style-type: none"> • White and natural 60 lbs. paper used in dry food package that is coated to increase the barrier to transmission of oxygen and moisture • Primary barrier function to preserve dry foods • Additional poly is extruded over primary coating for package heat sealing



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Project Scope	<ul style="list-style-type: none"> • Customer hired Sierra to coat a paper to create oxygen and moisture barrier • The customer then printed paper and made final food package
Development Work	<ul style="list-style-type: none"> • Qualification of equipment and facility to produce food grade coated paper • Supply chain creation of vendors, production, and administration for supply to major food company
Testing Needed	<ul style="list-style-type: none"> • Facility passing GMP and customer Six Sigma review • Product maintaining consistent target range of oxygen and moisture barrier
Trial Costs	<ul style="list-style-type: none"> • Set for multiple runs and tests productions • Outside lab testing review of oxygen and MVTR tests
Raw Material Costs	<ul style="list-style-type: none"> • Testing of two paper mills for white and natural grades of paper <ul style="list-style-type: none"> • Testing of 3 levels of coating • Testing of double coating with the same coating • Testing speed of application for machine costing
Shipping Cost	Shipping arranged by Sierra and billed to customer

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More Resources

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