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Protective Packaging

US Industry Study with Forecasts to **2010 & 1015**

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US Industry Study with Forecasts to *2010 & 2015*

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Protective Packaging

US Industry Study with Forecasts to ***2010 & 2015***

US demand for Inflatable bag protective packaging will grow at an eight percent annual pace to $265 million in 2010 due to their cost effectiveness, versatility and cleanliness compared to loose-fill materials.

US demand to grow 4.7% per annum through 2010

Protective packaging demand is forecast to grow 4.7 percent yearly to $4 billion in 2010. Advances will be driven by specialized packaging applications in the electronic, medical and other industries, as well as growing Internet-based sales. Overall price advances will be restrained by the commodity nature of most products and moderating raw material costs, which will recover from the high levels experienced in 2004 and 2005, when plastic prices spiked sharply as a result of significantly higher crude petroleum and natural gas pricing. Best opportunities are expected for inflatable bags, insulated shipping containers and bubble packaging. Loose-fill will exhibit the slowest growth due to significant competition from inflatable bags, bubble packaging and paper fill materials.

Molded foam to remain dominant protective foam

Foamed plastic demand in protective packaging is expected to grow 4.6 percent annually to $1.1 billion in 2010 due to its competitive cost structure and good performance characteristics. Molded foam, mainly expanded polystyrene, will remain dominant as a result of its shock and vibration dampening characteristics and ability to be custom molded to protect sensitive electronic and other equipment. Foamed polyolefin (i.e., polyethylene and polypropylene) roll advances will be based on their excellent abrasion and cushioning properties in protecting furniture, electronics and other products. Foamed-in-place polyurethane advances will reflect its higher cost and more specialized applications compared to molded foamed plastic.

Inflatable bags, insulated containers to lead gains

Inflatable bag demand will advance at a rapid 8.0 percent annual pace to $265 million in 2010 due to their cost effectiveness, versatility and cleanliness compared to loose-fill materials. Demand for insulated shipping containers will increase 5.5 percent per year to $360 million in 2010 as a result of needs for the packaging of temperature-sensitive products such as pharmaceuticals, vaccines and diagnostic laboratory products. Bubble packaging demand will grow to $520 million in 2010 due to its competitive cost structure, diverse applications and good protection from shock and surface abrasion. Protective mailer opportunities will reflect labor, postage and inventory savings advantages, as well as expanded purchases from Internet, catalog, retail and other operations. Paper fill packaging advances will be threatened by maturing applications and the rapid growth of inflatable bags, their main competitor. Saturated uses and competition from foamed plastic will similarly constrain paperboard protector growth.

Sample Page, Table & Chart

TABLE II-12

PRICING FOR PROTECTIVE PACKAGING
(dollars per pound)

Item	1995	2000	2005	2010	2015
Protective Packaging (average)	(				22
Loose-Fill Expanded Polystyrene					66
Foamed-in-Place Polyurethane					00
Protective Mailers					36
Molded Polyurethane					68
Molded Polyolefins					71
Insulated Shipping Containers					66
Molded Expanded Polystyrene					55
Bubble-Wrap					55
Inflatable Bags					47
Polyolefin Rolls	(				12
Paperboard	(				49
Paper Fill	(				34

SAMPLE TABLE

FOAMED PLASTIC

Expanded Polystyrene

Demand for molded expanded polystyrene foam in prote packaging uses is predicted in 2010. The shock absorbi combined with its low cost, ing, make EPS a popular pa include rising disposable pe purchases of both durable a be constrained by slower gr polyurethane in more dema benefit from increased cons life cycle benefits of foamed polystyrene.

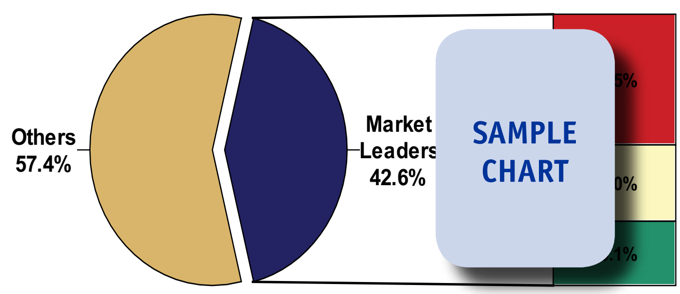
SAMPLE TEXT

Molded EPS is used in the packaging of fragile items such as electronic goods (e.g., consumer electronics, computers and DVDs), appliances and a plethora of other products. Many electrical and electronic products are produced offshore and assembled and packaged in the US. However, other items such as small household appliances and DVDs are both produced and packaged offshore, and subsequently imported, limiting packaging opportunities. As original equipment manufacturers move their production facilities to offshore countries with lower labor costs, firms will concomitantly establish local packaging production capabilities as well.

Molded EPS functions primarily as a cushioning agent also serves a blocking and bracing function as well, depend particular application. For instance, in the packaging of tele ers, VCRs and related items, molded EPS provides cushioni from shock and vibration while also preventing the product around within the box during transport.

CHART VI-1

PROTECTIVE PACKAGING INDUSTRY MARKET SHARE, 2005
($3.2 billion)



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Protective Packaging

US Industry Study with Forecasts to ***2010 & 2015***

Sample Profile, Table & Forecast

TABLE V-2

PROTECTIVE MAILER DEMAND

Item	1995	2000	2005	2010	2015
Manufacturers' Shipments (bil $)					
$ mailers/mil $ mfrs' shpts					
Protective Mailer Demand (mil $)					
Bubble Packaging					
Mascerated Paper & Other					
$/lb					
Protective Mailer Demand (mil lbs)					
% mailers					
Protective Packaging Demand (mil $)					

SAMPLE TABLE

COMPANY PROFILES

Ranpak Corporation
7990 Auburn Road
Concord Township, OH 44077
440-354-4445
http://www.ran

Annual Sales: erify, 3/06)
Employment: 06)

Key Products: ackaging systems

SAMPLE PROFILE

Ranpak C y, is one of the world's leading ging materials and systems. The Company is privately held by its employees and private institutional investors, including First Atlantic Capital Limited (New York, New York).

The Company is involved in the US protective packaging industry through the production of kraft paper packaging systems for cushioning, void-fill, blocking/bracing and wrapping. The paper is 100-percent recyclable, biodegradable and reusable, and is converted into protective packaging using two main systems: PADPAK and FILLPAK. These systems are used to produce packaging for pharmaceuticals and other medical supplies, musical instruments, industrial products, housewares, furniture, lawn and garden items, glassware, electronics, and automotive and aerospace components. Both the PADPAK and FILLPAK systems can be integrated into existing packaging lines.

The PADPAK system converts kraft paper on demand by separating multiple layers of paper and trapping air between them to produce cushioning pads. Among the specific systems in the PADPAK line are AUTOPAD, which is designed for use in high-volume applications;

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"Protective mailer demand is projected to grow 4.8 percent annually to $1.1 billion in 2010, driven by opportunities in bubble mailers, which will account for 97 percent of the mailer market. Bubble mailers have performance advantages over their macerated paper, foam-lined and rigid paperboard competitors. Growth drivers include continued expansion of the Internet commerce network and needs for economical, lightweight, pre-constructed protective packaging for the shipping of a wide variety of relatively small objects."
--Section V, pg. 78

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Other Studies

Produce Packaging

US produce packaging demand will grow 4.6% per year through 2010. Growth will be fueled by rising demand for fresh-cut, ready-to-eat produce, which favors more value-added packaging than bulk produce. Corrugated boxes will remain the leading format while plastic containers and bags and liners will grow faster. The study analyzes the $3.4 billion US produce packaging industry to 2010 and 2015 by type, application and end user. It also evaluates company market share and profiles major competitors.

#2094 .... 08/2006..................... $4400

Caps & Closures

US cap and closure demand will rise 4.8% annually through 2010. Growth will be aided by the ongoing shift toward value-added types (e.g., child-resistant, dispensing) and by the penetration of closure-intensive plastic packaging into closureless containers like metal cans. Synthetic corks will continue supplanting natural corks in wine bottles. This study analyzes the $5.5 billion US cap and closure industry to 2010 and 2015 by material, product and market. It also details market share and profiles major players.

#2077 .... 06/2006..................... $4400

Pharmaceutical Packaging

US demand for drug packaging will grow 7% yearly through 2010. Gains will be driven by new regulations and standards requiring high value-added products such as blister packs, tamper-evident closures and RFID labels. Prefillable inhalers and syringes will grow the fastest while plastic bottles maintain the largest share of unit demand. This study analyzes the $7.9 billion US pharmaceutical packaging industry to 2010 and 2015 by material and type. It also evaluates market share and profiles major players.

#2037 .... 03/2006..................... $4400

Polyurethane

US polyurethane resin demand will reach 7.6 billion pounds in 2009, driven by opportunities in building insulation, coatings and adhesives. Flexible and rigid polyurethane foams will remain dominant while thermoplastic polyurethane will present the best growth prospects in industrial and motor vehicles uses. This study analyzes the $6 billion US polyurethane industry to 2009 and 2014 by type, raw material and market. It also examines the market environment, profiles leading producers and evaluates market share.

#2008 .... 02/2006..................... $4200

Corrugated & Paperboard Boxes

US demand for boxes will surpass $34 billion in 2009. Gains will be driven by an upswing in shipments of nondurables and by a shift toward high-quality printing and graphics on boxes. Corrugated and solid fiber boxes will remain dominant and grow the fastest based on their low cost and recyclability. This study analyzes the 33 million ton US corrugated and paperboard box industry to 2009 and 2014 by material, product and market. It also evaluates company market share and profiles leading producers.

#1999 .... 11/2005..................... $4200

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