

# Transparent Oxide-coated Films for Packaging 2011 to 2015

## **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. Pre-treatments
  - 1. Plasma pre-treatment
  - 2. Primers
- C. 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
- D. Post-treatment
1. Plasma post-treatment
  2. Additional coatings
  3. Further processing
- E. Materials
1. SiO<sub>x</sub>-coated films
  2. AlO<sub>x</sub>-coated films
- F. Substrates
1. Oriented polyester films
  2. OPA
  3. BOPP
  4. PLA
  5. Other
- G. Competing film and foils
1. Competing coatings
  2. Barrier property comparisons
  3. Processability comparison
  4. Summary
- H. Equipment suppliers
- I. Oxide-coated film suppliers
1. SiO<sub>x</sub>-coated films
  2. AlO<sub>x</sub>-coated films
  3. Mix SiO<sub>x</sub>/AlO<sub>x</sub>-coated films
  4. Survey results – production volumes

## **Section IV:**

### **Economics and Environmental**

- A. Case 1: Economics – manufacture metallized OPET film
  1. Assumptions
  2. Economic results
- B. Case 2: Economics – manufacture AlO-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 AlO<sub>x</sub>-coated OPET
1. Energy
  2. Greenhouse gas releases
- G. Case 7: Environmental analysis – manufacture SiO<sub>x</sub>-coated OPET
1. Energy
  2. Greenhouse gas releases
- 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
  1. Beverages
  2. Confectionery
  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
  2. Personal hygiene
  3. Other
- I. Volume for other applications segmented by end-use
1. Electronic products
  2. Other
- 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. AlO<sub>x</sub> coatings
  2. SiO<sub>x</sub> coatings
  3. AlO<sub>x</sub>/SiO<sub>x</sub> 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
  4. Projection

**Section VI:  
Producer Profiles**

**Section VII:  
Equipment Profiles**

**Section VIII:  
Glossary**

**Tables: 33**

**Figures: 10**