



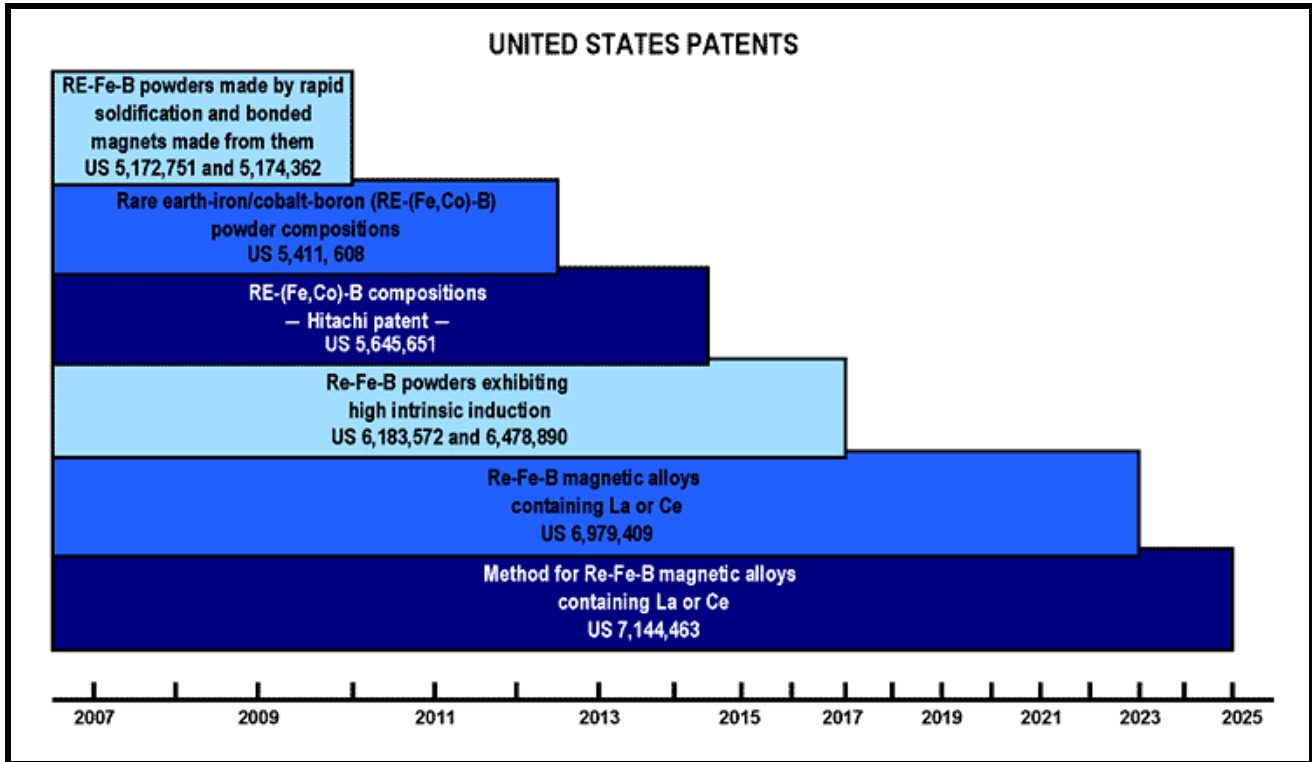
*Leading Magnet Innovation™*

## PATENT INFORMATION GUIDE

**NOTICE:** This document provides a summary of important information concerning Magnequench's patent position and is provided solely for convenience. Statements concerning interpretation of patents are offered as a general guideline and are the opinion of Magnequench. The user is strongly advised to rely solely on the advice of his or her own attorney. Magnequench is not responsible for any damages, direct or consequential, arising from the use of this information.

### SUMMARY OF SELECTED KEY PATENTS:

- **US 5,172,751** (*expires December 2009*): This patent is directed generally to methods of making the Nd-Fe-B magnetic materials described in 4,802,931 and 4,851,058 by melt spinning. This patent covers all products manufactured and sold by Magnequench.
- **US 5,174,362** (*expires December 2009*): This patent is directed generally to methods of making the Nd-Fe-B magnetic materials described in 4,802,931 and 4,851,058 by controlling their cooling rates to obtain the desired properties. This patent covers all products manufactured and sold by Magnequench.
- **US 5,411,608** (*expires May, 2012*): This patent is directed generally to Nd-Fe-B magnetic alloys containing cobalt. There is no lower limit on the amount of Cobalt included within the claims of the '608 patent. Therefore, even alloys which contain very small amounts of Cobalt are included within the claims of this patent.
- **US 5,645,651** (*Hitachi Patent – Exclusive Licensee; expires July, 2014*): This patent covers RE-(Fe,Co)-B compounds having tetragonal crystal structure. Cobalt free alloys and cobalt containing alloys are both covered by '651. As a result this patent covers all products manufactured and sold by Magnequench.
- **US 6,183,572** (*expires December, 2017*): This patent is directed to isotropic Nd-Fe-B powders exhibiting high intrinsic induction.
- **US 6,478,890** (*expires December, 2017*): This patent is a continuation in part of 6,183,572.
- **US 6,979,409** (*expires February, 2023*): This patent is directed generally to Nd-Fe-B magnetic alloys containing Lanthanum or Cerium additions.
- **US 7,144,463** (*expires September, 2025*): This patent is directed generally to methods of making the Nd-Fe-B magnetic materials described in 6,979,409.



### Cross-License between Magnequench and Hitachi:

The rare earth-iron-boron (RE-Fe-B) composition, more commonly known as Neodymium-Iron-Boron (Nd-Fe-B), was independently invented in 1982 by General Motors Corporation and Sumitomo Special Metals Co. Ltd. (SSMC), which then became known as “Neomax” and is now a part of Hitachi Metals, Ltd. Competing patents were filed in different jurisdictions, which ultimately led to the two companies entering into a cross-license agreement. Magnequench (which was formed by General Motors in 1985 to develop this business) was granted the rights to make and market rapidly solidified RE-Fe-B powders and magnets produced from such powder, included in which was a license under the SSMC patents.

### Hitachi Exclusive Licensing Announcement (August 13, 2007):

Magnequench also recently reached an agreement with Hitachi Metals, Ltd. (Hitachi) on an exclusive field of use license under Hitachi’s US Patent 5,645,651 (“651”). The license covers isotropic Rare Earth/Neodymium-Iron-Boron powders (“RE-Fe-B” or “Nd-Fe-B”). With the merger of Hitachi Metals, Ltd with NEOMAX Co., Ltd on April 1, 2007, Hitachi became the successor to the NEOMAX patent portfolio covering Nd-Fe-B magnetic material.

The “651” patent is a basic patent covering the composition and key properties of matter for Nd-Fe-B which extends to July 2014. The validity and enforceability of this patent were upheld in a US ITC proceeding, in which Sumitomo Special Metals (predecessor of NEOMAX) and Magnequench jointly obtained a general exclusion order prohibiting the importation into the United States of products covered by six of their respective patents, including US 5,645,651. Hitachi has retained the right to manufacture and sell certain lower rare earth content magnetic powders, subject to specific volume and other application restrictions.

### Timeline of Patented Powders and Products:

Magnequench holds a number of patents on RE-Fe-B powders and magnets. Although a few Magnequench patents relating to rapidly solidified RE-Fe-B powders and magnets produced from these powders have begun to expire, other key patents relating to these products remain and will last several more years:

As a result of these patents, it will be the case for several years to come that:

- anyone who makes magnets using non-Magnequench rapidly solidified Nd-Fe-B powder or incorporates such magnets into other products in any country where we do not have patents, and who then exports those magnets or products to a country (such as the United States) where we do have patents, would be infringing our patents;
- anyone who produces rapidly solidified Nd-Fe-B powder in any country where we do not have patents, and who then exports that powder to a country (such as the United States) where we do have patents, would be infringing our patents;

### **Recent Legal Activities:**

Magnequench has filed (and will continue to file) patent infringement suits which seek to prevent the unauthorized use of our intellectual property on a global scale by manufacturers of a wide range of industrial and consumer products. Charges in the suits include infringing, contributing to and actively inducing infringement of key Magnequench patents by the manufacture, use, sale or importation into the United States of products that incorporate Nd-Fe-B magnets and magnetic materials covered by those patents. The predatory business behavior practiced by the patent infringers and/or their suppliers harm not only Magnequench, but also the dozens of other manufacturers who properly compensate us for the superior technology provided by our magnetic powders and magnets made there from.

Furthermore, Magnequench and Hitachi have successfully taken joint action against the importation of products containing materials covered by our patents, and in 1999 we were granted a General Exclusion Order against the importation of such unlicensed materials by the International Trade Commission in Washington, D.C. This order is presently being enforced by Customs at various ports of entry into the United States.

### **Magnequench Testing Program**

As a result of certain suits filed, Magnequench and the defendants in these actions have created a testing program aimed at eliminating the use of infringing materials. This program, which has now been in effect for 3 years, involves significant and continuous cooperation between Magnequench and "program participants," which include motor manufacturers, end product manufacturers, and former defendants. On a monthly basis, program participants submit products containing bonded Nd-Fe-B magnets that fall within the scope of one or more of the Magnequench patents. Magnequench then has the magnetic material in the products analyzed by an outside laboratory to determine whether or not the magnetic material falls within our patent scope but is not made with Magnequench material.

If products are made with non-Magnequench material, the program participants have agreed with Magnequench to take immediate action to rid their supply chains of the non-Magnequench material. This action includes discontinuing purchases from any supplier that provides the program participants with such infringing materials.

Users of magnets or products containing magnets should contact us directly if they have any patent related questions or concerns about the magnets which they are using.

### **FOR FURTHER INFORMATION, CONTACT:**

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