

# Transparent Oxide-coated Films for Packaging

## 2014 to 2019

### Section I:

#### Introduction

- A. Key definitions
- B. Study organization
- C. Geographic regions
- D. Study methodology
- E. Conventions

### Section II:

#### Executive Summary

- A. Definition
- B. Technology
- C. Economic and environmental impact
- D. Market drivers
  - 1. Macroeconomic environment
  - 2. Health and safety
  - 3. Environmental
  - 4. Performance
  - 5. Competitive response
  - 6. Economics
- E. Volume segmented by end-use
- F. Volume in food by end-use
- G. Volume segmented by geographic region
- H. Volume segmented by coating type
- I. Volume segmented by substrate type

### Section III:

#### Technology

- A. Origins of transparent oxide-coated films
- B. New entrants in the technology market
- C. Pre-treatments
  - 1. Plasma pre-treatment
  - 2. Primers
- D. Coating process and equipment

1. CVD – plasma enhanced
  2. CVD – combustion
  3. PVD evaporation
  4. Evaporation – electron beam (EB) vs. thermal
  5. PVD sputtering
  6. Process summary
- E. Post-treatments
1. Plasma post-treatment
  2. Additional coatings
  3. Further processing
- F. Materials
1. SiO<sub>x</sub>-coated films
  2. AlO<sub>x</sub>-coated films
- G. Substrates
1. Oriented polyester films
  2. OPA
  3. BOPP
  4. PLA
  5. Other
- H. Competing film and foils
1. Competing coatings
  2. Barrier property comparisons
  3. Processability comparison
  4. Summary
- I. Equipment suppliers
- J. Oxide-coated film suppliers
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  2. AlO<sub>x</sub>-coated films
  3. Mix SiO<sub>x</sub>/AlO<sub>x</sub>-coated films

## **Section IV:**

### **Economics and Environmental**

- A. Case 1: Economics – manufacture metallized OPET film
1. Assumptions
  2. Economic results
- B. Case 2: Economics – manufacture AlO<sub>x</sub>-coated OPET film
1. Assumptions
  2. Economic results
- C. Case 3: Economics – manufacture SiO<sub>x</sub>-coated OPET film
1. Assumptions

2. Economic results
- D. Case 4: Comparison of Case 1, Case 2, and Case 3
  1. Total cost
  2. Material cost
  3. Variable cost
  4. Fixed cost
  5. Profit margin
- E. Case 5: Environmental analysis – manufacture metallized OPET
  1. Energy
  2. Greenhouse gas releases
- F. Case 6: Environmental analysis – manufacture AlOx-coated OPET
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- G. Case 7: Environmental analysis – manufacture SiOx-coated OPET
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- H. Case 8: Comparison of Case 5, Case 6, and Case 7
  1. Energy
  2. Greenhouse gas releases

## **Section V:**

### **Market Trends and Projections**

- A. Applications
- B. Drivers and trends
  1. Macroeconomics
  2. Health and safety
  3. Environmental
  4. Economics
  5. Performance
  6. Competitive response
- C. Barrier films and foils
- D. Volume segmented by end-use
- E. Value segmented by end-use
- F. Volume for food segmented by end-use
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  3. Meat, poultry, and fish
  4. Rice and vegetables
  5. Sauce
  6. Snack foods

- 7. Soups and stews
- 8. Other
- G. Volume for healthcare segmented by end-use
  - 1. Medical devices
  - 2. Pharmaceuticals
  - 3. Other
- H. Volume for personal care segmented by end-use
  - 1. Cosmetics
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- I. Volume for other applications segmented by end-use
  - 1. Electronic products
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- J. Global volume segmented by geographic region
  - 1. Europe
  - 2. Japan
  - 3. North America
  - 4. ROW
- K. Volume in Europe segmented by end-use
- L. Volume in Japan segmented by end-use
- M. Volume in North America segmented by end-use
- N. Volume in ROW segmented by end-use
- O. Global volume segmented by coating type
  - 1. AlOx coatings
  - 2. SiOx coatings
  - 3. AlOx/SiOx mix coatings
  - 4. Projection
- P. Global volume segmented by coating process
  - 1. Chemical vapor deposition – plasma enhanced
  - 2. Combustion deposition
  - 3. Physical vapor deposition – electron beam (EB) evaporation
  - 4. Physical vapor deposition – thermal evaporation
  - 5. Projection
- Q. Global volume segmented by substrate type
  - 1. BOPP
  - 2. OPA
  - 3. Oriented polyester films
  - 4. Other
  - 5. Projection

- R. Global volume segmented by package format
  - 1. Lidstock
  - 2. Paperboard containers
  - 3. Pouches
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**Section VIII:  
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