Proposed New Linear Magnet Fabrication Method

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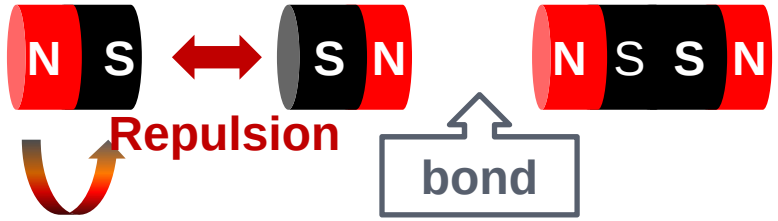
Co-operated by I & P Co., Ltd.

Conventional Fabrication of a Linear Magnet

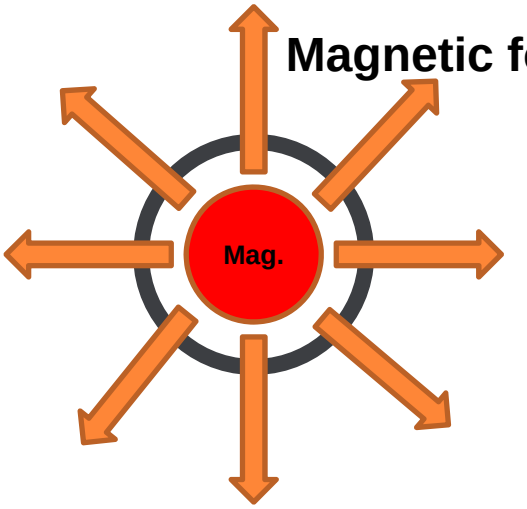
Example: shaft motor [Linear Motor guide shaft]

Outside: SUS pipe



material → sintering

assembly time → 10 minutes



New fabrication method for a linear magnet (patent applied for)

Continuous alternating NS magnetic poles by injection molding

High accuracy

Rust-free!!

Original sample

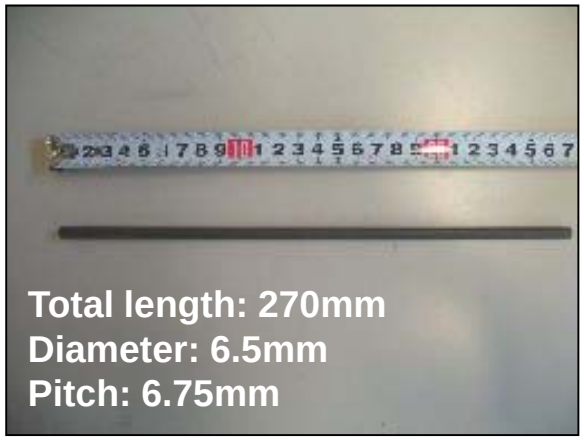
Orienting Anisotropic magnet in mold

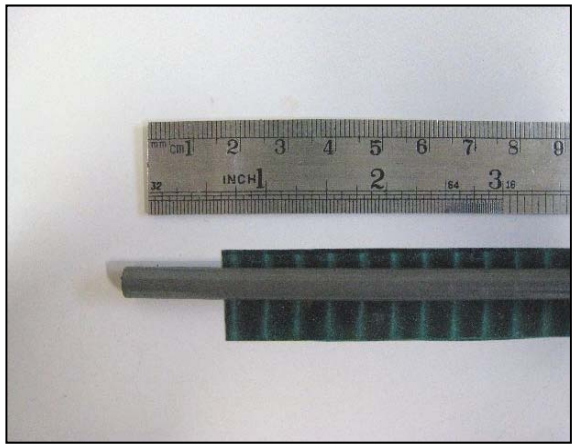
material	→	**SmFeN plastic magnet (Compounded with PA 12)**
Assembly time	→	**20 sec. * 97% time reduction !!**
figure	→	**We can make curved parts (not just straight)**
Surface magnetic flux	→	**3000 G (Gauss)**
BHMax	→	**12～16 MGOe**

No need for any SUS pipes
➔ Surface mag. flux rise 30% (threading shaft through the center of pipe)

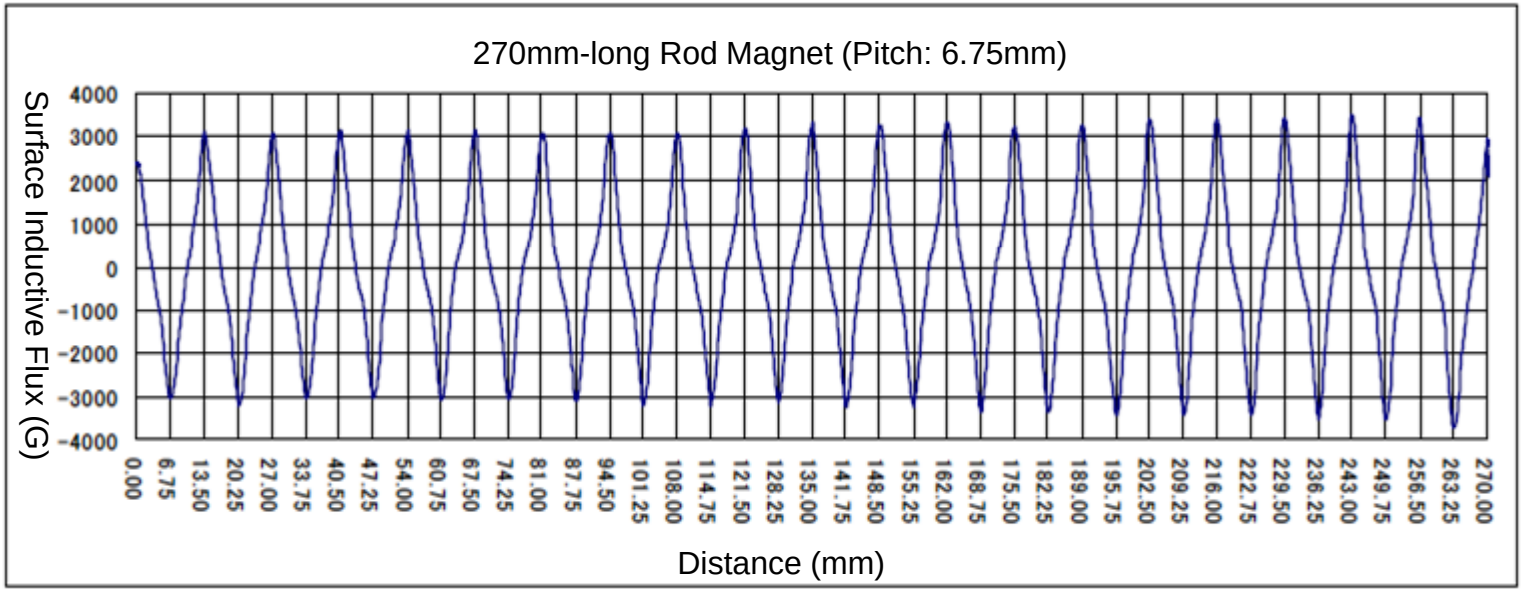
One of the Longest Rod Magnets in the World!

We have developed a solid rod magnet that measures 270mm long.
N and S poles are alternately generated longitudinally at a pitch of 6.75mm.

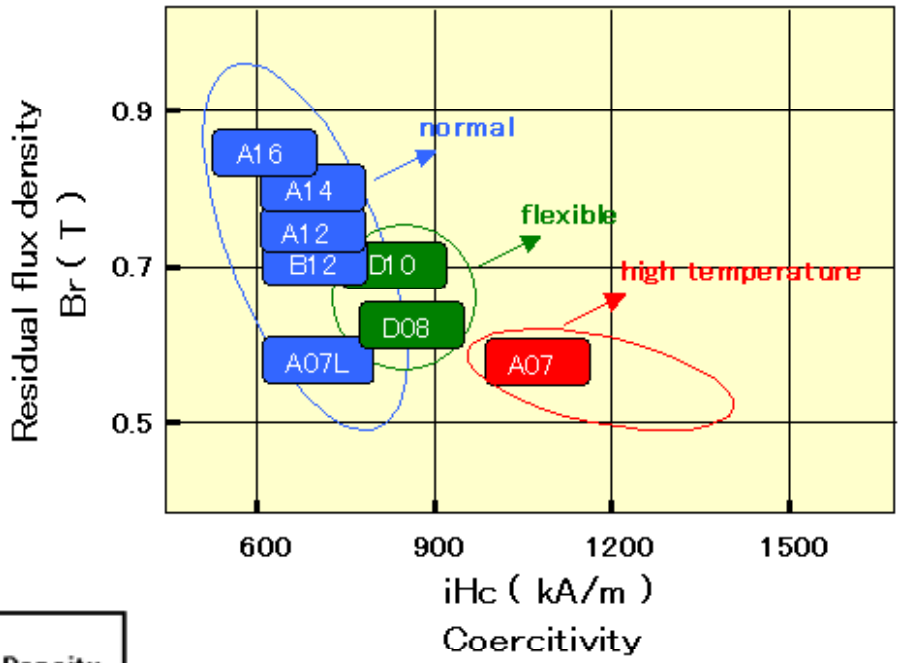




Surface Inductive Flux



We provide various levels of magnetic force



SmFeN Grades

Type / Binder	Br	bHc	iHc	BHmax	Density
	kG T	kOe kA/m	kOe kA/m	MGOe kJ/m³	g/cm³ Mg/m³
A16 PA12	8.4 0.84	6.3 500	8.3 660	16 127	5.1
A14 PA12	7.8 0.78	6.5 520	9.7 770	14.1 112	4.9
A12 PA12	7.3 0.73	6.3 500	9.4 750	12.6 100	4.8
A07 PA12	5.7 0.57	5 400	13.1 1040	7.4 59	4.2
A07L PA12	5.7 0.57	5.2 410	9.7 770	7.6 60	4.0
B12 PA6	7.2 0.72	6.3 500	9.6 760	12.2 97	4.8
D10 TPEE	7 0.7	6.3 500	10.3 820	11.6 92	4.6
D08 TPEE	6.2 0.62	5.7 450	11 880	9.1 72	4.2

Updated 2004-10-10

Nichia Corporation Manuf.,