



Overview on the Worlds' Magnet Supply

The magnet market, when compared to others, is very small at under \$8 Billion per year of worldwide sales. The usage, however, is overwhelming. Virtually all moving vehicles, computers, appliances, etc. use magnets. There are only 4 main material families and bonded versions:

Ceramics (Fe_2O_3) consisting of about 4 main sub-grades
Neodymium (NdFeB) consisting of about 40 sub-grades
Samarium Cobalt (SmCo) consisting of 2 main sub-grades
Alnico (AlNiCo) consisting of about 4 main sub-grades
Bonded versions of all of the above

Each type has distinct magnetic, chemical and physical properties. Ceramics hold the major share at about 60% of the total (in value), however NdFeB is the fastest growing market and it is estimated that they will hold about 40% by 2007. SmCo and Alnico share about 10% total for both. Bonded magnets are the fastest growing market in the automotive and appliance industry.

During the past 7 years, magnet use for applications in automotive and consumer electronics has seen the most dramatic increase in its history. Today, the global consumption of all types of magnets is over 500,000 tons per year. Rare Earth magnets account for about 90,000 tons and \$1.7 Billion. The main producers of permanent magnets are in China, India, Japan, Brazil, Europe, USA. The following is each country's approximate market share for the main magnet families:

China: Ferrites 60%, Neo 70%, SmCo 70%, Alnico 50%, Bonded magnets 25%
Japan: Ferrites 20%, Neo 20%, Bonded magnets 20%
India: Ferrites 5%
Thailand: Bonded magnets 20%
USA: Ferrites 10%, SmCo 10%, Alnico 20%, Bonded magnets 10%,
Europe: Neo 10%, SmCo 10%, Alnico 20%, Bonded magnets 15%,

Some remarks need to be made about the above:

China: Almost all bonded magnets are compression molded NdFeB and flexible ferrites. Some injection molded ferrites are being produced in non complex forms. Bonded SmCo has been attempted, but with no success. China is by far the leader in sintered magnets and is also the largest producer of non-licensed NdFeB.

Japan: Most of the bonded magnet production is being moved to China. Japan is still the leader in innovation for magnets and holds most of the patents for new high energy materials.

India: Has 70% import duties on Alnico and Rare Earth magnets. Most ferrites are produced for motor and loudspeaker markets.

Thailand: Almost all bonded magnet production is Neo and for the computer HDD market.

USA: Almost all ferrite production is for automotive use. Magnet manufacturing for all types of magnets is rapidly declining and moving to China. Still strong in flexible magnets for advertising.

Europe: Still very strong in injection molded magnets for automotive use, however, sintered magnet production is disappearing. Main producers are in Germany, Great Britain, France.

Remainder: Most magnet production is in Russia, Australia, Indonesia, and Eastern Europe.

China is by far the leader for all magnet materials. This happened only during the last 7-8 years. China mines over 55% of the world's rare earth ores needed for most magnets. This, coupled with low labor and few health and environment policies, has enabled them to grow their magnet industry at 70-130% per year. However, starting in 2003, the brakes were applied and prices have started to climb. Some of the reasons for the recent problems are listed below:

- Chinese manufacturers have been pricing magnets, especially ferrites, well below operational margins. Prices had been falling every year from 1985 to 2003. Most companies have been government subsidized in one way or another. Competition for export business created an unsustainable production policy regarding income. Magnets were priced, in most cases, with no margin and a total dependence on government subsidies. Now that China gained the world's market, and now that their own market is developing dramatically, they are desperately trying to raise prices so that they can make healthy margins. The China Association of Magnetic Material Industry urged all members to raise prices of ferrites by 20% and NdFeB by 15%. The request was made on 12-24-03 and by June 2004 prices in the US had increased on average by that amount. In fact, ferrites increased on average by 25%.
- Beginning January 01, 2004, the export rebate that China provides to companies that export to the US was reduced from 17% to 12%. Most companies in China relied on this subsidy for their profits. This rebate will continue to decline until it is eliminated in about 3-5 years. This is due to China's entry into the WTO.
- Most raw materials, especially steel and Cobalt, have been rapidly increasing in price over the past 2 years (over 100% increase in the last year for steel, Al, Cu, Co) and now they are at an all time high. This is due to the high demand created in China because of their rapid infrastructure development. All of the world's main car companies started factories in China and this market is expected to be the world's largest in about 3 years (over 20 million cars/year compared to 17M in the US and 15M in EU). This has created a domino effect for the rest of the world. Magnet prices are about 80% related to cost of raw material, so the impact has been great. SmCo and Alnico magnets have almost doubled in price.
- Electricity in China has been in crises for 2 years. Companies must operate either every other day, or shut half of the plant down and alternate each day. The Three Gorges hydroelectric dam project will help, however it will be 9 years before full capacity operation. This has also been a cause for much longer lead times as well.
- The US and EU are no longer as attractive for exports. China is having phenomenal growth and prosperity within. Products that use magnets are gaining very dramatically in China and the price pressure is not as great as in the US.
- Finally, the US dollar is at its weakest. It is more profitable for Chinese companies to sell magnets to the EU for the Euro than to the US for the Dollar. Also, within the next 1-3 years the China RMB will start to fluctuate and it will be at market level. It is now pegged at 8.2 to the US\$ and it should be much stronger. This will help companies that export to China, but not those who import.

How Alliance LLC fits in this market:

The US industry has seen dramatic changes over the past several years as a result of China's development. Competitive pressures have forced many companies to outsource work or to purchase their products from lower priced overseas suppliers, mainly from China. The transition from domestic to foreign sourcing has not been smooth or easy. While the quality of products from foreign sources has improved significantly, the lack of customer support and unexpected delays in receiving product have caused many domestic users to re-evaluate their supply chain. Most companies have realized that buying direct from overseas manufacturers has not netted them the lowest price because of the added expenses of lost customer support, unexpected import fees and long delays. Talking to your supplier or sending someone to visit them has been replaced with sending an email and waiting for long periods for a reply to your concerns and production line outages, once a rarity, have become all too common.

Alliance LLC has witnessed a remarkable growth because of a new trend that has helped solve these problems. Companies that once purchased their products direct from overseas manufacturers have seen good reason to redirect their supply chain to include OEM distributors that are local to them. This has enabled them to buy low priced products while taking advantage of local and immediate customer support. The way Alliance helps customers with this is to:

- Provide a local sales and technical support person that can visit on a moments notice
- Provide local warehousing. Alliance owns or leases 6 warehouses across North America
- Provide a central staff to make timely deliveries, track shipments and address concerns
- Provide all the necessary testing, design and magnetizing services
- Provide ALL types of magnets to our customers only from qualified producers that have a good track record and ones who Alliance staff has visited and audited their quality and service.

The list goes on, however, the basic idea is to make life simpler for our customers and to help them become more successful by reducing their costs even further.

Alliance has also realized that relying on China is not an answer to every US customer's requirement and is certainly not a good long term solution. China will inevitably become a modern society and therefore not as attractive for low cost goods. Today we work with companies in India, Sweden and Brazil for strategic purchases. It is our belief that India will be the next dominant force for low cost goods and Europe will remain the innovator for new high tech products.

Please review our catalog or web site for more information. Our website lists detailed properties for our magnets and provides useful tools needed for your business.

Regards,

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