烧结钕铁硼永磁材料
SINTERED NdFeB MAGNETS

安泰科技股份有限公司
Advanced Technology & Materials Co.,Ltd.

股票代码：000969
股票简称：安泰科技

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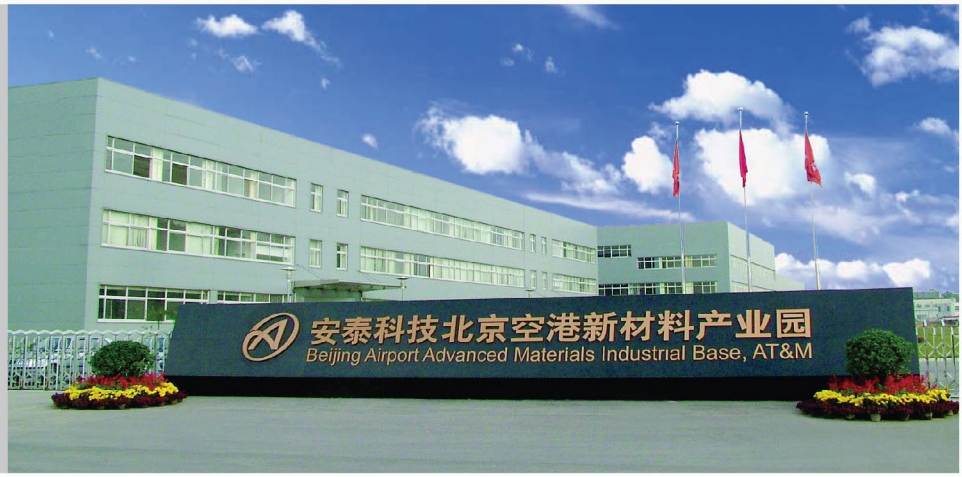
Advanced Technology & Materials Co.,Ltd.



安泰科技股份有限公司是国内最早并一直致力于研究开发、生产销售钕铁硼永磁材料的单位之一；曾取得了多项成果，获国家科技进步一等奖、国家科技进步二等奖及国家发明三等奖多项；授权专利数十项；于2003年通过ISO9001:2000质量管理体系认证；2006年通过ISO14001环境管理体系和OHSAS18001职业健康安全管理体系认证；2007年通过ISO/TS16949质量管理体系认证；2003年取得SSMC（现日立金属）公司的烧结钕铁硼（NdFeB）专利许可，并于2013年续签；已具备年产4000吨以上中高档烧结钕铁硼NdFeB磁体毛坯的能力。

钕铁硼（NdFeB）是当代磁性最强、性能价格比最好的永磁材料，它不仅具有高剩磁、高矫顽力、高磁能积等优异特性，而且容易被加工成各种形状，被广泛用于新能源、汽车、电子电声、节能家电、工业电机、仪器仪表、核磁共振、磁悬浮等领域；特别适用于制造各种高性能、小型化、轻型化的产品。

公司积极推行“5S”现场管理理念，严格履行企业社会责任，“顾客至上，满足要求，持续改进，追求一流”是我们的一贯方针，公司凝聚了优秀的技术创新团队和高效的生产管理团队，将会以可靠的质量、合理的价格、完善的售后服务，为国内外用户提供优质的产品和完整的技术解决方案。

Advanced Technology & Materials Co., Ltd (AT&M) has a long history and is one of the leader in R&D and production of NdFeB magnets in China. AT&M won state invention awards, state awards for science and technology advancement for many times, owning dozens of patents. AT&M had passed the certification of ISO9001 in 2003; ISO14001&OHSAS18001 in 2006; ISO/TS16949 in 2007, and hold the license to manufacture and sale sintered NdFeB magnets under SSMC (Hitachi Metal) patent in 2003, and renewed the patent in 2013. Nowadays, AT&M had a production capacity of 4000 tons for NdFeB magnets with middle or higher grade annually.

NdFeB magnet has the highest properties (high residual induction, coercive force and energy product) with competitive price. It can be machined into all kinds of shapes easily and used in many fundamental fields directly, such as new energy, vehicles, electron & electroacoustic, energy saving household appliances, industrial motor, instrument & apparatus, nuclear magnetic resonance(NMR), magnetic suspension field and so on. Magnets are also especially suitable for the high property, mini-size and lighted products.

AT&M advocates the “5 S production management”, strictly follows requirements of quality management system (QMS) and corporate social responsibility (CSR). The “Customers Supreme, Meeting Expectation, Keeping Improving and Pursuing Top-level” are our unchanging target. AT&M has top level R&D team and high efficient production & management team. We can provide our customer with high quality products and high grade technical proposal by reliable quality, reasonable price and perfect after service.

创新推进科学进步　材料改善人类生活

Innovation is to promote scientific progress
and materials to improve human life

企业资质\ENTERPRISE QUALIFICATION

Certificate IATF 0168511
Certificate SGS CN07/11101

The management system of

Advanced Technology & Materials Co., Ltd.

Yuhua Road, Part B of Tianzhu Airport Industry Zone, Shunyi District
Beijing, P.R.China

has been assessed and certified as meeting the requirements of

ISO/TS 16949:2009

Edition 3

For the following activities

Manufacture of sintered rare earth permanent and relevant parts used for automobile

EXCLUSIONS: 7.3 Product Design

3 Year certification is valid from 13 August 2013 until 12 August 2016 and remains valid subject to satisfactory surveillance audits.
Version no.03 Current version updated 13 August 2013
Re certification audit due before 09 June 2016
Certified Since 21 August 2007

Authorised by

Veto Power Authority

SGS TS-0 0512
Page 1 of 1

ISO/TS 16949

QUALITY MANAGEMENT SYSTEM CERTIFICATE

Audit and Confirm by Beijing Grand Honour Management System Certification Co., Ltd.

Advanced Technology & Materials Co., Ltd.
Functional Materials Division

Has established and implement a quality management system in conformity with

GB/T 19001-2008/ISO9001:2008 standard.

The scope covered by this management system:
Products and activities:
Design, development, production, supporting service and associated management action of the products of sintered rare earth permanent magnets and their components, precision alloys and their components, the master alloy bar of super-alloys, wrought super-alloys.
Physical locations:
Part B of Tianzhu Airport Industry Zone, Shunyi District, Beijing.

(This document shall be effective together with the certificate No. 02215Q2032R5L)

Note: The products covered in this scope shall be conformed to the requirement of associated licenced document or qualified certificate.

Certificate registration:02215Q2032-(4)R5L Issuing date:Apr.20,2015 Effective date:FromApr.20,2015toApr.19,2018

The certified organization should accept the annual surveillance audit before the following date. This certificate shall be used in conjunction with annually surveillance audit stamp issued by GHC.

First surveillance before Mar 20,2016 | Second surveillance 2017 | (Authorized Representative)

MANAGEMENT SYSTEM
CNAS C022-Q

The validity of this certificate can be verified from the following website www.cnca.gov.cn & www.cmiqc.com

GB/T19001/ISO9001

OCCUPATIONAL HEALTH AND SAFETY
MANAGEMENT SYSTEM CERTIFICATE

Audit and Confirm by Beijing Grand Honour Management System Certification Co., Ltd.

Advanced Technology & Materials Co., Ltd.
Functional Materials Division

Has established and implement an occupational health and safety management system in conformity with

GB/T28001-2011/OHSAS18001:2007 standard.

The scope covered by this management system:
Products and activities:
Design, development, production, supporting service and associated management action of the products of sintered rare earth permanent magnets and their components, precision alloys and their components, the master alloy bar of super-alloys, wrought super-alloys.
Physical locations:
Part B of Tianzhu Airport Industry Zone, Shunyi District, Beijing.

(This document shall be effective together with the certificate No. 02215S2017R2L)

Certificate registration:02215S2017-(4)R2L Issuing date:Apr.20,2015 Effective date:From Apr.20,2015 to Apr.19,2018

The certified organization should accept the annual surveillance audit before the following date. This certificate shall be used in conjunction with annually surveillance audit stamp issued by GHC.

First surveillance before Mar 20,2016 | Second surveillance 2017 | (Authorized Representative)

MANAGEMENT SYSTEM
CNAS C022-S

The validity of this certificate can be verified from the following website www.cnca.gov.cn & www.cmiqc.com

GB/T28001/OHSAS18001

ENVIRONMENT MANAGEMENT SYSTEM CERTIFICATE

Audit and Confirm by Beijing Grand Honour Management System Certification Co., Ltd.

Advanced Technology & Materials Co., Ltd.
Functional Materials Division

Has established and implement an environment management system in conformity with

GB/T 24001-2004/ISO14001:2004 standard.

The scope covered by this management system:
Products and activities:
Design, development, production, supporting service and associated management action of the products of sintered rare earth permanent magnets and their components, precision alloys and their components, the master alloy bar of super-alloys, wrought super-alloys.
Physical locations:
Part B of Tianzhu Airport Industry Zone, Shunyi District, Beijing.

(This document shall be effective together with the certificate No. 02215E2017R2L)

Certificate registration:02215E2017-(4)R2L Issuing date:Apr.20,2015 Effective date:FromApr.20,2015toApr.19,2018

The certified organization should accept the annual surveillance audit before the following date. This certificate shall be used in conjunction with annually surveillance audit stamp issued by GHC.

First surveillance before Mar 20,2016 | Second surveillance 2017 | (Authorized Representative)

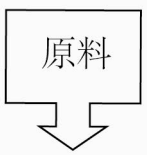
MANAGEMENT SYSTEM
CNAS C022-E

The validity of this certificate can be verified from the following website www.cnca.gov.cn & www.cmiqc.com

GB/T24001/ISO14001

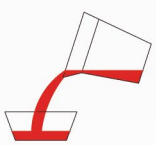
烧结钕铁硼生产工艺
Manufacturing Process of Sintered NdFeB Magnets

原材料
Preparing of raw materials



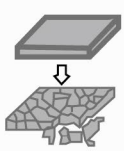
检测成份、外观等
Inspect composition and appearance

熔炼
Strip Casting



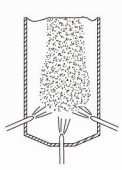
检测成份、铸锭组织、结晶度
Inspect composition, microstructure and grain size

氢破碎
Hydrogen Decrepitating



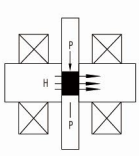
检测粒度、粒度分布
Inspect particle size and its distribution

制粉
Pulverizing



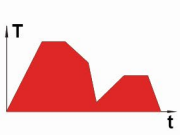
检测压坯的尺寸与外观
Inspect size and appearance of green body

压制成形
Pressing



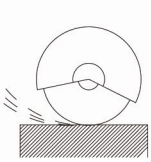
检测磁性能、外观尺寸、密度、氧含量
Inspect magnetic performance, dimension, appearance, density and oxygen content

烧结和时效
Sintering and Aging



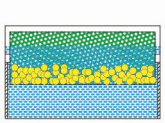
检测外观尺寸
Inspect dimension and appearance

机加工
Machining



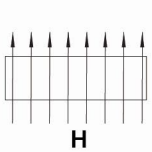
检测制品的外观尺寸、涂层厚度、附着力、耐蚀性
Inspect dimension, appearance, coating thickness, adhesion and corrosion resistance

涂覆
Coating



检测磁性能
Inspect magnetic properties

充磁
Magnetizing



检查数量和标识
Inspect quantity and identification

包装
Packaging

烧结钕铁硼牌号表述及分类
Description of Grades for the Sintered NdFeB Magnets

Nd-Fe-B magnet——ATMAX-##-XX

其中：

ATMAX:表示为安泰科技股份有限公司生产的磁体；

##:代表永磁体的标准最大磁能积值；

XX:代表磁体内禀矫顽力的值。

例：

ATMAX50M表示为烧结钕铁硼永磁体，其最大磁能积为：(BH)m=47~51MGOe；内禀矫顽力为：Hcj≥14k0e。

Nd-Fe-B magnet——ATMAX-##-XX

ATMAX:The magnet produced by AT&M Co,. Ltd.;

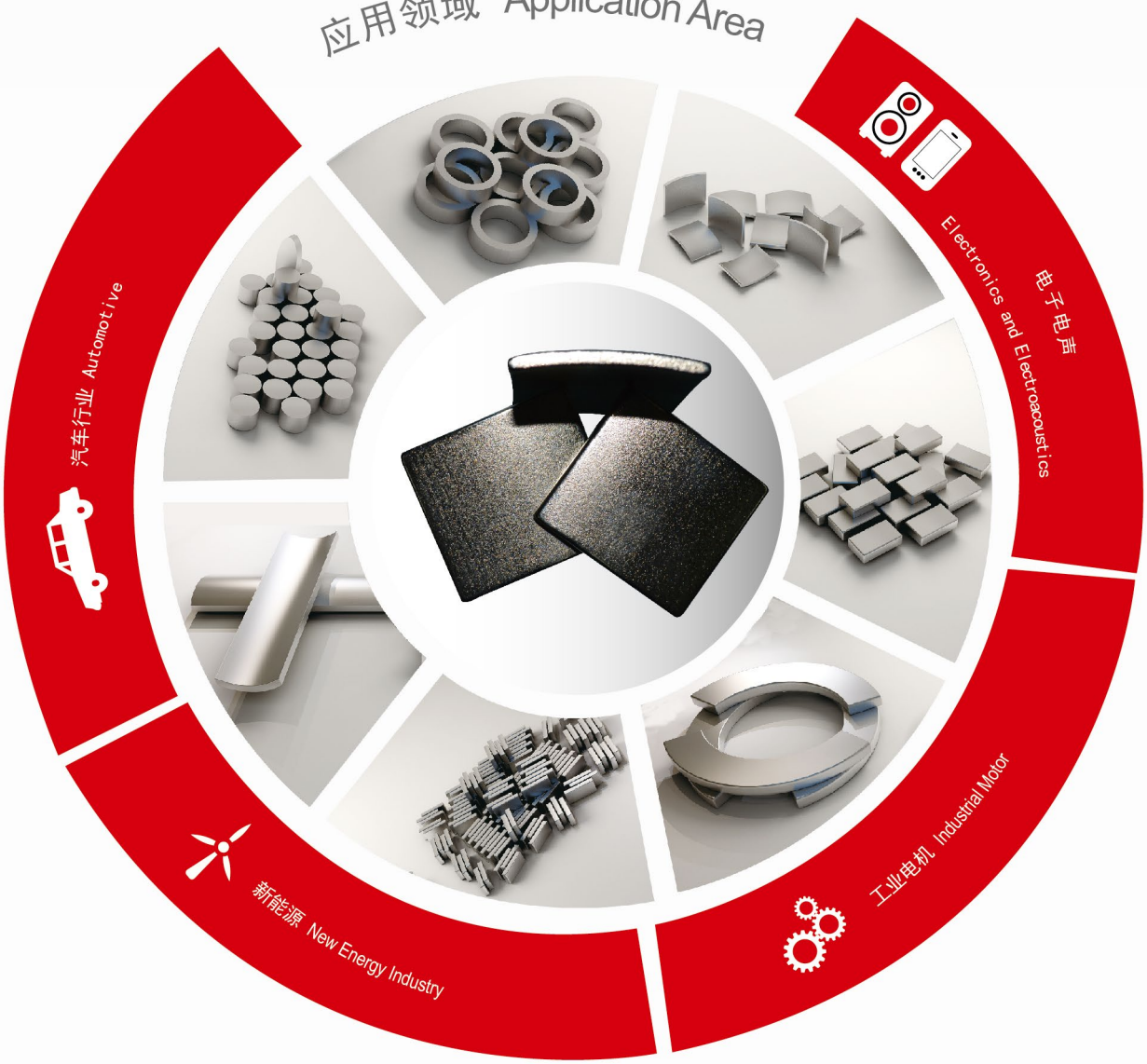
##:The value of (BH)m;

XX:The typical value of intrinsic coercive force.

For example ：

ATMAX50M is a sintered NdFeB magnet with (BH)m of 47 ~51MGOe and Hcj≥14kOe

应用领域 Application Area

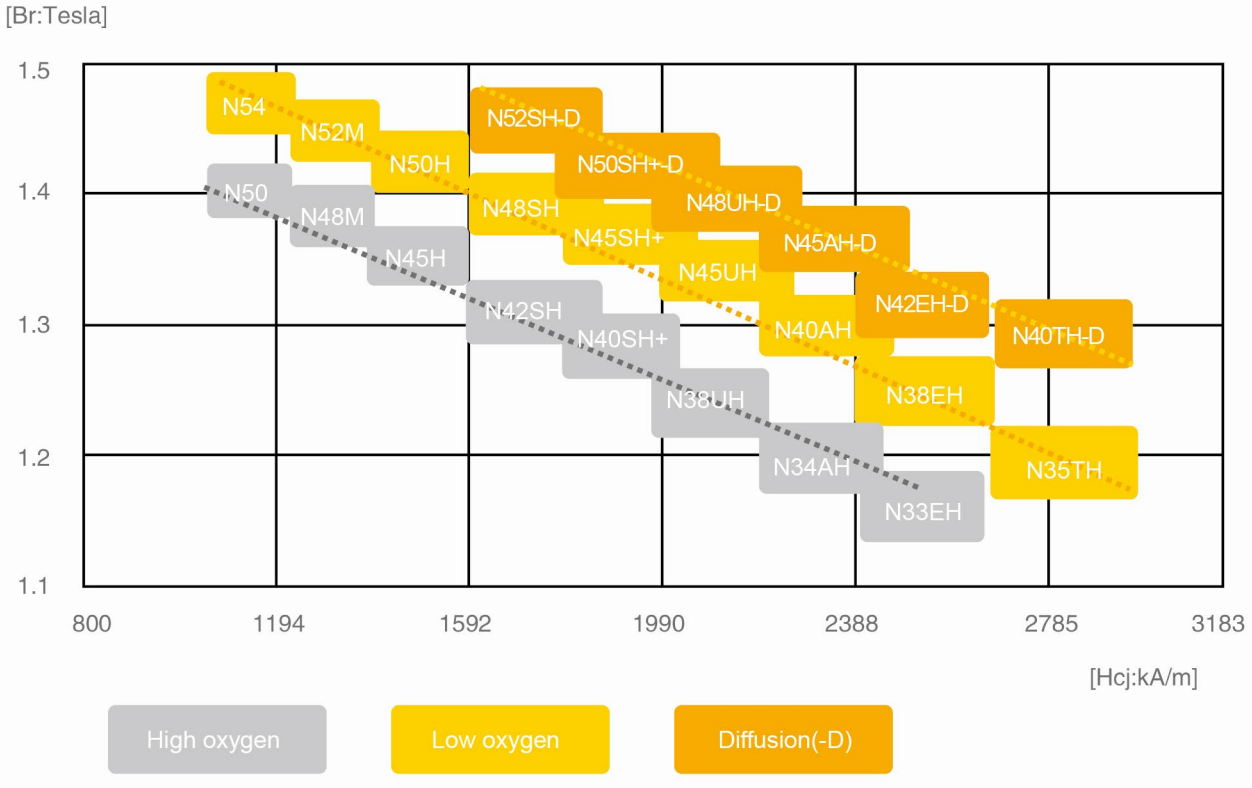


烧结钕铁硼磁性能
Magnetic Properties of Sintered NdFeB Magnets

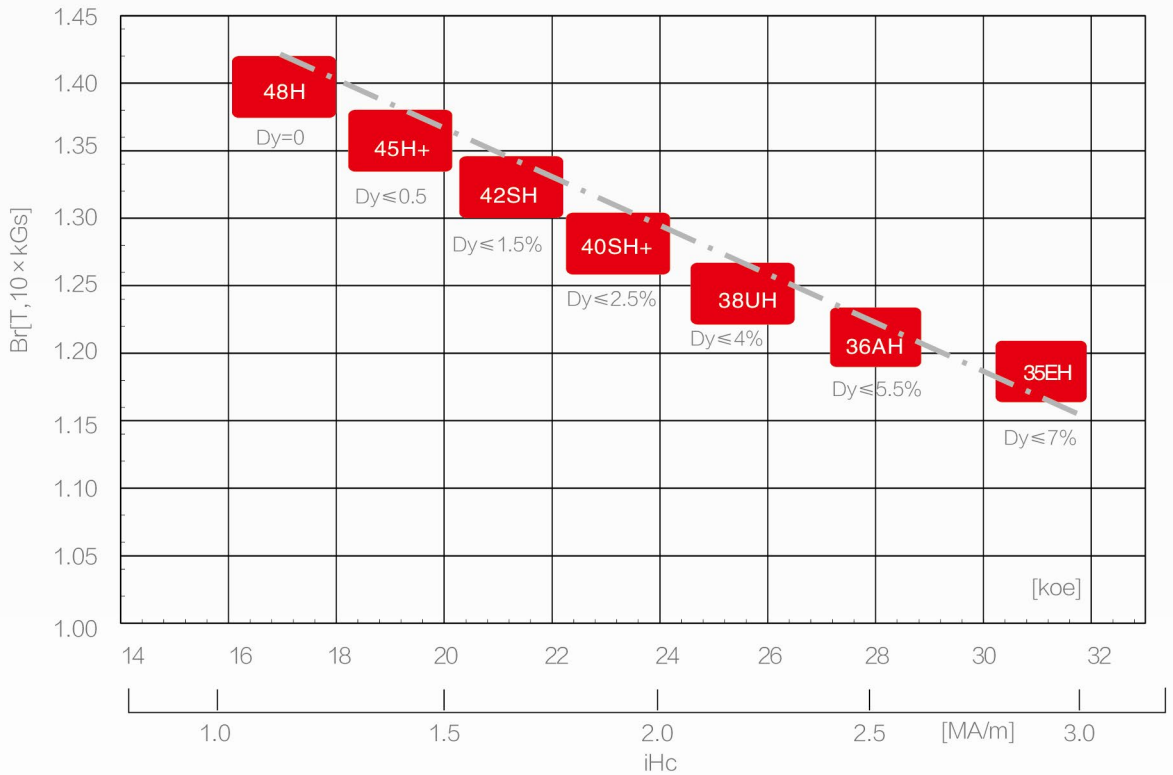
牌号 Grade	剩磁Br		矫顽力/Hcb ≥		矫顽力/Hcj ≥		最大磁能积(BH)max	
	T	KGs	kA/m	kOe	kA/m	kOe	kJ/m^3	MGOe
ATMAX35	1.16~1.22	11.6~12.2	876	11	955	12	263~287	33~36
ATMAX38	1.22~1.27	12.2~12.7	876	11	955	12	287~310	36~39
ATMAX40	1.25~1.31	12.5~13.1	876	11	955	12	302~326	38~41
ATMAX42	1.28~1.34	12.8~13.4	876	11	955	12	318~342	40~43
ATMAX45	1.32~1.38	13.2~13.8	876	11	955	12	342~366	43~46
ATMAX48	1.36~1.43	13.6~14.3	836	10.5	955	12	358~390	45~49
ATMAX50	1.39~1.46	13.9~14.6	836	10.5	955	12	374~406	47~51
ATMAX52	1.42~1.49	14.2~14.9	836	10.5	955	12	390~422	49~53
ATMAX35M	1.16~1.22	11.6~12.2	845	10.6	1114	14	263~287	33~36
ATMAX38M	1.22~1.27	12.2~12.7	845	10.6	1114	14	287~310	36~39
ATMAX40M	1.25~1.31	12.5~13.1	912	11.5	1114	14	302~326	38~41
ATMAX42M	1.28~1.34	12.8~13.4	938	11.8	1114	14	318~342	40~43
ATMAX45M	1.32~1.38	13.2~13.8	976	12.2	1114	14	342~366	43~46
ATMAX48M	1.36~1.43	13.6~14.3	1012	12.7	1114	14	358~390	45~49
ATMAX50M	1.39~1.46	13.9~14.6	1035	13	1114	14	374~406	47~51
ATMAX33H	1.12~1.19	11.2~11.9	816	10.2	1353	17	247~271	31~34
ATMAX35H	1.16~1.22	11.6~12.2	845	10.6	1353	17	263~287	33~36
ATMAX38H	1.21~1.27	12.1~12.7	886	11.1	1353	17	287~310	36~39
ATMAX40H	1.25~1.31	12.5~13.1	912	11.5	1353	17	302~326	38~41
ATMAX42H	1.28~1.34	12.8~13.4	938	11.8	1353	17	318~342	40~43
ATMAX45H	1.32~1.38	13.2~13.8	976	12.2	1353	17	342~366	43~46
ATMAX48H	1.36~1.43	13.6~14.3	1000	12.6	1353	16	358~390	45~49
ATMAX50H	1.39~1.46	13.9~14.6	1035	13	1274	16	374~406	47~51
ATMAX30SH	1.07~1.14	10.7~11.4	772	9.7	1592	20	223~247	28~31
ATMAX33SH	1.12~1.19	11.2~11.9	816	10.2	1592	20	247~271	31~34
ATMAX35SH	1.16~1.22	11.6~12.2	845	10.6	1592	20	263~287	33~36
ATMAX38SH	1.21~1.27	12.1~12.7	886	11.1	1592	20	287~310	36~39
ATMAX40SH	1.25~1.31	12.5~13.1	912	11.5	1592	20	302~326	38~41
ATMAX42SH	1.28~1.34	12.8~13.4	938	11.8	1592	20	318~342	40~43
ATMAX45SH	1.32~1.38	13.2~13.8	976	12.2	1592	20	342~366	43~46
ATMAX30UH	1.07~1.14	10.7~11.4	772	9.7	1990	25	223~247	28~31
ATMAX33UH	1.12~1.19	11.2~11.9	816	10.2	1990	25	247~271	31~34
ATMAX35UH	1.16~1.22	11.6~12.2	845	10.6	1990	25	263~287	33~36
ATMAX38UH	1.21~1.27	12.1~12.7	886	11.1	1990	25	287~310	36~39
ATMAX40UH	1.25~1.31	12.5~13.1	912	11.5	1990	25	302~326	38~41
ATMAX42UH	1.28~1.34	12.8~13.4	938	11.8	1990	25	318~342	40~43
ATMAX45UH	1.31~1.37	13.1~13.7	976	12.2	1910	24	318~342	43~46
ATMAX31AH	1.09~1.16	10.9~11.6	772	9.7	2149	27	231~263	29~33
ATMAX34AH	1.15~1.22	11.5~12.2	836	10.5	2149	27	255~287	32~36
ATMAX37AH	1.20~1.26	12.0~12.6	886	11.1	2149	27	279~310	35~39
ATMAX40AH	1.25~1.31	12.5~13.1	912	11.5	2149	27	302~326	38~41

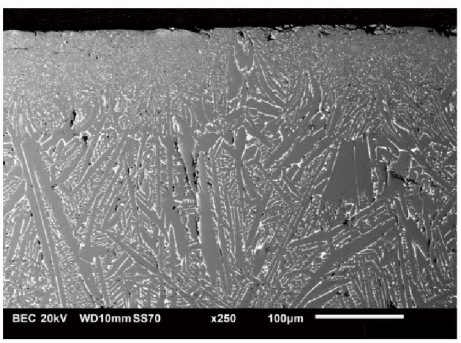
牌号 Grade	剩磁Br		矫顽力/Hcb ≥		矫顽力/Hcj ≥		最大磁能积 (BH) max	
	T	KGs	kA/m	kOe	kA/m	kOe	kJ/m^3	MGOe
ATMAX30EH	1.07~1.14	10.7~11.4	772	9.7	2388	30	223~247	28~31
ATMAX33EH	1.12~1.19	11.2~11.9	816	10.2	2388	30	247~271	31~34
ATMAX35EH	1.16~1.22	11.6~12.2	845	10.6	2388	30	263~287	33~36
ATMAX38EH	1.21~1.27	12.1~12.7	886	11.1	2388	30	279~310	35~39
ATMAX30TH	1.06~1.15	10.6~11.5	765	9.6	2627	33	223~255	28~32
ATMAX33TH	1.12~1.19	11.2~11.9	816	10.2	2627	33	247~271	31~34
ATMAX35TH	1.16~1.22	11.6~12.2	845	10.6	2627	33	263~287	33~36
ATMAX38TH	1.21~1.27	12.1~12.7	886	11.1	2627	33	279~310	35~39
ATMAX52SH-D	1.42~1.49	14.2~14.9	886	11.1	1592	20	390~422	49~53
ATMAX50SH-D	1.39~1.46	13.9~14.6	1035	13	1752	22	374~406	47~51
ATMAX48UH-D	1.36~1.43	13.6~14.3	1000	12.6	1990	25	358~390	45~49
ATMAX45AH-D	1.32~1.38	13.2~13.8	976	12.2	2149	27	342~366	43~46
ATMAX42EH-D	1.28~1.34	12.8~13.4	938	11.8	2388	30	318~342	40~43
ATMAX40TH-D	1.25~1.31	12.5~13.1	912	11.5	2627	33	302~326	38~41

AT&M Magnet Grade Series



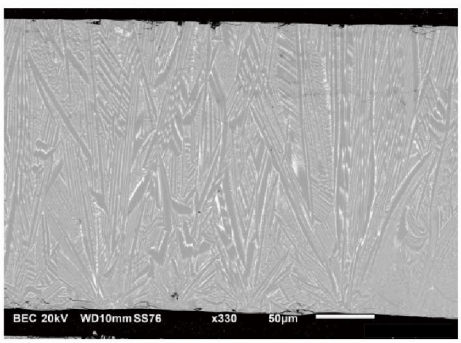
低重稀土系列
Dy-Less Series



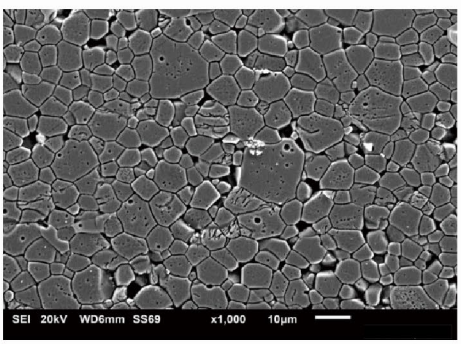


鳞片微观组织 Flake Microstructure

Alloy Optimizing

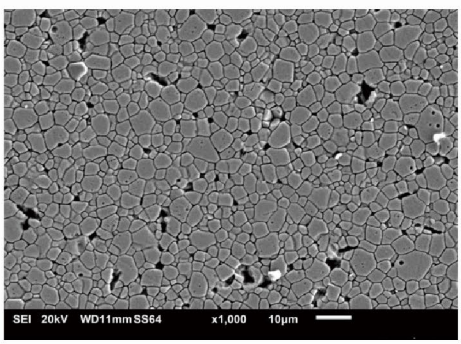


鳞片微观组织 Flake Microstructure



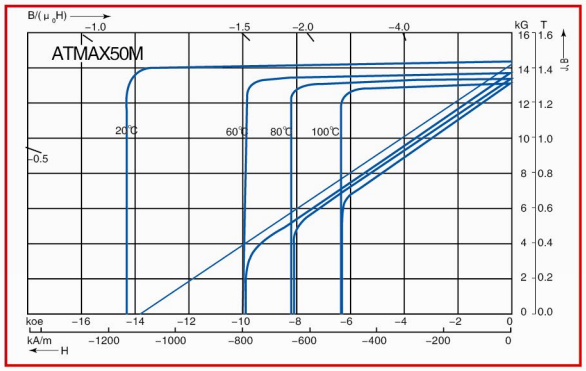
磁体微观组织 Magnet Microstructure

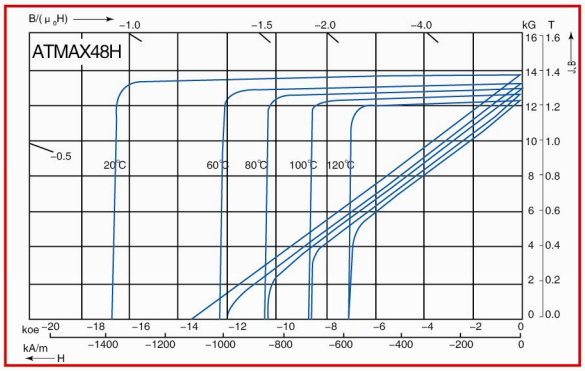
Process Optimizing

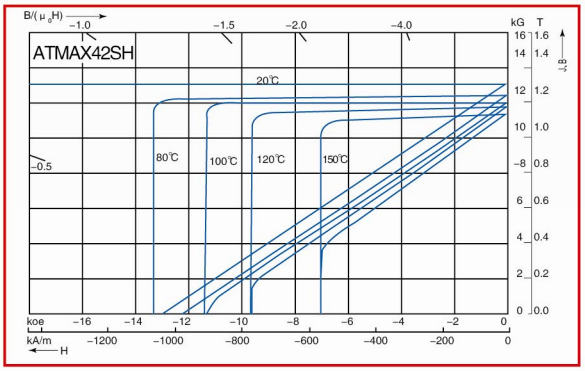


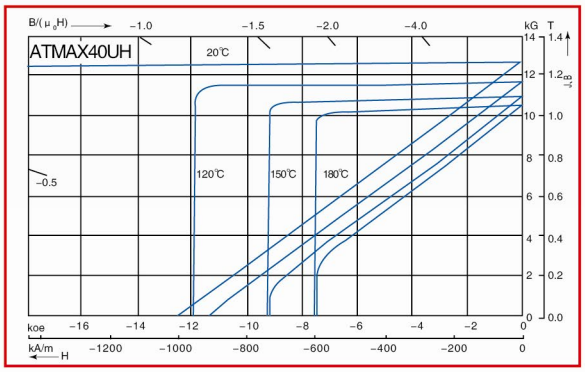
磁体微观组织 Magnet Microstructure

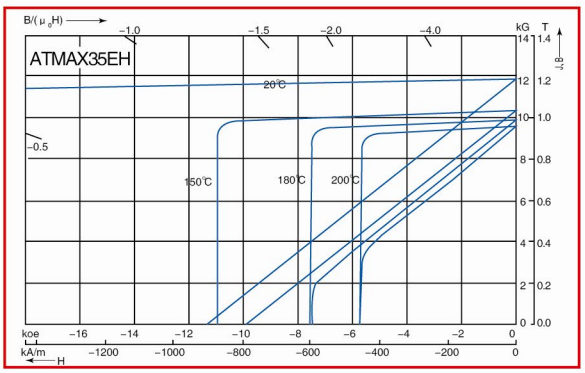
烧结钕铁硼退磁曲线
Demagnetization Curves of Sintered NdFeB Magnets

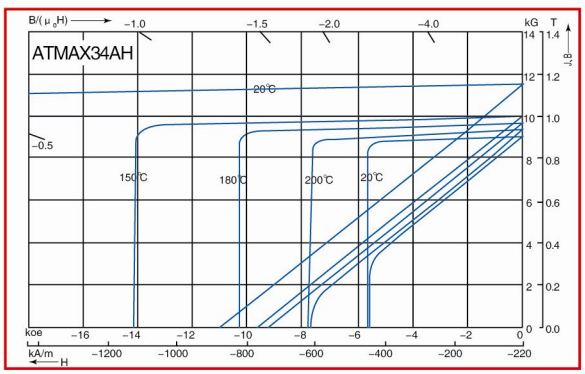


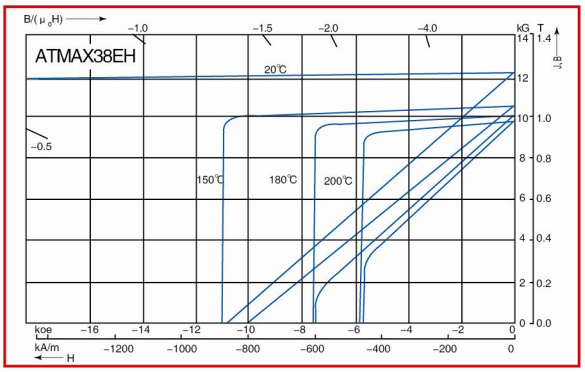


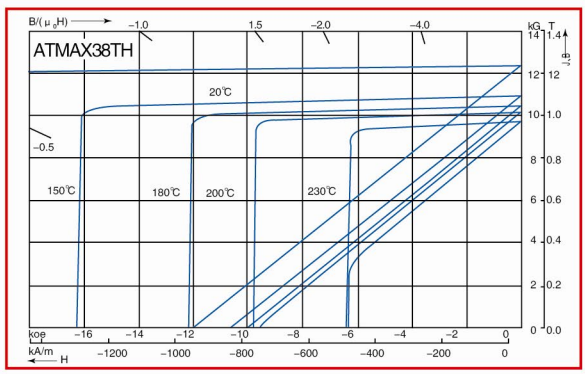












烧结钕铁硼永磁材料物理性能
Physical properties of sintered NdFeB magnets

性能 Property	单位 Unit	范围 Range
居里温度 Curie point	℃	310~370
Br可逆温度系数 Reversible temperature coefficient of Br 20~120℃	%/℃	-0.1~-0.13%
Hcj可逆温度系数 Reversible temperature coefficient of Hcj 20~120℃	%/℃	-0.4~-0.7%
密度 Density	g/cm^3	7.3~7.7
维氏硬度 Vickers hardness	Hv10	500~700
抗弯强度 Bending strength	Mpa	150~400
抗压强度 Compressive strength	Mpa	800~1250
电阻率 Specific resistance	μΩcm	110~170
热传导率 Thermal conductivity	W/(m·℃)	5~15
热膨胀系数　平行方向 Coefficient of thermal expansion	10^{-6}/℃	4~9 (//)
热膨胀系数　垂直方向 Coefficient of thermal expansion	10^{-6}/℃	-2~0 (⊥)
比热 Specific heat	J/(kg·℃)	350~550
杨氏模量 Yong`s modulus	Gpa	140~170
失重 Weight Loss	mg/cm^2	客户要求Specification by user

磁性参数及换算
Magnetic Parameter Conversion

参数及表示 Parameter and Symbol	国际单位 SI-unit	单位换算 Conversion
磁感应强度 B Flux density B	T(Tesla)	$1T=1Vs/m^2=10kG$
磁极化强度 J Polarization J	T(Tesla)	$1T=1Vs/m^2=10kG$
磁场强度 H Magnetic field strength H	A/M	$1A/m=4\pi/1000\ Oe\approx0.01257Oe$
磁能积 (BH)m Energy density (BH)m	Kj/m^3	$1kJ/m^3=0.126MGOe$
磁通 Φ Magnetic flux Φ	Wb(Weber)	1Wb=1Vs=10 Mx

涂层及使用环境
Coating Types and Applications

种 类 Coating type	物理性能 Physical properties	使用环境 Environment of magnet application	涂层厚度 Thickness of Coating layer
锌 Zinc	钝化膜颜色分为银白色、蓝白色、彩虹色等；钝化膜致密、稳定、均匀。 Layer with three kinds of color: silver, blue and white, rainbow etc.Coating layer is compact, stable and homogeneous.	兰白锌：一般腐蚀条件，抗短期污染变色的有限防腐场合； Blue and white Zinc:Suitable for common environment. 彩色锌：较为苛刻的气氛环境，要求较高的防腐场合。 Rainbow Zinc: Suitable for higher corrosive environment.	4μm ~ 10μm
镍 Nickel	镀层具有金属光泽，呈淡黄色，色泽均匀，表面清洁。 Homogeneous and Light yellow layer.	双层镍：暴露于室内可能产生凝露的大气中，具有长期稳定性和较长期的使用寿命。 Double Nickel layers: suitable for dew atmosphere, and can be stably used for a long time.	10μm ~ 25μm
		镍铜镍：比双层镍有更长久的防护能力和使用寿命。 Nickel, copper and nickel layers coating: It has a stronger protection ability and longer working life than double layer nickel coating	15μm ~ 30μm
铝 Al	镀层具有银白色金属光泽，色泽均匀，表面清洁 Homogeneous silver color and clean layer.	用于要求较高的防腐场合，镀层对磁性能没有屏蔽效应。 Suitable for tough corrosive enviroment. Al coating has no shielding effect to magnetic property.	10μm ~ 25μm
环氧树脂 Epoxy	黑色、灰色，有一定光泽；涂层均匀。 Black, gray layer with certain luster.	通过喷涂或电泳的方式使磁体能够用于较为苛刻的气氛环境，要求较高的防腐场合。 By spaying or electrophoresis ,suitable for higher corrosive environment.	≥15μm
钝化 / 磷化 Passivation/ Phosphorization	浅灰色，膜层均匀。 Colorless or light gray layer	轻微短期防锈，用于运输和短期储存。 Suitable for the situation of short-term transportation and storage.	≤3um

加工及服务能力

- 可以通过磨削、切片、线切割、掏孔、打孔等加工方法，提供各种形状的钕铁硼永磁体
- 可以对各种形状的稀土永磁体进行表面处理，例如电泳、镀锌、镍、镍铜镍及磷化等，以保证产品的外观和耐腐蚀特性
- 可以通过单极、多极、幅向等方式对稀土永磁体进行充磁，以满足客户的各种需求
- 可以根据客户的要求进行稀土永磁体的再加工，例如老化处理、退磁、退镀、再充磁等
- 可以通过全谱直读电感耦合等离子发射光谱仪（ICP）对原材料纯度及稀土永磁体进行成份分析，通过扫描电镜分析稀土永磁体的微观组织，通过激光粒度仪对稀土永磁粉粒度大小及分布进行详细分析，通过稀土永磁标准检测系统对稀土永磁体进行常温及不同温度下磁性能和相关参数的标定及分析
- 可以通过恒温恒湿、盐雾、蒸气压力、跌落实验和测厚仪对产品的镀层进行全面的分析
- 可以提供磁路分析设计，为用户有效的应用稀土永磁体提供科学的依据
- 对于有特殊要求的稀土永磁体及组件，可以承制多品种小批量产品

超高矫顽力永磁测量仪
Pulsed Field Magnetometer

扫描电子显微镜
Scanning Electron Microscope（SEM）

轮廓投影仪
Contour Projector

电感耦合等离子吸收光谱仪　ICP-AES

磁材自动检测设备
Magnetic Material AOI Machine

NdFeB magnet manufature and service

- All kinds of shapes of magnets can be supplied after grinding, electric wire cutting, mechanical drilling and cutting, and other methods.
- All kinds of magnets with coating can be supplied, such as electric coating, electroplating and phosphorizing and so on. It will guarantee a good appearance and anti-corrosion characteristics.
- The magnet can be magnetized in single, multi and radial directions.
- According to the requirements of customers, magnet can be aged, demagnetized, re-magnetized after demagnetization.
- The chemical compositions of raw materials and magnets can be analyzed by ICP. The magnet microstructure can be analyzed by SEM and magnetic powder size distribution measured by the Laser Particle Size Analyzer. The magnetic properties can be tested by B-H tester at both room temperature and high temperatures.
- The coating layer can be analyzed by SST, PCT, HHT, HAST, dropping and layer thickness tester.
- The magnetic circuit analysis and design can be offered.
- Magnets with special characteristics or assembly parts are also available for customers.

连续真空烧结炉
Continuous Vacuum Sintering Furnace

多线切割机
Multiwire Saw

自动平行压机
Automatic Parallel Pressing Machine

全自动电镀线 Automatic Electroplating Line

全自动喷涂线
Automatic Spray Coating Line

稀土资源
Resource of Rare Earth

稀土资源在中国有广泛的分布，分布地区主要包括内蒙古、四川、山东和南方七省（江西、广东、广西、福建、湖南、云南、贵州）。

安泰科技股份有限公司与中国主要的稀土集团建立了密切的联系；同时母公司中国钢研科技集团与中铝集团共同成立了山东钢研中铝稀土科技有限公司，更进一步稳定了稀土资源的供应。

Rare Earth resource has a wide distribution in China, including Inner Mongolia, Sichuan, Shandong, 7 southern provinces(Jiangxi, Guangdong, Guangxi, Fujian, Hunan, Yunnan, Guizhou).

AT&M has built close business collaboration with main State-Owned-Enterprise Rare Earth Groups of China. Meanwhile, our mother company CISRI founded ShanDong Rare Earth Group in ShanDong Province with Chinalco. This company will guarantee a consistent supply of rare earth resource for AT&M.

公司声明

一、产品说明

1. 资料中磁性能表所列的Br、Hci、Hcb和（BH）m数据是按照GB/T13560-2000或国际标准IEC404-5测量所得到的；
2. 烧结钕铁硼（NdFeB）在保存和使用中，请避开如下环境，否则会影响磁特性和材质；
   ①腐蚀性气体（Cl_2、NH_3、SO_2、NO_2）
   ②高导电性的环境（例如含电解质的水中等）
   ③酸性、碱性、有机溶剂等
   ④氢气环境
   ⑤高温高湿环境
3. 一般情况下，烧结钕铁硼（NdFeB）磁体由于加热会导致磁性能的降低，在超过居里温度时会完全失去磁性，设计和使用时应根据具体的温度特性来决定选用不同牌号的烧结钕铁硼（NdFeB）磁体；
4. 烧结钕铁硼（NdFeB）磁体的韧性较低，抗冲击性较差，容易产生破裂和缺口，在使用时尽量避免直接冲击。

二、客户须知

1. 着磁后的烧结钕铁硼（NdFeB）磁体带有高强磁场和吸力，请避免接近磁卡、手机或电子器材等可磁化物品；小心操作，防止夹手；
2. 未经本公司明确许可，任何公司和个人不得转载或用于其他用途；
3. 本公司提供的产品仅用于普通用途，若有医疗或军事等特殊用途的请与本公司协商。

Corporation Declaration

一. Product Specification

1. All the data listed in magnet property table, such as Br, Hci, (BH)m, are measured as per Chinese national standard GB/T13560-2000 or international standard IEC404-5.
2. Please avoid the following condition in the storaga and usage of sintered NdFeB, or the magnet,properties and material would be affected:
   ① Corrosive gas (Cl_2, NH_3, SO_2, NO_2)
   ② High conductive condition (such as electrolyte)
   ③ Acid , alkalescence, organic impregnant et al.
   ④ Hydrogen
   ⑤ High temperature and high humidity condition
3. In normal condition, when sintered NdFeB magnet is heated, the magnetic properties will decrease with the increasing temperature, and it will completely disappear when the increasing temperature is above Curie temperature. Different sintered NdFeB magnet should be chosen for design and usage according to actual temperature characteristics.
4. Sintered NdFeB magnet has comparatively low toughness and shock resistance, it is prone to fracture, therefore direct impaction should be avoided in using

二. Notice

1. Magnetized sintered NdFeB magnet has high magnetic field therefore magnetism, mobile telephone, electrical equipment and other thing prone to magnetize should be kept away and be careful in operation to prevent form being nipped.
2. Any company and person should not transship this file or use for other purpose without our clear permissiom.
3. The magnets made in AT&M are for normal use only please consult with us if there are special application such as in medical treatment and military.

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