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Gaskets & Seals

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

Study #2150 | February 2007 | \$4300 | 292 pages



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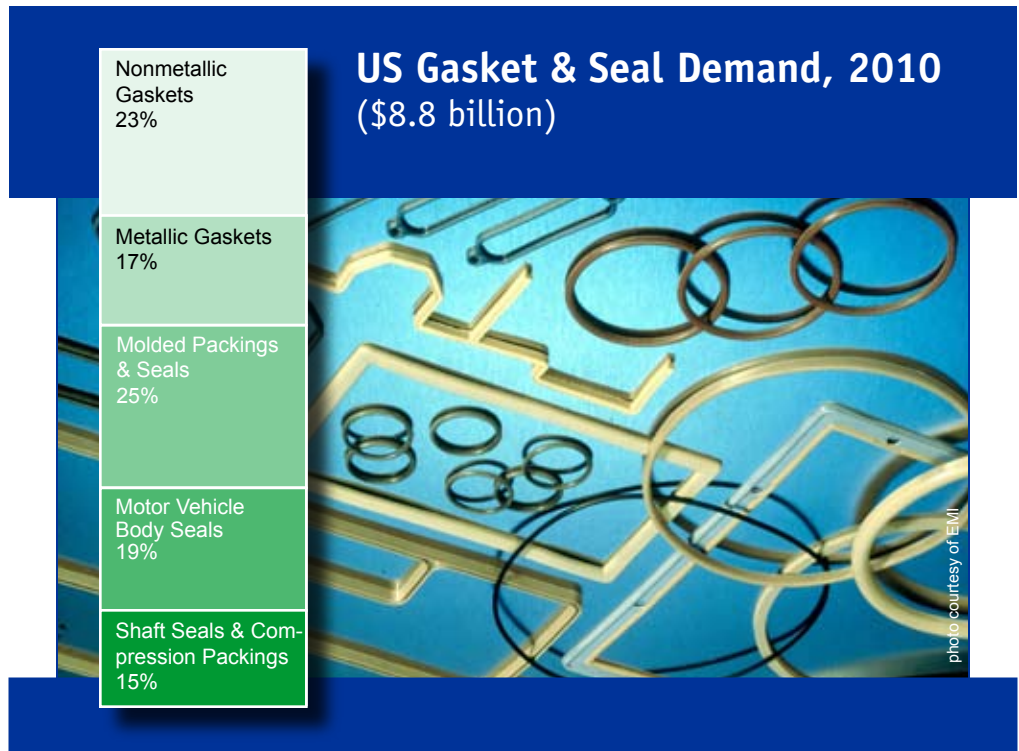
An improved outlook for machinery, motor vehicles, electrical equipment and electronics, along with rising penetration of more advanced materials, will accelerate gains in demand.

US demand to grow 3.6% annually through 2010

US demand for gaskets and seals is expected to increase 3.6 percent annually (including price increases) to \$8.8 billion in 2010, a solid recovery from the declines during the 2000 to 2005 period. An improved outlook for the economy -- particularly industrial machinery, motor vehicles, and electrical and electronic equipment -- will provide much of the support for faster demand increases. In addition, both gaskets and seals will benefit from the increasing penetration of more advanced materials. However, over the longer term, these product innovations will have a mixed impact on growth, since the improved pricing opportunities for higher-end products will be offset somewhat by their extended useful lives.

Plastic, graphite among faster-growing gasket materials

Among the individual product segments, demand for molded seals and packings, plastic gaskets, expanded graphite gaskets and metallic gaskets will increase the most rapidly. Both plastic and expanded graphite gaskets will continue to replace other materials, while molded packings and metallic gaskets will each benefit from the improved outlook for major end uses. Graphite is a popular choice for gaskets in high temperature and corrosive environments, such as



motor vehicle engines and chemical and petrochemical processing, although it faces competition from multi-layer steel.

Aerospace to see most rapid market increases

Among the major markets, aerospace is expected to see the most rapid increases in demand through the end of the decade, rising 8.4 percent annually. Gains will be supported by solid increases in aerospace equipment production, particularly for commercial aircraft, and from strong aftermarket demand due to rising numbers of aircraft in service and rigorous maintenance schedules needed to keep these craft airworthy. However,

due to the importance of motor vehicles and industrial machinery, the rebound in both these leading markets will provide greater opportunities for gasket and seal makers than the stronger percentage growth in the aerospace equipment market. Every major gasket and seal market is expected to see more rapid increases through 2010 than in the 2000 to 2005 period. OEM applications account for nearly two-thirds of total gasket and seal demand, although this varies widely from industry to industry. For example, both the aerospace and industrial machinery aftermarkets are larger than their OEM counterparts. In contrast, for electrical and electronic products, the aftermarket is less than 30 percent of demand.

Sample Text, Table & Chart

GASKET & SEAL MARKETS

Gasket & Seal Demand -- Demand for gaskets and seals in appliances is expected to rise in 2010. Gains will reflect the appliance segment of the appliance industry after the early 2000s recession and the addition, changing consumer preferences will support gains. For example, becoming increasingly popular stoves necessarily require better seals than top loading machines, so water level is above the bottom of the door on the front of the However, rising competition from appliances produced overseas limit opportunities, since these products often source components as gaskets locally. In addition, the deceleration in residential expenditures and small appliance shipments will restrain

Several technological innovations have occurred in the appliance gasket and seal market. While some of these developments are in the materials used or processing methods and are common to many markets, others are specifically targeted at improving the performance of the end-use products. For example, Freudenberg-NOK's Simrit operations manufacture a patented zero lash positive drive face seal for appliance pumps. This seal is designed to eliminate the squeal that dishwashers and washing machines can emit when they are about to finish the cycle and are pumping out the remaining water. Similarly, some manufacturers of refrigerator door seals incorporate nanoscale silver particles into refrigerator and freezer gaskets because consumers believe that the antimicrobial properties of the silver help preserve food longer.

Gasket- and seal-related applications in the household appliance market include those used with electric motors and shafts (such as vacuum cleaners and various other products), as well as door seals for refrigerators, ovens, microwaves, washing machines, dishwashers, etc.

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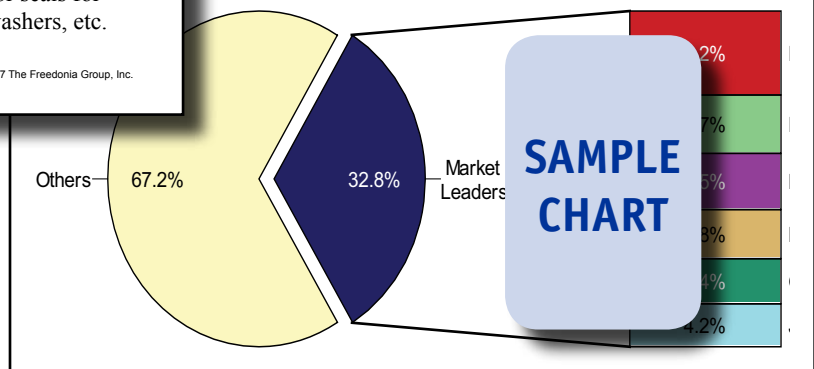
SAMPLE TEXT

TABLE V-1
SEAL & PACKING SUPPLY & DEMAND
 (million dollars)

Item	1995	2000	2005	2010	2015
Durable Goods Shipments (bil \$)	1790	2244	2270	2655	3135
\$ seal & packing/000\$ durables	1.91	1.99	1.95	1.98	1.99
Seal & Packing Demand	3				50
Molded Seals & Packings					10
Body Seals					10
Shaft Seals					10
Compression Packings					10
+ exports					10
- imports					10
Seal & Packing Shipments					10
price deflator (2000=100)					1
Seal & Packing Shipments (mil 2000\$)	34				100

SAMPLE TABLE

CHART VII-1
GASKET & SEAL MARKET SHARE BY COMPANY, 2005
 (\$7.3 billion)



SAMPLE CHART

Sample Profile, Table & Forecast

COMPANY PROFILES

Greene, Tweed & Company

2075 Detwiler Road
 Kulpville, PA 17033
 215-256-9521
<http://www.gtw.com>

Annual Sales: \$100 million (2006)
 Employment: 100

Key Products: r... and sealing materials

SAMPLE PROFILE

Greene, Tweed & Company (GTC) designs, engineers and produces specialty seals and engineered plastic components. The privately held company manufactures six primary groups of products: sealing components, materials, composite components, connector systems, engineered components and vision systems.

The Company is active in the gasket and seal industry through the manufacture of sealing components and materials. These products are made by GTC at plants in the US, Japan and the United Kingdom. The US sealing components and materials manufacturing facilities are in Santa Clara, California; Cleveland, Ohio; Harleysville and Kulpville, Pennsylvania; and Lakeway, Texas.

Sealing Components -- Sealing components made by GTC include seals, gaskets and packings. Seals are manufactured and marketed by the Company under such brand names as DOVETAIL, GTB BANDSEAL, GTS SLIPSEAL, ENERCAP, ENERLIP and SUPERFLEX. DOVETAIL seals are specifically engineered for dovetail glands where conventional seals can impair function. These seals incorporate GTC's proprietary CHEMRAZ elastomer material, which

TABLE VI-4

OEM MOTOR VEHICLE GASKET & SEAL DEMAND (million dollars)

Item	1995	2000	2005	2010	2015
Motor Vehicle Production (000 units)	12020	12800	12000	12560	13130
\$ OEM g&s/vehicle	137	192	198	218	237
OEM Motor Vehicle G&S Demand					
Body Seals:					
Automobiles					
Light Trucks					
Medium & Heavy Vehicles					
All Other Gaskets & Seals:					
Automobiles					
Light Trucks					
Medium & Heavy Vehicles					
% OEM					
Total Motor Vehicle G&S Demand					

SAMPLE TABLE

"Aftermarket -- Motor vehicle aftermarket demand for gaskets and seals will rise less than one percent annually to \$735 million in 2010. The rising number of vehicles in use and the increasing average age of US motor vehicle stock will support increases. In addition, while more advanced seals often last longer, they are also more expensive than many traditional materials used in automotive seals and these higher prices will continue to create some opportunity going forward. However, advances will be limited by ..."

--Section VI, pg. 123

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OTHER STUDIES

HVAC Equipment

US HVAC equipment demand will rise 3.2% annually through 2011, driven mainly by robust growth in nonresidential construction and ongoing strength in residential replacement. Heat pumps are now the largest heating type and will continue to leads gains. Unitary air conditioners will remain the leading type of cooling equipment. This study analyzes the \$14.3 billion US HVAC equipment industry, with forecasts for 2011 and 2016 by fuel, type and market. It also details market share and profiles major players.
 #2259 11/2007..... \$4500

World Elevators

World elevator and escalator demand will rise 5.1% yearly through 2011. Gains will be driven by the ongoing migration to cities in developing regions, and by mandated retrofit services and nonresidential construction in developed markets. Escalators and moving walkways will outpace elevators. This study analyzes the \$44.5 billion world elevator and escalator industry, with forecasts for 2011 and 2014 by type, market, world region and for 15 countries. It also details market share and profiles major players.
 #2248 09/2007..... \$5500

Bearings

Ball, roller and plain bearing demand in the US will reach \$10.4 billion in 2011. Growth will be driven by largely favorable market conditions and by a shift toward more expensive, better performing products. Unmounted plain bearings will grow the fastest while aerospace, automotive and engine/turbine manufacturing will lead gains by market. This study analyzes the US bearing industry, with forecasts for 2011 and 2016 presented by product and market. It also details company market share and profiles major players.
 #2207 07/2007..... \$4500

Industrial Fasteners in China

Demand in China for industrial fasteners will grow 9.4% annually through 2010. Nonthreaded sales will lead gains among standard types, with externally threaded fasteners remaining dominant. Aerospace-grade fasteners will outpace standard products. Construction will be the fastest growing market. This study analyzes the ¥25.6 billion Chinese industrial fasteners industry, with forecasts for 2010 and 2015 given by type and market. This study also evaluates company market share and profiles major players.
 #2187 06/2007..... \$4900

World Material Handling Products

Global material handling product demand will grow 4.5% yearly through 2010, led by developing countries such as China, India, Turkey, Mexico and Russia. Western Europe and Japan will show renewed strength and the US market will accelerate. Automated products such as robots and AGVs will lead gains. This study analyzes the \$93.8 billion world material handling industry to 2010 and 2015 by product, market, world region and for 37 countries. It also details market share and profiles major players.
 #2113 11/2006..... \$5300

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