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# Geosynthetics

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US Industry Study with Forecasts for **2017 & 2022**

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[www.freedoniagroup.com](http://www.freedoniagroup.com)



**The Freedonia Group**

767 Beta Drive

Cleveland, OH • 44143-2326 • USA

Toll Free US Tel: 800.927.5900 or +1 440.684.9600

Fax: +1 440.646.0484

E-mail: [info@freedoniagroup.com](mailto:info@freedoniagroup.com)

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*Gains will be spurred by improved construction spending and by increased market penetration based on the advantages of geosynthetics over compacted soil and stone aggregate layers.*

## US demand to rise 6.6% annually through 2017

Demand in the US for geosynthetics is forecast to increase 6.6 percent per year to 1.3 billion square yards in 2017, valued at \$2.9 billion, spurred by improved spending on the construction of structures and roads. Gains in geosynthetics demand will also benefit from increased market penetration, as engineers continue to become more aware of the long term cost and performance advantages of these products at the expense of traditional geotechnical solutions (e.g., compacted soil and stone aggregate layers). Increased concerns regarding environmental protection will provide additional incentives to use geosynthetics in such applications as mining and shale gas containment sites. Geosynthetics such as geogrids, geofoms, geocells, and erosion control blankets will also be increasingly used to prevent soil erosion.

## Construction to be fastest growing market

The construction and transportation infrastructure markets together accounted for 60 percent of total demand for geosynthetics in 2012. Historically, construction was the largest market in area terms; however, it slipped from the leading position prior to 2012 due to the severe downturn in construction spending between 2007 and 2011. Going forward, the construction market is projected to post the most rapid gains through 2017, aided by a continued

## US Geosynthetics Demand, 2017 (1.3 billion square yards)



recovery in building construction activity. The transportation infrastructure market was the largest in 2012 and will provide opportunities for a number of geosynthetics as spending on highways accelerates somewhat through 2017. Geogrids are among the geosynthetics expected to benefit from improved spending on transportation infrastructure. These products are increasingly used to reduce the need for excavation and fill material when constructing roadbeds.

## Geotextiles to remain largest product segment

Geotextiles will remain the largest product segment, accounting for 69

percent of total area demand in 2017. Geotextiles benefit from their versatility, as these products are used in a wide range of markets and applications. Because two-thirds of geotextile sales in area terms in 2012 were in the transportation infrastructure and construction markets, improvements in construction and highway spending will boost growth. Additionally, market penetration is rising as engineers continue to realize the benefit of using these materials in road and other construction activities. For example, nonwoven geotextiles are increasingly used in concrete road rehabilitation applications as alternatives to hot-mix asphalt in unbounded concrete overlays.

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## Sample Text, Table & Chart

### PRODUCTS

#### Geomembranes

Geomembranes generally maintain a higher pricing structure than most other geosynthetics. As such, geomembranes account for a larger share of geosynthetics demand in value terms (47 percent of total value demand in 2012) than in area terms (13 percent of demand in 2012). Geomembranes are sheets or membranes made of polymers or elastomeric bitumen; however, only geomembranes made from polymers are within the scope of this study. These products prevent fluid or vapor movement. Although geomembranes are not completely impermeable, they are much less permeable than geotextiles. Most grades of geomembrane film are black, but geomembranes are also available in white or clear versions. Geomembranes can be used by themselves or in conjunction with such barrier media as non-amended clay in order to fabricate geosynthetic clay liners (GCLs) on-site.

Demand for geomembranes is expected to grow at a rate of 1.5 percent per year to 1.8 percent per year by 2022, compared to the average 1.2 percent per year for all geosynthetics. The use of geomembranes in landfill and liquid collection applications is expected to continue to grow, thus limiting growth in other applications. The continued interest in environmental protection, as geomembranes can be used to line and cover structures used to store water and waste. Other advances will be promoted by gains in building construction expenditures, as geomembranes are increasingly being used as components of stormwater detention structures.

Geomembrane demand will also benefit from the performance advantages over competing materials (e.g., geotextiles, liners and coated geotextiles) in most applications. Geomembranes are preferred for certain applications because they offer a virtually impenetrable barrier against the movement of fluids. Geomembranes

81

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TABLE IV-3

### TRANSPORTATION INFRASTRUCTURE GEOSYNTHETICS DEMAND (million square yards)

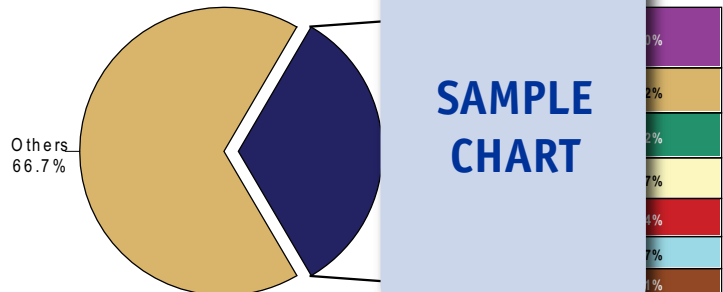
Item	2002	2007	2012	2017	2022
Highway Spending (bil 2005\$)					
sq yd geosynthetics/000\$ hwy spend					
Nonbldg Transport Construct (bil 2005\$)					
sq yd geosynthetics/000\$ constr					
Transport Infrastructure Geosynthetics					
Geotextiles:					
Nonwoven					
Woven & Knit					
Geogrids					
Other Geosynthetics					
\$/sq yd					
Transport Geosynthetic Demand (mil \$)					

SAMPLE  
TABLE

SAMPLE  
TEXT

CHART VI-1

### US GEOSYNTHETICS MARKET SHARE BY COMPANY (\$1.9 billion)



SAMPLE  
CHART

## Sample Profile, Table & Forecast

### COMPANY PROFILES

#### Inteplast Group Limited

9 Peach Tree Hill Road  
 Livingston, NJ  
 973-994-8000  
<http://www.inteplast.com>

Annual Sales:  
 Employment:

Key Products:

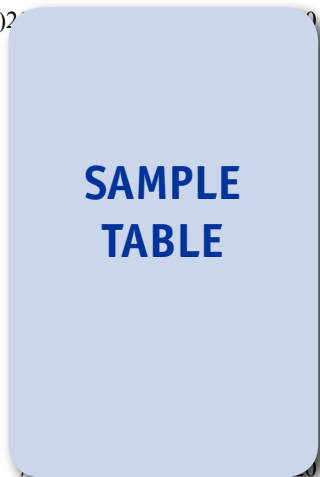
Inteplast Group Limited manufactures geotextiles, bags, and other items. The privately held company operates through three divisions: AmTopp, Integrated Bagging Systems (IBS), and World-Pak.

The Company is active in the US geosynthetics industry through the World-Pak division (Livingston, New Jersey), a manufacturer of plastic films, construction products, and other items. Among the division's offerings is INTEPLUS PL film for geomembrane and agricultural applications. This film, which can be laminated to geotextiles, is made from cross laminated polyethylene that can withstand temperatures from minus 40 degrees Fahrenheit to plus 180 degrees Fahrenheit. Applications for this film include pond and golf course lake liners. Other products from the World-Pak division include BARRIER-BAC VB series vapor barriers, which are made from Inteplast Group's INTEPLUS XF co-extruded, cross laminated film. These vapor barriers, which are designed to restrict moisture migration through concrete slabs, are also available as composites featuring INTEPLUS XF film laminated to polypropylene nonwoven geotextiles for enhanced strength.

**TABLE V-8**

**WEST GEOSYNTHETICS DEMAND BY SUBREGION & MARKET**  
(million square yards)

Item	2002	2007	2012	2017	2022
West Construction Expenditures (bil 2005\$)/sq yd geosynthetics/000\$ constr					
West Geosynthetics Demand					
By Subregion:					
Mountain					
Pacific					
By Market:					
Transportation Infrastructure					
Construction					
Landfills					
Liquid Containment					
Other Markets					
% West Geosynthetics Demand					



"Demand for geosynthetics in the Mountain subregion is forecast to increase 7.9 percent annually to 168 million square yards in 2017. Advances will be fueled by above average growth in economic activity, population, and construction spending, supporting geosynthetics demand across all markets. However, the overall size of the geosynthetics market in the subregion will be limited by the fact that some states (e.g., Montana, Wyoming, and Idaho) remain sparsely populated, which will restrain demand."  
 --Section V, pg. 187



**OTHER STUDIES**

**World Geosynthetics**

Global demand for geosynthetics is expected to rise 8.9 percent per year to 5.2 billion square meters in 2017. Developing regions will be the fastest growing markets, with the Asia/Pacific region remaining the largest. Construction will be the largest and fastest growing application, especially in the key China and US markets. This study analyzes the 3.4 billion square meter world geosynthetics industry, with forecasts for 2017 and 2022 by product, market, world region, and for 19 countries. The study also evaluates company market share and profiles industry players.  
 #3108.....December 2013 ..... \$6100

**World Construction Aggregates**

World sales of construction aggregates will rise 5.8 percent annually to 53.2 billion metric tons in 2017. The Asia/Pacific region will remain the dominant market and grow the fastest. Crushed stone and other aggregates will offer the best prospects. Hydraulic cement will continue to be a key application. This study analyzes the 40.2 billion metric ton world construction aggregates industry, with forecasts for 2017 and 2022 by type, market, application, world region, and for 28 countries. The study also evaluates company market share and profiles industry players.  
 #3078.....December 2013 ..... \$6100

**World Nonwovens**

Global demand for nonwovens is forecast to rise 5.4 percent annually to 9.1 million metric tons in 2017. Spunmelt nonwovens will lead gains based on growth in key markets such as disposable infant diapers in developing countries, and adult incontinence products in developed areas. This study analyzes the seven million metric ton world nonwovens industry, with forecasts for 2017 and 2022 by web formation process, application, market, world region, and for 19 countries. The study also evaluates company market share and profiles industry players.  
 #3077.....October 2013 ..... \$6100

**Green Building Materials**

US green building materials demand is forecast to increase 11 percent annually to \$86.6 billion in 2017. Permeable pavement and structural products (e.g., recycled concrete, FSC-certified lumber) will grow the fastest. Exterior products such as energy-efficient windows and green roofing will remain the largest segment. This study analyzes the \$51.8 billion US green building material industry, with forecasts for 2017 and 2022 by product, market and US region. The study also considers market environment factors and profiles industry participants.  
 #2995.....February 2013 ..... \$5100

**Nonwovens**

Demand for nonwovens is forecast to rise 5.7% per year to \$7.1 billion in 2016. The fastest market gains will occur in the nondisposables market, especially construction. Disposables will remain the dominant market, where filtration will lead gains. Spunmelt nonwovens will continue as the largest product segment and carded will be the second largest. This study analyzes the \$5.4 billion US nonwoven fabric industry, with forecasts for 2016 and 2021 by material, process and market. The study also evaluates company market share and profiles industry players.  
 #2983.....January 2013 ..... \$5200

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