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Metal Powders

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

Study #2397 | November 2008 | \$4600 | 306 pages

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INDUSTRY STRUCTURE

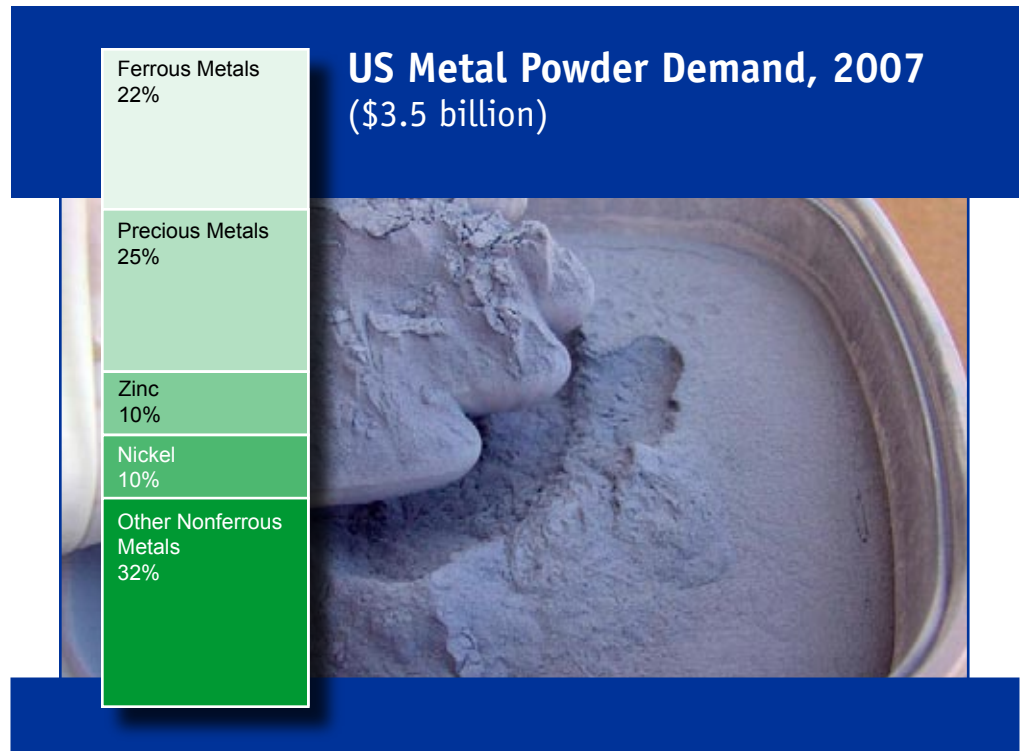
1 US Metal Powder Market Share
by Company, 2007 209

Gains will be supported by new applications for iron and steel, stainless steel, aluminum, tungsten and other types, as well as by revolutionary products such as nanoscale metal powders.

US demand to reach 1.2 billion pounds by 2012

Metal powder demand (including flakes and pastes) will increase 1.8 percent annually to 1.2 billion pounds in 2012, an improvement over a flat 2002 to 2007 performance. Gains will be supported by new applications for many types of metal powders, including iron and steel, stainless steel, aluminum and tungsten. In some instances -- such as the spread of powdered metal parts in motor vehicles -- these applications represent an ongoing evolution. However, completely new applications and revolutionary products such as nanoscale metal powders will also support increases in demand. A rebound in motor vehicle production and continued growth in industrial machinery shipments will also support increases.

Despite a more favorable outlook in volume terms, demand for metal powders is expected to remain steady in value terms at about \$3.5 billion in 2012 as prices for many of these materials are expected to decline from elevated 2007 levels. A decline in ferrous metal prices, following sharp increases in the middle of the decade, will limit gains. Most nonferrous metal powder prices are also expected to fall, although in most cases not as sharply as prices for ferrous metal powders. An improved outlook for the electronics and electronic component markets will provide a boost to total value demand. These markets are critical to value demand for metal powders, since they are important



markets for the most expensive metal powders, namely gold, platinum group metal, tantalum and silver.

Iron, steel powders are dominant volume types

In 2007, iron and steel, aluminum, zinc, magnesium and copper-based powders represented more than 90 percent of total metal powder volume demand, with iron and steel powders alone accounting for more than 60 percent of the total. However, due to the relatively low prices of iron and steel powders compared to most other metal powders, iron and steel powders only accounted for 21 percent of metal powder demand by value in 2007.

Demand for iron and steel powders is heavily concentrated in parts production, particularly for motor vehicles. On the other hand, the two major markets for aluminum powders and flakes are chemicals -- where they are used as catalysts, reducing agents and fillers -- and paints and coatings, for use as pigments. Most demand for the costliest metal powders -- tantalum and precious metals -- comes from the computer, electronic components, and electrical and electronic equipment markets, for products such as film pastes and capacitor anodes. Because of their high cost, these powders represent a fairly large share of the metal powder market in value terms.

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Sample Text, Table & Chart

METAL POWDERS

Aluminum

Demand for aluminum powders is expected to increase annually to 1.2 million metric tons in 2012, ahead of the average nonferrous metal powder demand. This growth is supported by new applications for aluminum powder in the chemical and pharmaceutical industries. Solid growth in the pigments and flake markets, which have matured, will prevent even a small decline in demand. In the long term, gains are expected to be much more modest, with a forecast of one percent annual growth in 2012, as aluminum powder prices decline from the 2007 levels, when a combination of high energy and raw materials drove up powder prices.

The majority of aluminum powders are used in the chemical and related products market. Aluminum powders and flakes are used in a major metal powder consuming segments of this market -- chemical and petroleum, where they are used as catalysts, reducing agents and fillers; and paints and coatings, for use as pigments. For example, aluminum catalysts are used in hydrocracking, isomerization and dehydrogenation reactions, as well as serving as components of Ziegler-Natta catalysts. Aluminum powders also act as reducing agents in chemical production. These metal powders are used in a range of plastics as a filler to provide coloring, reduce shrinkage and improve the machinability of the finished compound. Aluminum powder filler can also provide specialized performance advantages such as reflectivity for crop-ripening films and electromagnetic interference shielding for plastics used in electronics.

Aluminum pigments are made from flakes or lamellae of aluminum, which produce a metallic luster by reflecting light at the pigment surface. Aluminum pigments are available in traditional, color shifting, encapsulated and vacuum-metallized forms. Traditional aluminum pigments

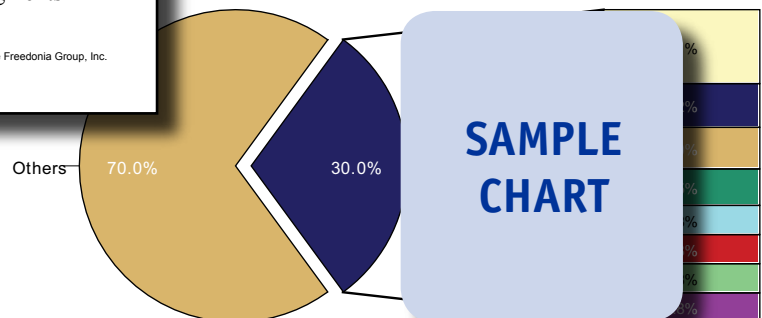
TABLE V-3

METAL POWDER DEMAND IN COMPONENTS

Item	1997	2002	2007	2012	2017
Metal Powder Demand (mil lbs)	10	10	10	10	10
% components					
Metal Powder in Components (mil lbs)					
Iron & Steel					
Zinc					
Copper & Copper-Based Metals					
Other Metals					
\$/lb					
Metal Powders in Components (mil \$)					
Iron & Steel					
Tungsten					
Zinc					
Copper & Copper-Based Metals					
Tantalum					
Other Metals					

CHART VII-1

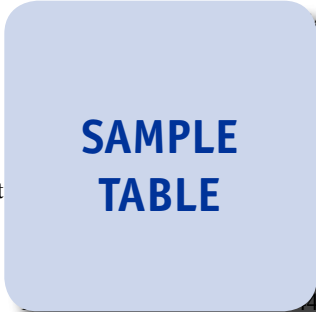
METAL POWDER MARKET SHARE BY COMPANY (\$3.5 billion)



Sample Profile, Table & Forecast

TABLE VI-2
METAL POWDER VOLUME DEMAND BY MARKET
 (million pounds)

Item	1997	2002	2007	2012	2017
Durable Goods Shpts (bil 2000\$)					45
lbs metal powder/mil \$ durables					11
Metal Powder Demand					0
Motor Vehicles					0
Machinery & Equipment					5
Electrical & Electronic Equipment					0
Chemical & Related					0
Aerospace & Other Trans Equip					0
Computers & Electronic Comps					8
Other					4.7



COMPANY PROFILES

US Bronze Powders Incorporated
 408 Route 202 North
 Flemington, NJ 08822
 908-782-5454
<http://www.usbronzepowders.com>

Annual Sales:
 Employment:

Key Products: pigments in
 flake, paste, g

US Bron... and manufacturer
 of nonferrous... the Company's
 operations incl... Europe.

Among the Company's nonferrous metal powders are electro-lytic copper powders; ultra-fine aluminum powders; aluminum shot powders; copper alloy, copper and premix bronze water atomized powders; and tin, bronze, brass, aluminum, copper, copper/nickel and nickel/silver powders. These powders are used to fabricate a broad range of items, including the following: metal injection molding parts; master alloys and other materials for the metallurgy industry; oilless and steel-backed bearings; carbon brushes; catalysts, chemical reagents and other chemical products; cold castings; diamond tools; electromagnetic interference (EMI) shielding; radio frequency identification tags; heat pipes and other thermal management devices; solar pastes and other electronic products; clutch facings, brake pads and other friction components; military and commercial explosives; seals, gaskets and other plastic/metallic fillers; conductive materials; and sintered metal components.

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"Demand for metal powders in components is projected to increase 1.9 percent annually to 934 million pounds in 2012. The metal powders market will be supported by the recovery in US motor vehicle production, which remains the most important market for powdered metal parts. In addition, ..."

--Section V, pg. 131

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OTHER STUDIES

Advanced Ceramics

This study analyzes the US advanced ceramics industry. It presents historical demand data (1997, 2002, 2007) and forecasts for 2012 and 2017 by type (e.g., alumina, titanate, ferrite, zirconate, silicon carbide, cordierite, beryllia, silicon nitride), product (e.g., monolithics, coatings, matrix composites), process and market (e.g., electronic, electrical, industrial, transportation, chemicals and plastics, pollution control). The study also considers market environment factors, evaluates company market share and profiles major producers.

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

Paint & Coatings

US demand for paint and coatings will rise 3.1% annually through 2012, aided by an improving outlook for construction and manufacturing activity and favorable export opportunities. A rebounding residential market will pace the dominant architectural paint segment, with interior paint outpacing exterior. This study analyzes the \$19.7 billion US paint and coating industry, with forecasts for 2012 and 2017 by market, application, end use and formulation. It also evaluates company market share and profiles industry players.

#2386 08/2008..... \$4600

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 pre-formed 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

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

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