



# National Magnetics Group, Inc.

Manufacturers of Magnetic & Advanced Materials

Ferrites – Magnets - Powdered Iron Cores  
Microwave Absorbers & Attenuators

National Magnetics Group manufactures magnetic components for the electronics industry used in the following products (among others): automobiles, computers, computer peripherals, low power transformers, cable TV systems, radio and television receivers, RFID, EMI/RFI filters, specialized electronic instruments, switch-mode power supplies, aerospace navigational systems and specialized commercial and military communication systems.

We have a strong technical team devoted to developing and improving a complete range of materials along with the broadest processing capability in the industry. Our job is customer service – helping our customer’s solve their problems whether material, availability, quality or shape related. ISO certified.

## Materials

### Ferrites:

NiZn	<i>ui</i>	7.5 - 2,300
MnZn		450 - 10,000
Non-magnetic		1

### Magnets:

	<i>BH(max)</i>	
Ceramic (C1-11)		1.05 - 4.3
Rubber(R05-14)		0.5 - 1.4
Neodymium Iron Boron (N33-45)		32 - 44.5
Samarium Cobalt (S18-30G)		17 - 29
Alnico (11-90C)		6.9 - 7.3

### Powdered Iron/MW Absorbers:

	<i>ui</i>	
CTM3120 - 3866		8.5 - 60

## Processes

### Raw Material Production:

Mixing/particle size reduction/calcining/spray drying

### Tooling:

In-house capability

### Forming:

Mechanical Pressing (shapes: toroids, baluns, rods, beads, plates, custom)

Extrusion (shapes: rods, strips, tubes, impellers)

Cold Isostatic Pressing (shapes: blocks, rounds, custom)

### Sintering:

Controlled atmosphere up to 1400°C

### Secondary Operations:

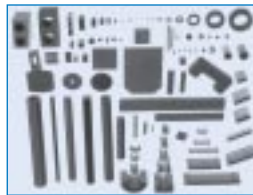
Grinding/Slicing/Lapping/Polishing(Zygo interferometry)

Hot Isostatic Pressing: super dense material (near theoretical density)

Electronic Sorting/Grading of small toroids by inductance (up to 10k/hour)

### R&D:

Material development and characterization



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