

Plastic Film

Study # 1827

July 2004

\$4200

Plastic film demand in US to reach \$22.7 billion in 2008

Plastic film demand in the US is projected to expand 2.7 percent yearly to 15 billion pounds in 2008, valued at \$9.5 billion (resin cost only). Total plastic film demand (including resins, additives and processing costs) will grow nearly five percent per annum to \$22.7 billion in 2008. Plastic films will continue to make inroads at the expense of other materials due to cost and performance advantages, as well as technology and processing improvements.

LDPE to remain dominant film resin

Low density polyethylene will remain the dominant plastic film resin, with demand growing 2.7 percent annually to 9.4 billion pounds in 2008. Gains will result from the film's low cost, versatility and growing use in snack and produce packaging, stretch and shrink wrap, and retail bags. Further gains will be constrained by slower growth in uses such as textile, apparel and paper packaging, as well as nonpackaging uses such as food wrap and trash bags. High density polyethylene film demand is projected to increase 3.3 percent

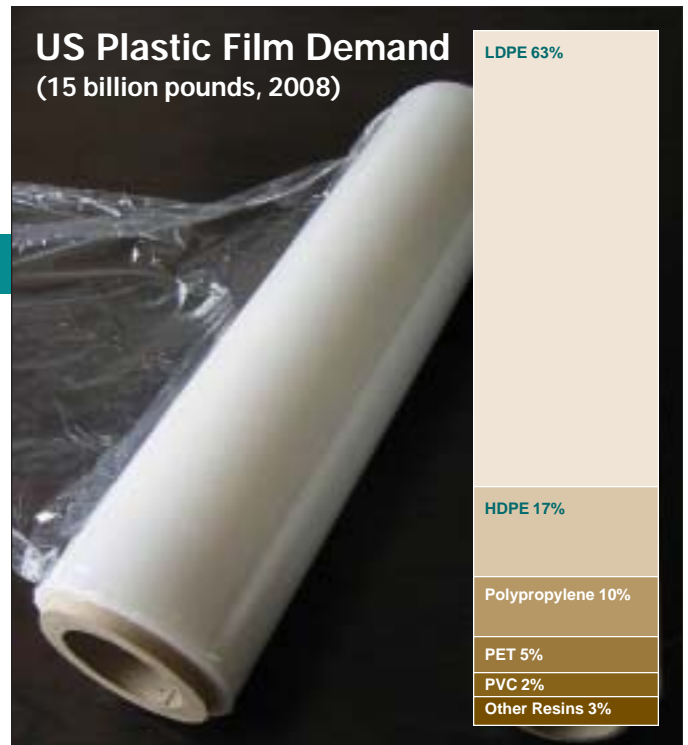
per annum to 2.5 billion pounds in 2008, fostered by good opportunities in snack food packaging, retail bags and trash bags.

Polypropylene holds best growth prospects

Polypropylene will provide the best opportunities among plastic film resins, with a projected annual growth rate of 4.7 percent to 1.6 billion pounds in 2008. Increases will be stimulated by further advances in food packaging for snacks, baked goods and dairy products. Ethylene vinyl alcohol films will provide the fastest growth prospects, although from a smaller base, due to greater barrier requirements in food markets. Polyvinyl chloride and polyvinylidene chloride films will exhibit the slowest increases.

Polyethylene terephthalate (PET) film demand will decrease to 660 million pounds in 2008. PET film declines in photographic applications will result from inroads made by digital technologies. Similarly, magnetic tape markets for PET film will diminish based on competition from newer technologies such as CDs and DVDs. Cellophane film demand will continue to decline due to competition from polypropylene and polystyrene.

US Plastic Film Demand (15 billion pounds, 2008)



Stretch, shrink wrap to drive gains in key packaging market

Packaging will remain the leading plastic film market, accounting for 75 percent of the total in 2008. This will result from cost and source reduction advantages over rigid packaging, as well as increased use of products such as breathable films and stand-up pouches.

Best film opportunities are anticipated in secondary packaging products such as stretch and shrink wrap due to growing consumer spending and industrial activity. Research efforts will focus on improving

strength, sealing, barrier and other salient properties, as well as graphic capabilities, while maintaining a competitive cost position.

Study coverage

Details on these and other key findings are available in *Plastic Film*, a 292-page Freedonia industry study priced at \$4200. It provides historical US demand data (1993, 1998, 2003) plus forecasts to 2008 and 2013 by plastic film resin type and application. The study also presents macroeconomic and end-use indicator data, assesses industry structure, evaluates market share data and profiles 35 US industry competitors.

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Freedonia Industry Study #1827 - "Plastic Film"

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(continued from opposite page)

TABLE III-1
PLASTIC FILM DEMAND BY RESIN
(million pounds)

Item	1993	1998	2003	2008	2013
Thermoplastics Demand					
% film					
Plastic Film Demand					
Low Density Polyethylene					
High Density Polyethylene					
Polypropylene					
Polyethylene Terephthalate					
Polyvinyl Chloride					
Polystyrene					
Nylon					
Polyvinylidene Chloride					
Cellulosics					
Cellophane					
Ethylene Vinyl Alcohol					
Other Film Demand					
\$/lb					
Plastic Film Resin Demand (mil \$)					
% resins					
Plastic Film Demand (mil \$)**					

* includes resin only Source: T
** includes resins, additive, proces

TYPES & APPLICATIONS

Polypropylene

Polypropylene film will exhibit good opportunities in a variety of markets and expand to 6 billion pounds in 2008, accounting for ten percent of total demand. Increases will be attributable to polypropylene's availability, high moisture barrier qualities and clarity (low haze and high gloss). Other growth stimulants include the use of cost yet higher performing materials to replace polypropylene and healthy consumer spending patterns. BOPP is widely used in food packaging markets such as snack foods. Three major polypropylene film advances include the entrenched position of polypropylene in many applications.

Demand for opaque polypropylene (OPP), which dominates the polypropylene film market, is forecast to grow to 6 billion pounds in 2008. OPP is widely used in applications such as baked goods, snacks, confection and clarity and impact strength. Other packaging uses include the wrapping of toys, games, hardware and frozen foods. BOPP is being made of metallized OPP film, which is lightweight and has oxygen and moisture barrier properties than clear polypropylene (BOPP) films compete with foil BOPP is formed by stretching polypropylene film to improve clarity and stiffness.

Historical data through 2003 plus Freedonia forecasts to 2008 and 2013

TABLE III-13
POLYPROPYLENE FOOD PACKAGING FILM DEMAND BY APPLICATION
(million dollars)

Item	1993	1998	2003	2008	2013
Food Product Shipments (bil 2000\$)	369.7	380.0	390.0	400.0	410.0
lbs PP film/000\$ food shpts	1.7	1.8	1.9	2.0	2.1
Polypropylene Film in Food Packaging	630	640	650	660	670
Snacks	418	420	430	440	450
Baked Goods	98	100	102	104	106
Confections	73	75	77	79	81
Dairy Products	24	25	26	27	28
Other Food Products	17	18	19	20	21
% food	79.7	80.0	80.3	80.6	80.9
Polypropylene Film Demand	790	800	810	820	830

opaque and shrink. Clear/slip polypropylene is used for flexible packages and are used for complete packaging solution. BOPP is used for condiment and baked goods packaging. BOPP is a barrier to visible and UV enhanced graphics. Uses include snack packaging. Opaque

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This study can help you:

- Determine your market & sales potential
- Identify firms to merge with or acquire
- Complement your research & planning
- Gather data for presentations
- Learn more about industry competitors
- Confirm your own internal data
- Assess new products & technologies
- Make better business decisions

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**TABLE V-3
SNACK FOOD FILM DEMAND BY RESIN
(million pounds)**

Item	1993	1998	2003	2008	2013
Snack Food Shipments (bil 2000\$) lbs film/000\$ snack shpts					
Snack Food Film Demand					
Polypropylene					
Low Density Polyethylene					
High Density Polyethylene					
Polyethylene Terephthalate					
Cellophane					
% snacks					
Food Packaging Film Demand					

SECONDARY PACKAGING

Industrial Liners

Industrial liner demand has increased through 2008 to nearly 1 billion pounds, accelerating application of liners extending the useful life of intermediate bulk containers, shipping sacks. The use of liners makes the drums easier to handle, specialized types of product bulk boxes liners also provide enabling these containers to carry liquids.

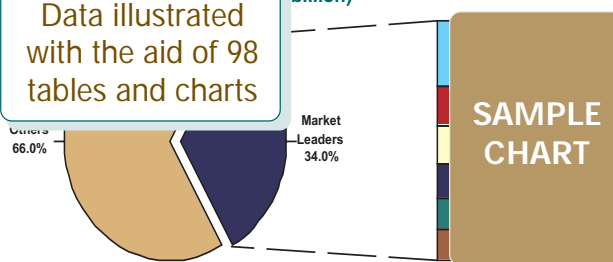
Liners are employed with bulk containers to increase moisture protection and prevent the sifting of fine powders. Liners also facilitate container reuse and recycling by preventing contained materials from coming in contact with the outer packaging. Once the product is emptied, the liner is disposed of, leaving no product residue in the container. Liners are used in applications where the outer container will be reused with a different material, as well as in applications involving corrosive or otherwise hazardous materials that could damage the outer container. Liners are also employed in largely single use containers such as fibre drums to permit these containers to be used with a wider range of materials, although they also find use with steel and plastic drums as well as intermediate bulk containers, bulk boxes and pails. In addition, liners help prevent sifting of

Explanations to support each table's numbers and projections

percent per annum which will benefit from advantages of rigid lining of paper and fibre drums and fibre drums and Fibre drums and alk resistance,

CHART IX-1

US PLASTIC FILM MARKET SHARE, 2003 (billion)*



Data illustrated with the aid of 98 tables and charts

SAMPLE CHART

*market share figures include resins, additives & processing

COMPANY PROFILE

OMNOVA Solutions
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Fairlawn, OH 44130
330 869 4200
<http://www.omnova.com>

Profiles for 35 US industry players

SAMPLE PROFILE

Sales: \$2.5 billion (2003)
US Sales: \$1.5 billion (2003)
Employment: 1,500 (2003)
Key Products: decorative and industrial films
Markets: incorporated designs, decorative surfaces, emulsion
chemicals for a variety of commercial, industrial and consumer applications. The Company operates in three segments: Packaging, Decorative Products and Building Products.

The Company participates in the plastic film industry through the Decorative Products segment, which had sales of \$258 million in FY 2003. Through the segment, OMNOVA develops, designs, produces and markets decorative and functional surfacing products, including graphic arts and industrial films. In the US, the Company produces films at facilities in Auburn and Jeannette, Pennsylvania. OMNOVA's graphic arts films include GLASSCLEAR and TOLEX product lines. GLASSCLEAR double-polished, matte and pressure sensitive films are used to produce page protectors, binders and organizers and presentation materials. The line includes GLASSCLEAR 2000 flexible clear polyvinyl chloride (PVC) films, which can be used in stationary and graphic media applications, including overlay binder covers, sleeves, report covers, menu covers, pouches, wallets, labels, signs, adhesive backed overlay films, pouches and labels. OMNOVA's TOLEX embossed opaque PVC films are designed for wallets, bookbinding, pouches, and other graphic and stationery end uses.

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This study analyzes the US pressure sensitive tapes industry. It presents historical demand data through 2003 and forecasts to 2008 and 2013 by product (e.g., single- and double-coated tapes with plastic film, paper, cloth, rubber, plastic foam, glass cloth, foil and nonwoven backings; unbacked adhesive transfer tapes); by raw material and by application (e.g., industrial and construction, packaging and shipping, electrical and electronic). The study also evaluates market share and profiles leading suppliers.

#1864 10/2004 \$4100

Paper Versus Plastics in Packaging

This study analyzes selected US paper and plastic packaging markets. It presents historical data and forecasts to 2008 and 2013 by competitive application (e.g., snacks; meats and seafood; produce; dairy; dry foods; juice and fruit drinks; baked goods; candy; frozen food; prepared foods; detergents; pet food); and by type (e.g., bags and sacks; pouches; wraps; folding cartons; bottles; tubs and cups; shipping drums; trays). The study also presents company market share data and profiles industry competitors.

#1848 09/2004 \$4100

Produce Packaging

The US market for produce packaging will grow 5.1% annually through 2008 based on healthier eating trends and rising demand for fresh-cut, ready-to-eat produce. Plastic containers, bags and liners will lead gains. Among corrugated boxes, opportunities exist for modular systems like Corrugated Common Footprint (CCF) products. This study analyzes the \$2.8 billion US produce packaging industry to 2008 and 2013 by type, application and end user. It also evaluates market share and profiles major producers.

#1828 08/2004 \$4100

Pouches

US demand for pouches will climb 7% annually through 2008, driven by the rapidly expanding stand-up pouch segment as well as healthy gains for flat pouches. The incorporation of such value-added features as resealability, spouts, and retort and aseptic properties will further stimulate advances for all pouch varieties, particularly stand-up pouches. This study analyzes the \$3.7 billion US pouch industry to 2008 and 2013 by product and market. It also presents market share data and profiles industry competitors.

#1824 07/2004 \$4200

Labels

US label shipments will grow 5.7% annually through 2008 based on new label technologies, substrates, adhesives and coatings. Bar codes used in transportation and distribution markets, EAS and RFID will also benefit demand. Best gains will be in secondary functions such as data processing and inventory control. This study analyzes the US label industry to 2008 and 2013 by material, application method, printing technology and function. The study also evaluates market share and profiles leading competitors.

#1821 07/2004 \$4200

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