

Barrier Films and Coating

2008 to 2012

For Barrier Flexible Packaging

Table of Contents

Section I:

Introduction

- A. Barrier Films and coatings defined
 - 1. Barrier
 - 2. Extrudable resins
 - 3. Fluid coatings
 - 4. Aluminum foil
 - 5. Vacuum-deposited coatings
- B. Study organization
- C. Methodology
- D. Geographic regions
- E. Conventions

Section II:

Executive Summary

- A. Barrier materials included in this study
- B. Drivers and trends
 - 1. Consumer
 - 2. Packaging industry
- C. Market
 - 1. Very high oxygen barrier materials
 - 2. High oxygen barrier materials
 - 3. Medium oxygen barrier materials
 - 4. Very high moisture vapor barrier materials
- D. Technology
 - 1. Aluminum foil
 - 2. COC resins
 - 3. Specialty-coated films
 - 4. Transparent oxide-coated films
 - 5. PVOH resins and films
 - 6. PVDC
- E. Emerging technology
 - 1. Nanotechnology
 - 2. Substrate surface design

3. Alternatives to vacuum deposited coatings
 4. Oxygen scavengers
- F. Economics
1. Case Study 1: Target OTR: <0.02 cc/100in²/day-atm
 2. Case Study 2: Target OTR: 0.02 to 0.10 cc/100in²-day-atm
 3. Case Study 3: Target OTR: 0.10 to 1.00 cc/100in²-day-atm
 4. Case Study 4: Target OTR: 1.0 to 5.0 cc/100in²-day-atm
 5. Case Study 5: Target MVTR: <0.10 gm/100in²-day-atm

Section III:

Technology

- A. Barrier and environmental variables
 1. Temperature dependence
 2. Humidity
 3. Film thickness
 4. Coatings
- B. Aluminum foil
 1. Laminations
 2. Coatings
 3. Capabilities summary
 4. Supplier profiles
- C. PVOH resins and films
 1. Films
 2. Coatings
 3. Capabilities summary
 4. Supplier profiles
 5. Converter profiles
- D. EVOH resins and films
 1. Extrusion resins
 2. Coatings
 3. Capabilities summary
 4. Heat treating/orientation of EVOH
 5. Supplier profiles
 6. Converter profiles
- E. Transparent oxide-coated films
 1. SiO_x-coated films
 2. AlO_x-coated films
 3. Extrusion resins
 4. Coatings
 5. Capabilities summary
 6. Equipment suppliers
 7. Supplier profiles

- F. PVDC extrusion resins and coatings
 - 1. Extrusion resins
 - 2. Coatings
 - 3. Capabilities summary
 - 4. Supplier profiles
 - 5. Converter profiles
- G. Metallized films
 - 1. Extrusion resins
 - 2. Coatings
 - 3. Capabilities summary
 - 4. Supplier profiles
- H. AMAB extrusion resin
 - 1. Extrusion resins
 - 2. Coatings
 - 3. Capabilities summary
 - 4. Supplier profiles
 - 5. Converter profiles
- I. Nylon extrusion resin
 - 1. Extrusion resins
 - 2. Coatings
 - 3. Capabilities summary
 - 4. Supplier profiles
 - 5. Converter profiles
- J. PET film
 - 1. Extrusion resins
 - 2. Coatings
 - 3. Capabilities summary
 - 4. Supplier profiles
- K. Polychlorotrifluoroethylene (PCTFE) extrusion resin
 - 1. Extrusion resins
 - 2. Coatings
 - 3. Capabilities summary
 - 4. Supplier profiles
 - 5. Converter profiles
- L. Cyclic olefin copolymer (COC) resins
 - 1. Extrusion resins
 - 2. Coatings
 - 3. Capabilities summary
 - 4. Supplier profiles
 - 5. Converter profiles
- M. Specialty-coated films
 - 1. Extrusion resin
 - 2. Coatings

3. Barrier property comparisons
 4. Processability comparison
 5. Capabilities summary
 6. Supplier profiles
 7. Converter profiles
- N. Other technology
1. Oxygen absorbing technology
 2. Nanotechnology in flexible packaging
 3. Liquid crystal polymers
 4. Substrate surface design
 5. Continuous vacuum coating
 6. Alternatives to vacuum deposition coating
 7. Vacuum deposited silane coating

Section IV:

Economic Case Studies

- A. Case 1: Target OTR: 0.02 cc/100in²-day-atm
 1. Material selection and specifications
 2. Barrier properties of selected materials
 3. Assumptions
 4. Results
- B. Case 2: Target OTR: 0.02 to 0.10 cc/100in²-day-atm
 1. Material selection and specifications
 2. Barrier property results
 3. Assumptions
 4. Results
 5. Discussion of results
- C. Case 3: Target OTR: 0.10 to 1.0 cc/100in²-day-atm
 1. Material selection and specification
 2. Barrier property results
 3. Assumptions
 4. Results
 5. Discussion of results
- D. Case 4: Target OTR: 1.0 to 5.0 cc/100in²-day-atm
 1. Material selection and specifications
 2. Barrier property results
 3. Assumptions
 4. Results
 5. Discussion of results
- E. Case 5: Target WVTR: 0.0 to 0.10 gm/100in²-day-atm
 1. Material selection and specifications
 2. Barrier property results

3. Assumptions
4. Results
5. Discussion of Results

Section V:

Market Trends and Projections

- A. Drivers and trends
 1. Consumer drivers and trends
 2. Packaging industry drivers and trends
- B. Aluminum foil
 1. Projection by end-use
 2. Projection by geographic area
- C. PET film
 1. Projection by end-use
 2. Projection by geographic area
- D. Nylon extrusion resin
 1. Projection by end-use
 2. Projection by geographic area
- E. Metallized films
 1. Projection by end-use
 2. Projection by geographic area
- F. PVDC extrusion resin and coatings
 1. Projection by end-use
 2. Projection by geographic area
- G. EVOH resins
 1. Projection by end-use
 2. Projection by geographic area
- H. AMAB resins
 1. Projection by end-use
 2. Projection by geographic area
- I. Transparent oxide-coated films
 1. Projection by end-use
 2. Projection by geographic area
- J. COC resins and films
 1. Projection by end-use
 2. Projection by geographic area
- K. Specialty-coated films
 1. Projection by end-use
 2. Projection by geographic area
- L. PCTFE resins
 1. Projection by end-use

- 2. Projection by geographic area
- M. PVOH resins
 - 1. Projection by end-use
 - 2. Projection by geographic area
- N. All barrier materials
- O. Meat, poultry, and fish
 - 1. Prepackaged meat, poultry, and fish
 - 2. Case-ready meat
 - 3. Chubs
 - 4. Barrier shrink bags
- P. Medical
 - 1. Suture packaging
 - 2. Pre-filled syringes
 - 3. Ostomy bags
- Q. Pharmaceutical
 - 1. Blister pack structures
- R. Baked goods
 - 1. Hard goods
 - 2. Soft goods
- S. Snacks
 - 1. Potato chips
 - 2. Corn chips
- T. Dairy foods
 - 1. Cheese
 - 2. Yogurt
- U. Confectionery
- V. Health & beauty
- W. Pet food
- X. Prepared drinks
- Y. Tobacco
- Z. Breakfast food
- AA. Dried mixes
- AB. Condiments
- AC. Dried foods & pasta

Section VI:

Producer Profiles

Section VII:

Glossary