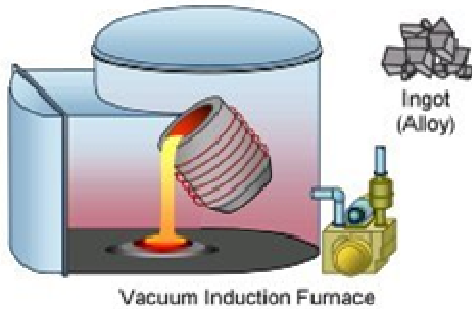


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Sintering Process of Magnets

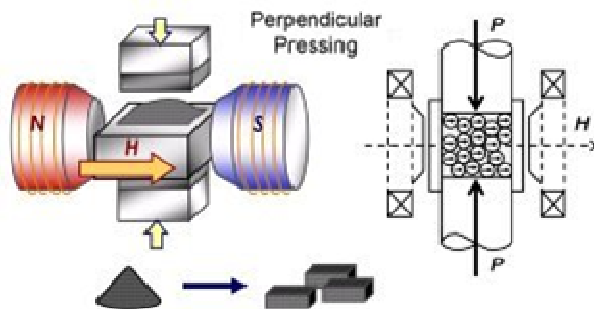
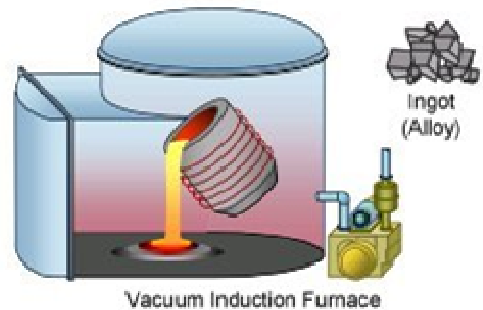


First:Melting

The materials are exposed to mid frequency and melted in an induction furnace.

Second:Jet Milling

After completion of various process steps, the ingots are pulverized into particles that are several microns in size. In order to prevent oxidation from occurring, the small particles are protected by nitrogen.

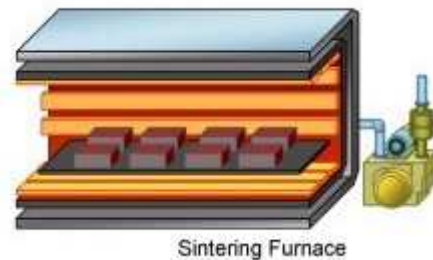


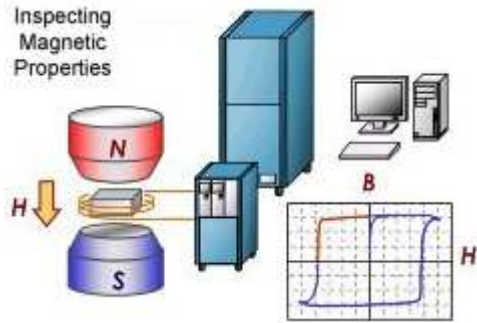
Third:Pressing

The magnetic particles are placed in a jig and a magnetic field is applied while the magnets are pressed into shape. Through this process, we achieve magnetic anisotropy.

Fourth:Sintering

The magnetic particles are placed in a jig and a magnetic field is applied while the magnets are pressed into shape. Through this process, we achieve magnetic anisotropy. The magnetic particles are placed in a jig and a magnetic field is applied while the magnets are pressed into shape. Through this process, we achieve magnetic anisotropy. The density of the ingots prior to sintering is about 50% of true density but after sintering, the true density is 100%. Through this process the ingots' measurement shrink by about 70%-80% and their volume is reduced by about 50%. Aging the magnets after sintering adjusts the properties of the magnets.

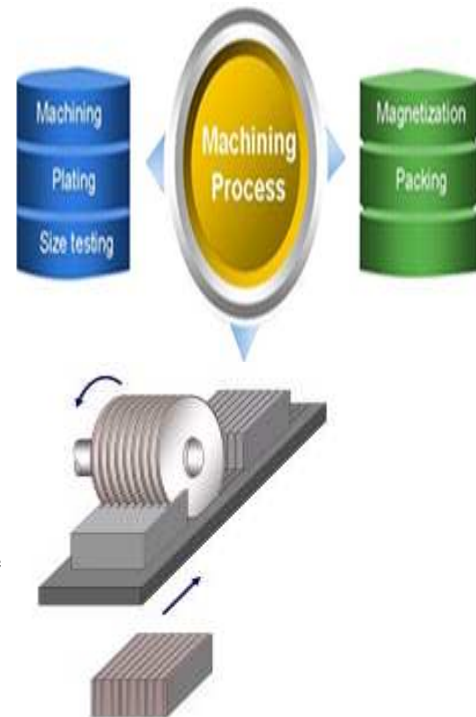




Fifth: Inspection

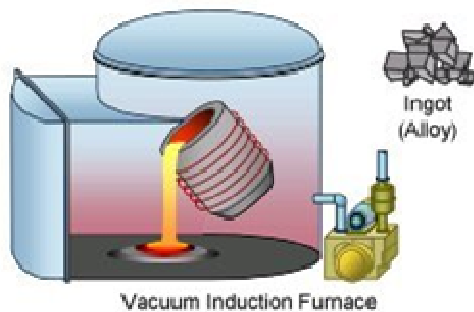
Basic magnetic properties are set after the sintering and aging processes are complete. Key measurements including remnant flux density, coercivity, and maximum energy product are recorded. Only those magnets that pass the inspection are sent to subsequent processes including machining and assembly

Sixth: Cutting



Seventh: Machining

Due to shrinkage from the sintering process, required measurements are achieved by grinding the magnets with abrasives. Diamond abrasives are used for this process because the magnet is very hard. .

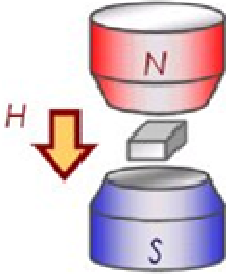
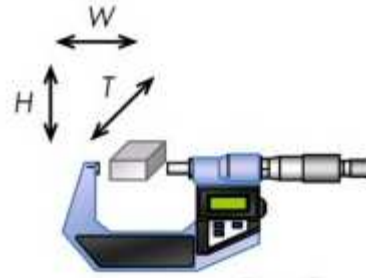


Eighth: Plating

To best suit the environment in which they will be used, the magnets are subject to various surface treatments. Nd-Fe-B magnets are generally susceptible to rust so they are surface treated with nickel or paint.

Ninth:Size testing

Magnets that have been machined and plated are measured and visually inspected. To ensure the high precision, we have to test the size in order to control the tolerance. So far our normal tolerance reaches 0.03

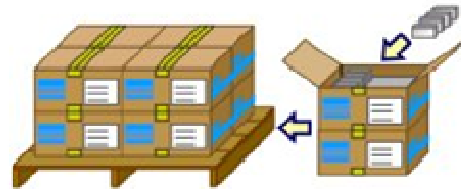


Tenth:Magnetization

Magnets that have been machined and plated are measured and visually inspected. In addition, magnetic properties, corrosion and maximum energy are tested to specifications.

Eleventh:Packing

Magnets that have passed product testing are packaged and shipped. Flux leakage shields are utilized for air shipment when required. Magnet products are shipped to worldwide customer manufacturing locations



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