World Refractories

Industry Study with Forecasts for **2012 & 2017**

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Industry Study with Forecasts for ***2012 & 2017***

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Table of Contents

List of Tables/Charts

(continued on next page)

World Refractories

Industry Study with Forecasts for ***2012 & 2017***

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List of Tables/Charts

(continued from previous page)

OVERVIEW

NORTH AMERICA

WESTERN EUROPE

ASIA/PACIFIC

OTHER REGIONS

INDUSTRY STRUCTURE

World Refractories

Industry Study with Forecasts for ***2012 & 2017***

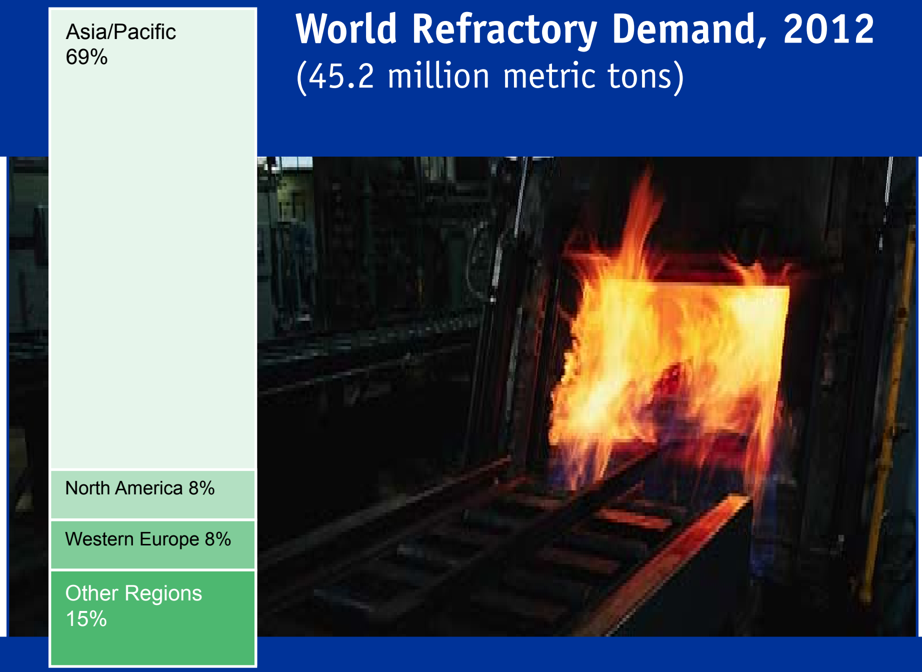
A recovery is expected by 2012, restoring gains for the refractory industry. Longer-term growth will be supported by the increasing use of better performing, more expensive refractories.

Global demand to rise 3.5% yearly through 2012

World demand for refractories is forecast to rise 3.5 percent annually through 2012 to 45.2 million metric tons. In the short term, refractory demand will be negatively impacted by the effects of the global economic downturn that began in the latter half of 2008, with declining manufacturing activity and global trade pushing demand below 2007 levels in most countries. However, recovery is expected by 2012, restoring gains for the refractory industry. Longer-term growth will be supported by the increasing use of better performing, more expensive refractories. Tonnage advances will be limited by slowing growth in steel production. In addition, the world's steel industry will continue to utilize less refractories per ton of steel produced.

Best prospects in markets other than iron, steel

Iron and steel production is by far the largest market for refractories. Refractory usage per ton of steel will continue to decline, adversely affecting the outlook for refractory suppliers. Refractory demand in the production of other metals will rise, benefitting from increased output of materials such as aluminum. Gains are also expected in the nonmetallic mineral products market, spurred by growth in the production of ceramics, cement and other mineral products, fueling demand for associated refractories. Other markets, including petroleum, chemicals, paper and aerospace, will benefit from rising production by end users.



World Refractory Demand, 2012
(45.2 million metric tons)

China to continue Asia/ Pacific market dominance

China accounted for over 50 percent of the world refractories market in 2007. This is due to the nation's strong rise in industrial production. In 2007, the country manufactured 36 percent of the world's steel, 49 percent of the world's cement, and 44 percent of the world's flat glass. In addition, China utilizes a higher rate of refractories per ton of steel than developed nations due to its less efficient manufacturing processes. China will claim over 80 percent of new demand in 2012.

Due primarily to China, Asia will continue to be the fastest-growing region in the world through 2012. While China will account for much of the region's gains, India will exhibit advances above the world average as well. Like China, India has a rapidly growing steel industry, the product of a rising level of industrialization. Eastern Europe will have solid growth prospects due to its rising steel production. Multinational manufacturers have shifted production of steel-consuming goods such as household appliances and motor vehicles to Eastern Europe, creating demand for steel. Opportunities will also exist in Latin America and the Africa/Mideast region.

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Sample Text, Table & Chart

TABLE VI-4

CHINA
REFRACTORY DEMAND BY FORM, MATERIAL & MARKET
(000 metric tons)

Item	1997	2002	2007	2012	2017
Gross Fixed Investment (bil 2006$)					05
m ton refractory/mil $ GFI					9
Refractory Demand					5
By Form:					
Bricks & Shapes					5
Monolithics & Other					0
By Material:					
Clay					5
Nonclay					0
By Market:					
Iron & Steel					5
Other Metals					4
Nonmetallic Minerals					6
Other					0

SAMPLE TABLE

ASIA/PACIFIC

China: Refractory Outlook & Suppliers

Demand for refractories in China is projected to grow at ... cent annual pace through 2... ual gain ... noticeably from the 2002-... oderatio... end-use markets, most no... pite the ... tion, the country will cont... rate of ... worldwide.

SAMPLE TEXT

In volume terms, refra... 4 percen... million metric tons in 2012. Advances will lag value gains, s... users such as the steel industry are lowering their refractory u... ton of production. As Chinese steel production continues to ... refractory efficiency will rise.

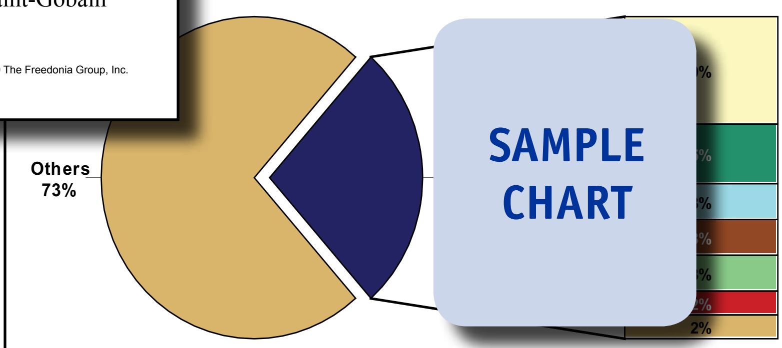
Refractory production by facilities in China is forecast t... percent annually through 2012 to $13.5 billion, outpacing projected advances for demand and leaving the country with an expanded trade surplus. Healthy domestic market conditions will help boost domestic industry output. Exports will continue to show strong gains, but will decelerate from the 2002-2007 pace due to mature markets in the US, Japan and Western Europe.

The Chinese refractory industry is extremely fragmented, with over 1,500 local producers, virtually all of which are small or medium-sized enterprises. China is home to refractory producers such as China Gengsheng, Haicheng Houying, Haicheng Xiyang, Liaoning Jinding Magnesite, Shandong Refractories and Yingkou Qinghua. Multinational refractory and raw material producers with facilities in China include Allied Mineral Products, Almatis, Clayburn, DSF Refractories & Minerals, Imerys, Krosaki Harima, LWB Refractories (Magnesita), Materis, Minerals Technologies, Morgan Crucible, Orind, Orkla, RHI, Saint-Gobain and Vesuvius (Cookson Group).

133

CHART VIII-1

...EFRACTORY MARKET SHARE BY COMPANY, 2007
($22.9 billion)



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Sample Profile, Table & Forecast

TABLE VI-3

CHINA
REFRACTORY SUPPLY & DEMAND

Item	1997	2002	2007	2012	2017
Gross Domestic Product (bil 2006$)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]850
% GFI					[illegible].1
Gross Fixed Investment (bil 2006$)					[illegible]05
Steel Production (mil metric tons)	[illegible]				[illegible].0
m ton refractory/mil $ GFI					[illegible]49
m ton refractory/000 m ton steel					[illegible].6
Refractory Demand (000 metric tons)					[illegible]35
$/m ton					[illegible]95
Refractory Demand (mil $)					[illegible]70
net exports					[illegible]95
Refractory Shipments (mil $)	[illegible]	[illegible]	[illegible]	[illegible]	18165

SAMPLE TABLE

COMPANY PROFILES

Resco Products Incorporated
Two Penn Center West, Suite 430
Pittsburgh, PA 15276
412-494-4491
http://www.rescoproducts.com

Annual Sales[illegible]
Employment[illegible]

Key Product[illegible] ramming mixes; and refractor[illegible]

Resco P[illegible] refractory castables and[illegible] privately held company is ow[illegible]rk Associates (Los Angeles, California) and Company management.

SAMPLE PROFILE

The Company's refractory offerings comprise premium, low-cement, extreme service and insulating castables; unfired plastic refractories; and varying brick types. These products are suitable for use in steel ladle, glass, aluminum, basic oxygen furnace, iron charging ladle, electric arc furnace, cement, hot metal car lining and other applications.

Products -- Resco Products' premium castables, which are marketed under the RESCOBOND AA-22S brand name, are resistant to abrasion and corrosion, and can be used in thin, metal-anchored and metal-reinforced linings. These castables are also suitable for use as a permanent patch for worn refractory linings. The Company's low-cement castables, which include ultra-low-cement and no cement types, are grain-sized and available in vibration-only mix, self-flow castable, shotcrete and combination varieties. These materials are sold under the KRICON, VIBROCAST, SUREFLOW, EZ CUBE and EZ CAST

327

"The nation consumed 19.9 million metric tons of refractories in 2007, over 50 percent of world demand. This large demand stems from the nation's massive steel industry, which produced 36 percent of global output in 2007. Furthermore, the Chinese steel industry consumes a higher per ton rate of refractories than developed nations."

--Section VI, pg. 131-2

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Other Studies

Advanced Ceramics

US demand for advanced ceramics will grow 3.8% yearly through 2012. Growth in the key electronic component market will be based on materials substitution, as ceramics gain use over alternatives. The medical product market will grow the fastest, benefiting from the increasing use of ceramics in joint implants and dental procedures. This study analyzes the $10.5 billion US advanced ceramics industry, with forecasts for 2012 and 2017 by type, product and market. It also evaluates market share and profiles industry players.

#2433 .... 12/2008..................... $4600

Metal Powders

US metal powder demand through 2012 will improve from a flat 2002 to 2007 performance. Gains will be supported by new uses for many types of metal powders (e.g., iron and steel, stainless steel, aluminum, tungsten). An improved outlook for electronics -- which use the most expensive metal powders -- will boost total value demand. This study analyzes the $3.5 billion US metal powders industry, with forecasts for 2012 and 2017 by product, application and market. It also evaluates market share and profiles industry players.

#2397 .... 11/2008..................... $4600

Brick & Block

US demand for brick and block will reach $7.9 billion in 2012. Growth will be greatest in concrete products, reflecting stronger growth in key nonresidential building markets. Demand for clay brick will benefit from a recovery in residential building activity, especially in new single-family housing. This study analyzes the 14.2 billion unit US brick and block industry, with forecasts for 2012 and 2017 by product, market, application and US geographic region. It also evaluates company market share and profiles major players.

#2331 .... 05/2008..................... $4500

Refractories

US refractories demand will accelerate through 2011 and reach $2.5 billion. Nonmetallic mineral markets such as cement, ceramic and glass production will show the biggest growth. Bricks and shapes will outpace monolithics, due in part to performance advantages such as the reduced heat-up time of preformed shapes. This study analyzes the $2.3 billion US refractories industry, with forecasts for 2011 and 2016 by form, material and market. It also evaluates company market share and profiles major players.

#2309 .... 02/2008..................... $4600

Abrasives

US abrasives demand will reach $5.3 billion in 2011 based on strength in the electrical/electronic product, motor vehicle and aerospace sectors. Nonmetallic abrasives will outperform metallic types. Raw material demand will be led by manufactured minerals such as manufactured diamond, cubic boron nitride and other superabrasives. This study analyzes the US abrasives industry, with forecasts for 2011 and 2016 by raw material, product and market. It also details company market share and profiles major players.

#2291 .... 12/2007..................... $4500

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