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# Abrasives

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US Industry Study with Forecasts for **2011 & 2016**

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Study #2291 | December 2007 | \$4500 | 312 pages

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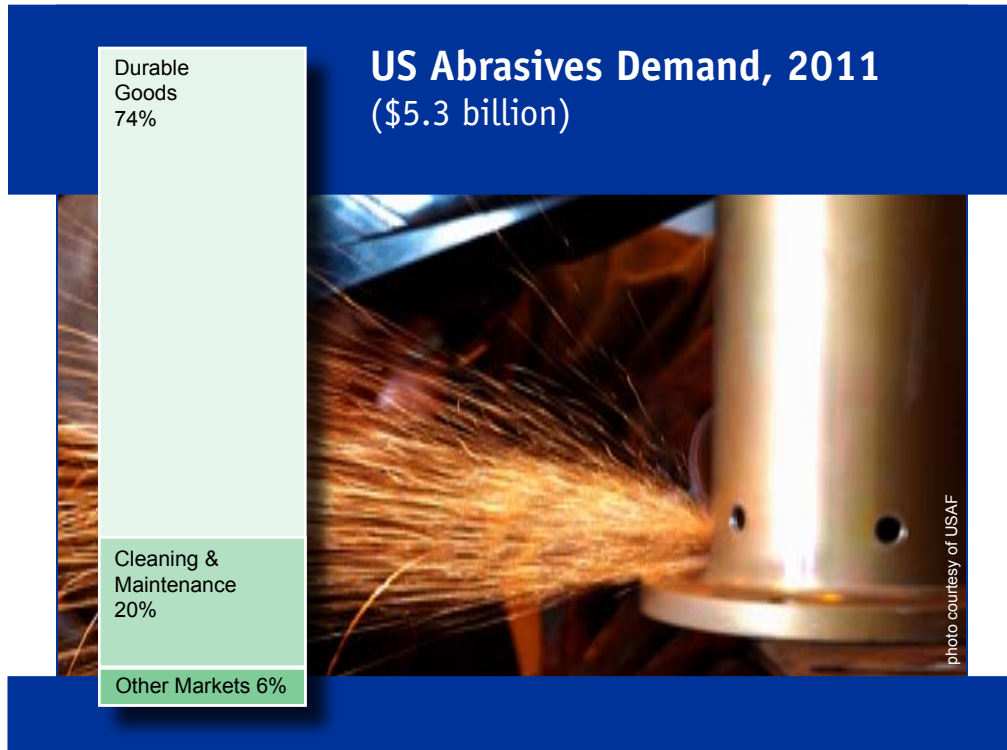
*Gains in US abrasives demand will be aided by an upturn in production of electrical and electronic products and motor vehicles, and by robust growth in civilian and military aircraft.*

## US abrasives demand to reach \$5.3 billion in 2011

Demand for abrasives in the US is forecast to increase 2.3 percent per annum through 2011 to \$5.3 billion, with raw material demand reaching \$1.4 billion. Gains will be aided by the upturn in production of electrical and electronic products and motor vehicles, which are expected to recover from the declines of the 2001-2006 period. Advances will also be supported by robust growth in the aerospace sector, as production of civilian aircraft recovers from the declines posted earlier in the decade and investment in military aircraft continues to expand. Demand for abrasives will be somewhat restrained, on the other hand, by a slowdown in the manufacturing of a variety of durable goods that comprise significant markets for abrasives, in particular machinery and primary metals.

## Manufactured minerals to be fastest growing material

Increases in abrasive raw material demand will be led by manufactured minerals, as superabrasives such as manufactured diamond and cubic boron nitride continue to be highly utilized due to their hardness and superior performance characteristics. These materials offer increased productivity and improved operating efficiency. Demand for natural minerals used in abrasive applications is expected to post slower gains, although these increases will represent a recovery from the declines of the 2001-2006 period.



## Nonmetallic abrasives to outperform metallic types

Demand for nonmetallic abrasives is expected to significantly outperform that of metallic abrasive products through 2011. Nonmetallic abrasives demand will be bolstered by strong increases in the use of manufactured loose abrasive grains, supported by the continual shift toward higher value products -- particularly garnet, manufactured diamond, specialty silicas and silicon carbide. Advances in this product segment will also be buoyed by above-average gains in the chemical mechanical planarization (CMP) slurry market.

## Abrasives exports, imports to both rise steadily

Abrasive industry shipments will continue to expand at approximately the same pace as during the 2001-2006 period, supported by growth in US demand. Foreign trade has become more significant in the US abrasives industry in recent years, and both imports and exports are expected to climb through 2011. Manufacturers have been increasingly utilizing offshore facilities to lower their production costs, contributing to a rise in imports. US exports of higher value-added products such as sol-gel and superabrasives will also rise as foreign demand grows.

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## Sample Text, Table & Chart

### PRODUCTS

#### Bonded Abrasives

Bonded abrasive products include grinding wheels, belts and tools. Bonded products can use either conventional abrasives (fused alumina, silicon carbide) or superabrasive (i.e., man-made diamond, CBN) materials. Conventional and superabrasive products are usually considered separately in the abrasives industry; these products often compete against each other. Nonetheless, similarities in product design and methods of application, together with their being considered together in the context of this study.

Demand for bonded abrasives is expected to advance through 2011, with annual demand reaching \$1.4 billion, approximating gains during the 2001-2006 period. Growth will be limited by a slowdown in shipment of primary metals through 2011. Although bonded abrasives benefit from the continual replacement of conventional abrasives, dollar gains will be somewhat limited by price increases of many of these products. Hence, prices for bonded abrasives in the aggregate are projected to increase less than 10 percent through 2011.

The US is a net importer of bonded abrasive products. In 2006, imports accounted for 18 percent of demand, while exports accounted for 11 percent of shipments. Import growth through 2011 is expected to decelerate from the 2001-2006 period, while exports will accelerate modestly. The trade gap will still widen slightly, as demand for bonded abrasives is expected to outpace shipments.

Both the Asia/Pacific region and Western Europe were the primary sources of imports in 2006, with each accounting for around 50 percent of the aggregate. In Western Europe, Germany and Italy were the primary sources of US imports, while China, Japan and South Korea

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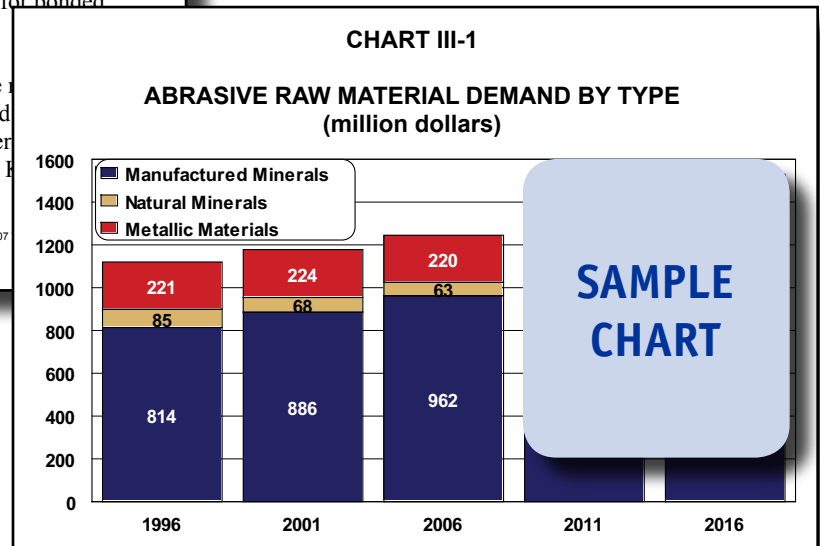
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**TABLE III-2**  
**MANUFACTURED ABRASIVE MINERAL DEMAND BY TYPE**  
 (million dollars)

Item	1996	2001	2006	2011	2016
Abrasive Raw Material Demand					
% manufactured mineral					
Mfd Abrasive Mineral Demand					
Superabrasives					
Alumina-Based Materials					
Specialty Silica					
Silicon Carbide					
Other					
\$/metric ton					
Mfd Abrasive Mineral (000 metric ton)					

**SAMPLE TABLE**

**SAMPLE TEXT**

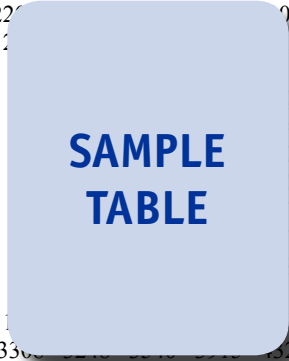


**SAMPLE CHART**

## Sample Profile, Table & Forecast

**TABLE V-6**  
**FABRICATED METAL ABRASIVES DEMAND**  
 (million dollars)

Item	1996	2001	2006	2011	2016
Fabricated Metal Shipments (bil \$)	220	220	220	220	220
\$ abrasives/000\$ fab metals	2	2	2	2	2
Fabricated Metal Abrasives Demand					100
Hand Tools & Hardware					40
Metal Polishing					20
Fabricated Structural Metal Work					35
Screw Machine Products					70
Machine Shops					70
Other Fabricated Metal Products					95
% fabricated metals					2
Durable Goods Abrasives Demand	330	330	330	330	320



**COMPANY PROFILES**

**Sunnen Products Company**  
 7910 Manchester Avenue  
 St. Louis, MO 63143  
 314-781-2100  
<http://www.sunnen.com>

Annual  
 Employ

Key Pro  
 abrasives

Sunnen provides diamond finishing equipment for... machines, tools and accessories for the automotive market. The privately held company also produces a range of lubricants, abrasives and gauges for both markets.

The Company participates in the US abrasives industry through the manufacture of diamond-plated honing tools, honing abrasives, superabrasives, honing tools and mandrels. These products are typically marketed under the SUNNEN brand name.

Sunnen's diamond-plated honing tools are sold under the SINGLE STROKE HONING brand name. These honing tools use an expandable, superabrasive sleeve mounted on a tapered arbor. Given the design, these honing tools do not require adjustments during the honing operation. SINGLE STROKE HONING tools are suitable for applications that produce a low volume of chips and function best when used to hone cast iron and powered metals. The SINGLE STROKE HONING line features tools ranging in diameter from 5.92 to 26.39 millimeters. For most honing applications, D5-220 grit diamond roughing

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“Demand for abrasives in the fabricated metals segment is forecast to rise 2.3 percent annually through 2011 to \$605 million, decelerating from the 2001-2006 pace. Gains will be restrained by a slowdown in fabricated metal shipments through 2011, which are projected to advance less than ...”

--Section V, pg. 150



**OTHER STUDIES**

**Drilling Products**

This study analyzes the US market for products used in drilling oil and natural gas wells. It presents historical US demand data (1996, 2001, 2006) and forecasts for the years 2011 and 2016 by equipment and consumables (e.g., drilling rigs, drill bits, downhole pipe, measuring and control equipment); services (contract drilling, directional control, logging, chemical); and drilling fluids. This study also considers market environment factors, evaluates market share and profiles leading industry competitors.  
 #2288.....02/2008..... \$4500

**Refractories**

This study analyzes the US refractories industry. It presents historical demand data (1996, 2001, 2006) and forecasts for 2011 and 2016 by refractory form (e.g., bricks and shapes, monolithics); material (clay, nonclay); and end user/application (e.g., iron, steel and nonferrous metal producers; ceramic, glass and mineral processors; engineering contractors; nonman-ufacturing). The study also considers market environment factors, details industry structure, evaluates company market share and profiles major players.  
 #2309.....02/2008..... \$4600

**World Nanomaterials**

The global market for nanomaterials will reach \$4.2 billion by 2011 and remain concentrated in the US, Western Europe and Japan. Products making the greatest initial commercial impact are nanoscale versions of conventional materials such as silica, titanium dioxide, alumina, iron oxide, and zinc oxide. This study analyzes the \$1 billion global nanomaterials industry, with forecasts for 2011, 2016 and 2025 by product, market, world region and for 15 countries. It also discusses R&D and profiles major participants.  
 #2215.....08/2007..... \$5500

**Industrial Crystals**

US industrial crystal demand will grow 5.8% yearly through 2011, led by uses in nonlinear optical materials and compound semiconductor substrates. Communications and security/defense will see the largest market gains. Transition metal-based crystals and semiconducting types will be the fastest growing materials. This study analyzes the \$845 million US industrial crystal industry, with forecasts for 2011 and 2016 by material, application and market. It also evaluates market share and profiles leading players.  
 #2166.....05/2007..... \$4500

**Advanced Ceramics**

US advanced ceramics demand will grow 7% annually through 2010. Electronic components and electrical equipment will remain dominant but mature markets. The best opportunities for ceramics include ballistic armor, ceramic composite automotive brakes, diesel particulate filters, joint replacement products and piezoceramic sensors. This study analyzes the \$8.6 billion US advanced ceramics industry for 2010 and 2015 by type, product and market. It also details company market share and profiles major producers.  
 #2134.....12/2006..... \$4400

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