NdFeB

Production Process

Raw Material



Strip Casting



Hydrogen Decrepitation



Jet Miling



Pressing



Sintering



Inspection



Machining



Plating



Magnetizing



NdFeB

Product Performance Parameters And Characteristics

Performance Table

Properties Grade	Max Energy Product	Remanence	Coercive Force	Intrinsic Coercive Force	Working Temperature	Temp Coefficient	
	(BH)max	Br	Hcb	Hci	Tw	α(Br)	β(Br)
	KJ/m3(MGOe)	mT(KGs)	KA/m(KOe)	KA/m(KOe)	L/D≥0.7(℃)		
N35	263-287(33-36)	1170-1220(11.7-12.2)	≥868(≥10.9)	≥955(≥12)	≤80	-0.12	-0.8
N38	287-310(36-39)	1220-1250(12.2-12.5)	≥899(≥11.3)	≥955(≥12)	≤80	-0.12	-0.8
N40	302-326(38-41)	1250-1280(12.5-12.8)	≥907(≥11.4)	≥955(≥12)	≤80	-0.12	-0.8
N42	318-342(40-43)	1280-1320(12.8-13.2)	≥915(≥11.5)	≥955(≥12)	≤80	-0.12	-0.8
N45	342-366(43-46)	1320-1380(13.2-13.8)	≥923(≥11.6)	≥955(≥12)	≤80	-0.12	-0.8
N48	366-390(46-49)	1380-1420(13.8-14.2)	≥923(≥11.6)	≥955(≥12)	≤80	-0.12	-0.8
N50	382-406(48-51)	1400-1450(14.0-14.5)	≥955(≥12.0)	≥955(≥12)	≤80	-0.12	-0.8
N52	398-422(50-53)	1430-1480(14.3-14.8)	≥836(≥10.5)	≥955(≥12)	≤80	-0.12	-0.8
N54	406-438(51-55)	1450-1490(14.5-14.9)	≥836(≥10.5)	≥876(≥11)	≤80	-0.12	-0.8
N35M	263-287(33-36)	1170-1220(11.7-12.2)	≥868(≥10.9)	≥1114(≥14)	≤100	-0.12	-0.7
N38M	287-310(36-39)	1220-1250(12.2-12.5)	≥899(≥11.3)	≥1114(≥14)	≤100	-0.12	-0.7
N40M	302-326(38-41)	1250-1280(12.5-12.8)	≥923(≥11.6)	≥1114(≥14)	≤100	-0.12	-0.7
N42M	318-342(40-43)	1280-1320(12.8-13.2)	≥955(≥12.0)	≥1114(≥14)	≤100	-0.12	-0.7
N45M	342-366(43-46)	1320-1380(13.2-13.8)	≥995(≥12.5)	≥1114(≥14)	≤100	-0.12	-0.7
N48M	358-390(45-49)	1370-1430(13.7-14.3)	≥1027(≥12.9)	≥1114(≥14)	≤100	-0.12	-0.7
N50M	374-406(47-51)	1400-1450(14.0-14.5)	≥1033(≥13.0)	≥1114(≥14)	≤100	-0.12	-0.7
N52M	390-422(49-53)	1420-1460(14.2-14.6)	≥1043(≥13.1)	≥1114(≥14)	≤100	-0.12	-0.7
N54M	406-438(51-55)	1450-1490(14.5-14.9)	≥1051(≥13.2)	≥1114(≥14)	≤100	-0.12	-0.7
N35H	263-287(33-36)	1170-1220(11.7-12.2)	≥868(≥10.9)	≥1353(≥17)	≤120	-0.12	-0.65
N38H	287-310(36-39)	1220-1250(12.2-12.5)	≥899(≥11.3)	≥1353(≥17)	≤120	-0.12	-0.65
N40H	302-326(38-41)	1250-1280(12.5-12.8)	≥923(≥11.6)	≥1353(≥17)	≤120	-0.12	-0.65
N42H	318-342(40-43)	1280-1320(12.8-13.2)	≥955(≥12.0)	≥1353(≥17)	≤120	-0.12	-0.65
N45H	342-366(43-46)	1300-1370(13.0-13.7)	≥973(≥12.3)	≥1353(≥17)	≤120	-0.12	-0.65
N48H	358-390(45-49)	1370-1420(13.7-14.2)	≥995(≥12.5)	≥1353(≥17)	≤120	-0.12	-0.65
N50H	374-406(47-51)	1400-1450(14.0-14.5)	≥1003(≥12.6)	≥1353(≥17)	≤120	-0.12	-0.65
N52H	390-422(49-53)	1420-1460(14.2-14.6)	≥1043(≥13.1)	≥1353(≥17)	≤120	-0.12	-0.65
N54H	398-438(50-55)	1440-1490(14.4-14.9)	≥1043(≥13.1)	≥1353(≥17)	≤120	-0.12	-0.65
N35SH	263-287(33-36)	1170-1220(11.7-12.2)	≥876(≥11.0)	≥1592(≥20)	≤150	-0.11	-0.55
N38SH	287-310(36-39)	1220-1250(12.2-12.5)	≥907(≥11.4)	≥1592(≥20)	≤150	-0.11	-0.55
N40SH	302-326(38-41)	1250-1280(12.5-12.8)	≥939(≥11.8)	≥1592(≥20)	≤150	-0.11	-0.55
N42SH	318-342(40-43)	1280-1320(12.8-13.2)	≥963(≥12.1)	≥1592(≥20)	≤150	-0.11	-0.55
N45SH	342-366(43-46)	1320-1380(13.2-13.8)	≥979(≥12.3)	≥1592(≥20)	≤150	-0.11	-0.55
N48SH	358-390(45-49)	1370-1430(13.7-14.3)	≥1011(≥12.7)	≥1592(≥20)	≤150	-0.11	-0.55
N50SH	374-406(47-51)	1400-1450(14.0-14.5)	≥1033(≥12.6)	≥1592(≥20)	≤150	-0.11	-0.55
N52SH	390-422(49-53)	1420-1460(14.2-14.6)	≥1033(≥12.6)	≥1592(≥20)	≤150	-0.11	-0.55
N30UH	223-247(28-31)	1080-1130(10.8-11.3)	≥812(≥10.2)	≥1990(≥25)	≤180	-0.11	-0.5
N33UH	247-271(31-34)	1130-1170(11.3-11.7)	≥852(≥10.7)	≥1990(≥25)	≤180	-0.11	-0.5
N35UH	263-287(33-36)	1180-1220(11.8-12.2)	≥860(≥10.8)	≥1990(≥25)	≤180	-0.11	-0.5
N38UH	287-310(36-39)	1220-1250(12.2-12.5)	≥899(≥11.3)	≥1990(≥25)	≤180	-0.11	-0.5
N40UH	302-326(38-41)	1250-1280(12.5-12.8)	≥939(≥11.8)	≥1990(≥25)	≤180	-0.11	-0.5
N42UH	318-342(40-43)	1280-1320(12.8-13.2)	≥963(≥12.1)	≥1990(≥25)	≤180	-0.11	-0.5
N45UH	342-366(43-46)	1320-1380(13.2-13.8)	≥979(≥12.3)	≥1990(≥25)	≤180	-0.11	-0.5
N30EH	223-247(28-31)	1080-1130(10.8-11.3)	≥812(≥10.2)	≥2388(≥30)	≤200	-0.11	-0.45
N33EH	247-271(31-34)	1130-1170(11.3-11.7)	≥836(≥10.5)	≥2388(≥30)	≤200	-0.11	-0.45
N35EH	263-287(33-36)	1170-1220(11.7-12.2)	≥876(≥11.0)	≥2388(≥30)	≤200	-0.11	-0.45
N38EH	287-310(36-39)	1220-1250(12.2-12.5)	≥899(≥11.3)	≥2388(≥30)	≤200	-0.11	-0.45
N40EH	302-326(38-41)	1250-1280(12.5-12.8)	≥923(≥11.6)	≥2388(≥30)	≤200	-0.11	-0.45
N42EH	318-342(40-43)	1280-1320(12.8-13.2)	≥931(≥11.7)	≥2388(≥30)	≤200	-0.11	-0.45
N30AH	223-247(28-31)	1080-1130(10.8-11.3)	≥819(≥10.3)	≥2624(≥33)	≤230	-0.1	-0.38
N33AH	247-271(31-34)	1130-1170(11.3-11.7)	≥843(≥10.6)	≥2624(≥33)	≤230	-0.1	-0.38
N35AH	263-287(33-36)	1170-1220(11.7-12.2)	≥876(≥11.0)	≥2624(≥33)	≤230	-0.1	-0.38

Physical Parameter

Item	Parameters	Unit	Reference Value
Additional magnetic properties	Temp.COEFF.OF Br	(α(Br)/(%/K)	-0.1~-0.12
	Temp.COEFF.OF Hcj	(β(Hcj)/(%/K)	-0.38~-0.8
	Curie Temperature	(Tc) /°C	310-380
	Recoil Permeability	(μrec) (-)	1.05
Mechanical and physical properties	Density	(g/cm3)	7.5-7.8
	Vickers Hardness	(Hv)	550-650
	Electrical Resistivity	(μΩ·m)	1.3-1.6
	Compressive Strength	Mpa	1000-1200
	Tensile Strength	Mpa	80
	Bending Strength	MPa	250
	Thermal Conductivity	(W/ (m·K)	6-8
	Young's Modulus	Gpa	160
	Coefficient of Thermal Expansion(C⊥)*	(10^{-6}/°C)	-1.5
	Coefficient of Thermal Expansion(C//)*	(10-6/°C)	6.5

High Performance

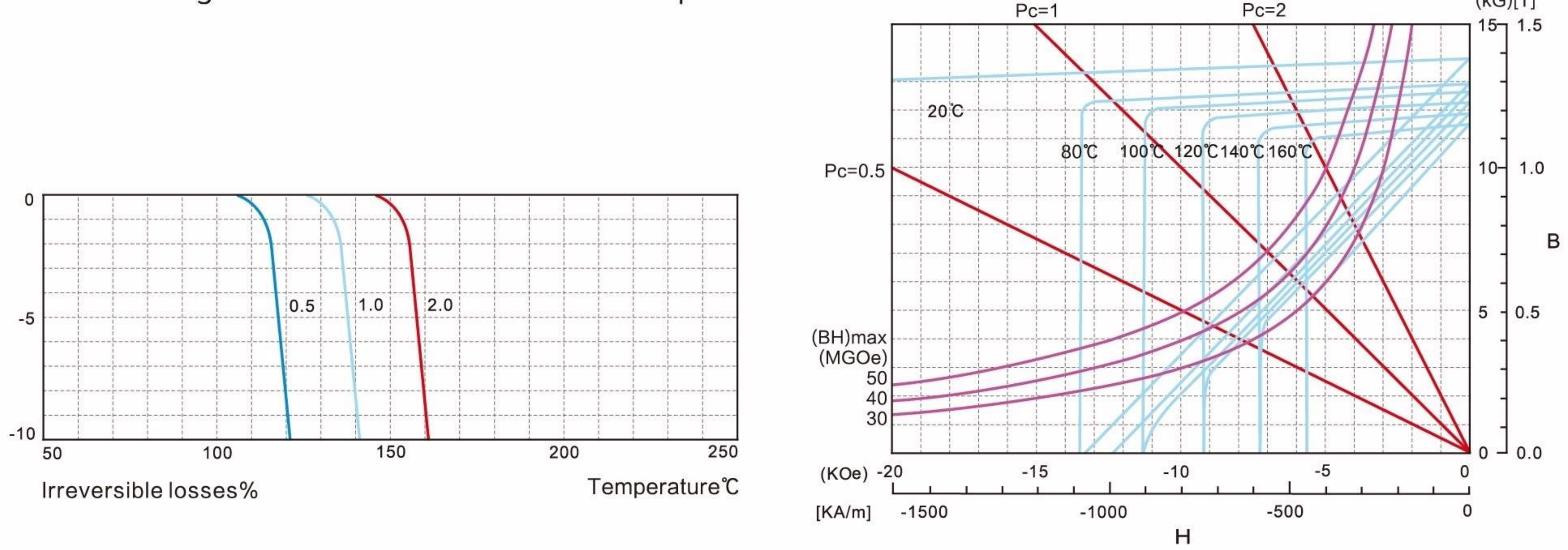
Hcj(KOe)	30	33	35	38	40	42	45	48	50	52	54	(BH)max (MGOe)	
33	30AH	33AH	35AH									230	
30	30EH	33EH	35EH	38EH	40EH	42EH						200	
25	30UH	33UH	35UH	38UH	40UH	42UH	45SH					180	Max Working Temp. L/C=0.7
20			35SH	38SH	40SH	42SH	45SH	48SH	50SH	52SH		150	
17			35H	38H	40H	42H	45H	48H	50H	52H	N54H	120	
14			35M	38M	40M	42M	45M	48M	50M	52M	N54M	100	
12			N35	N38	N40	N42	N45	N48	N50	N52	N54	80	
	10.8	11.3	11.7	12.2	12.5	12.8	13.2	13.7	14	14.2	14.5	Br(KGs)	

HRe Free Dy Diffusion Tb Diffusion

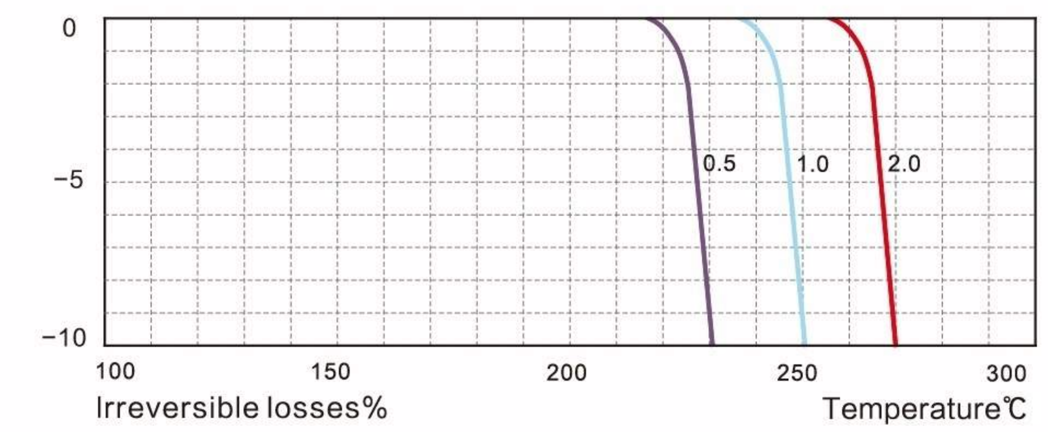
NdFeB

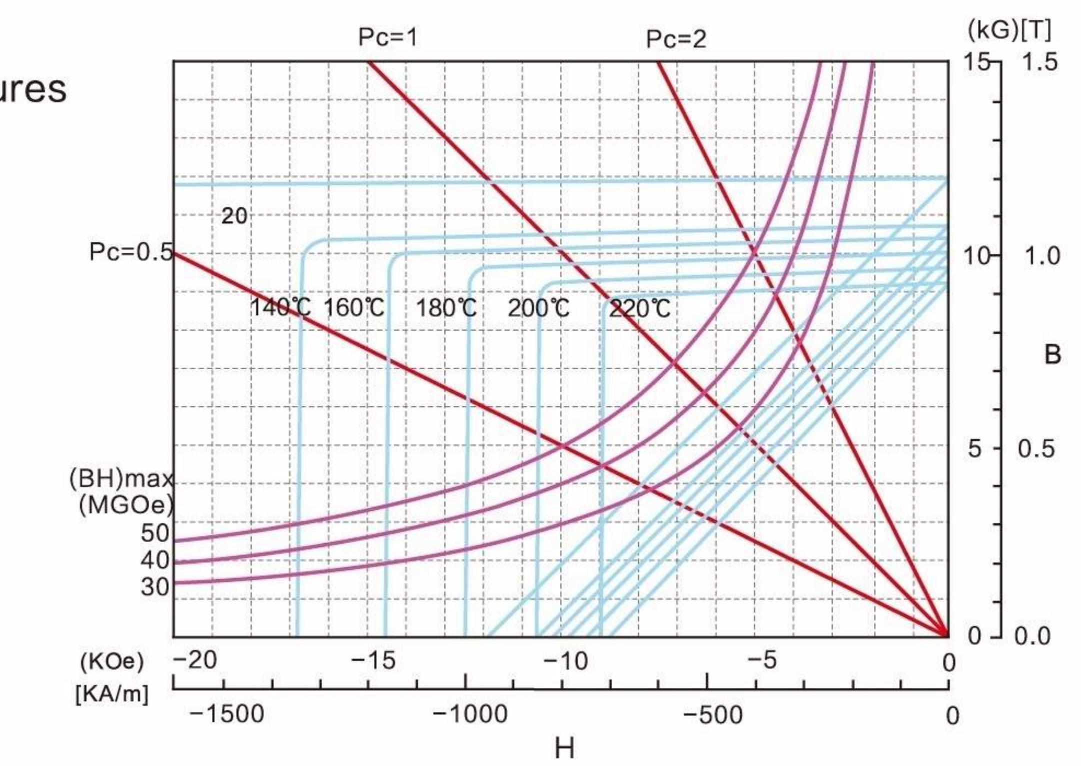
Demagnetizing Report With Irreversible Magnetic Property Loss Chart

N48SH Demagnetization Curves at Different Temperatures

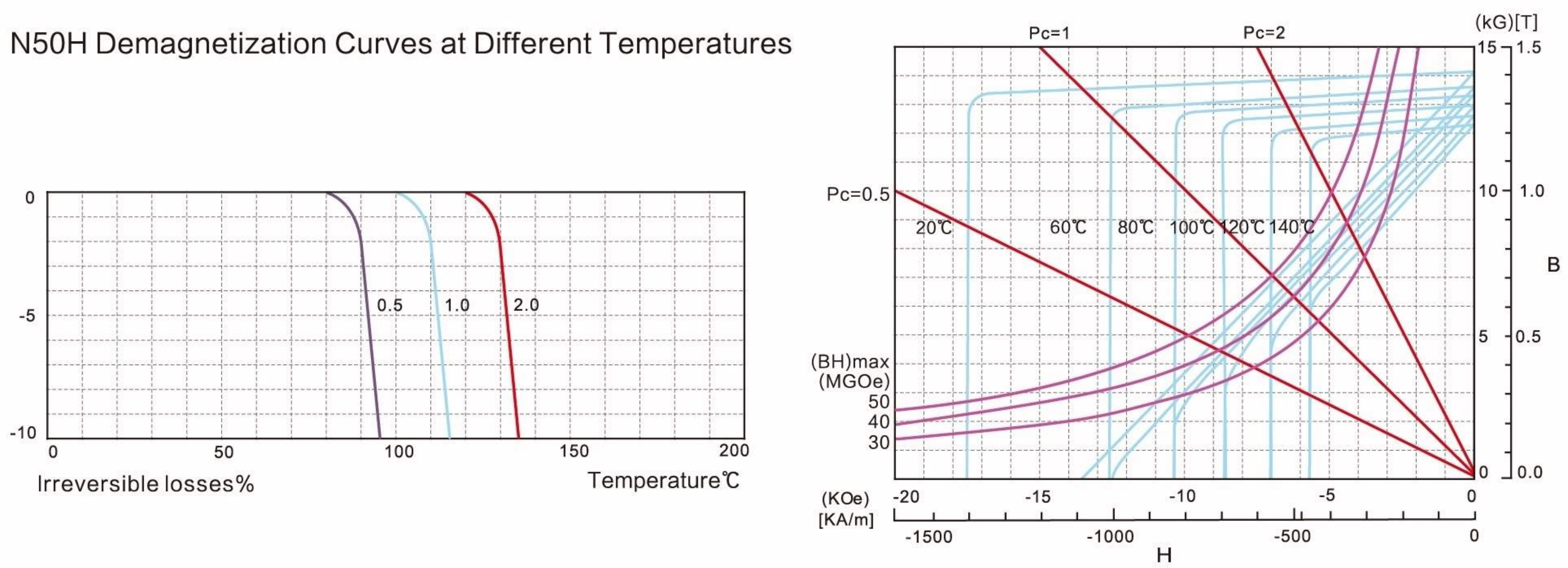


N35AH Demagnetization Curves at Different Temperatures

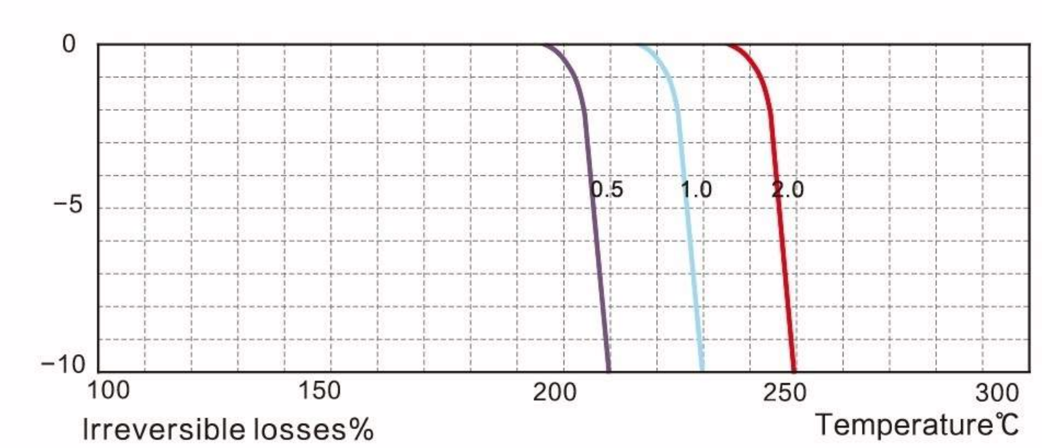


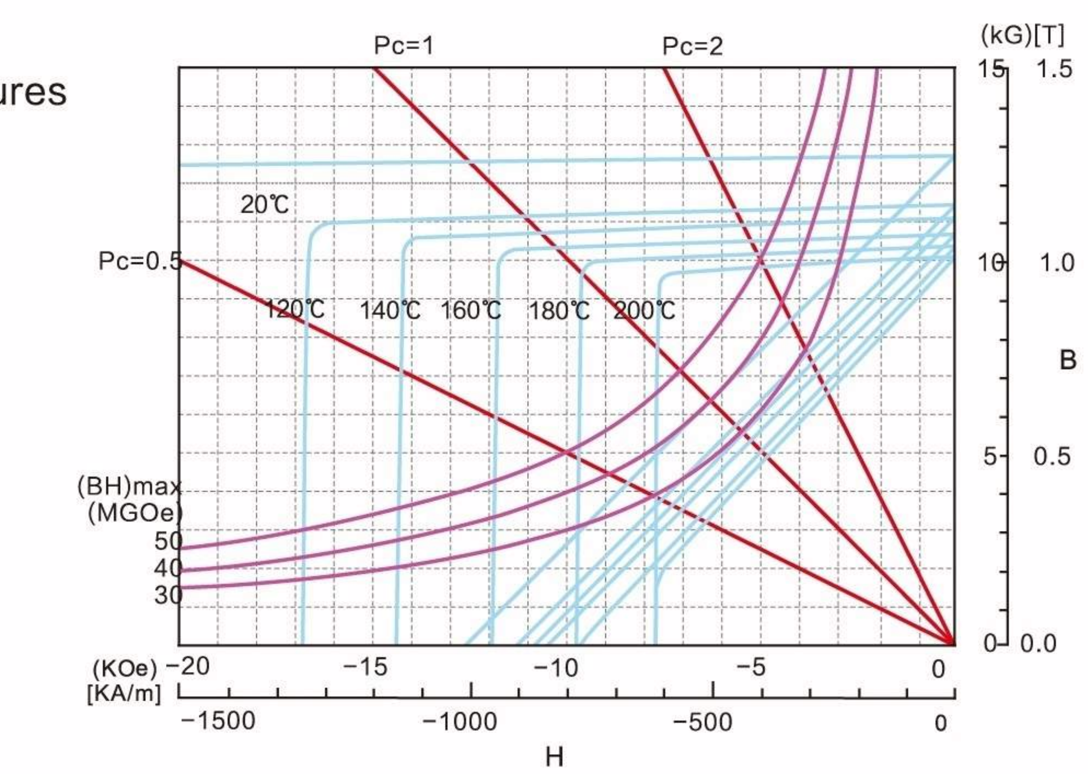


N50H Demagnetization Curves at Different Temperatures

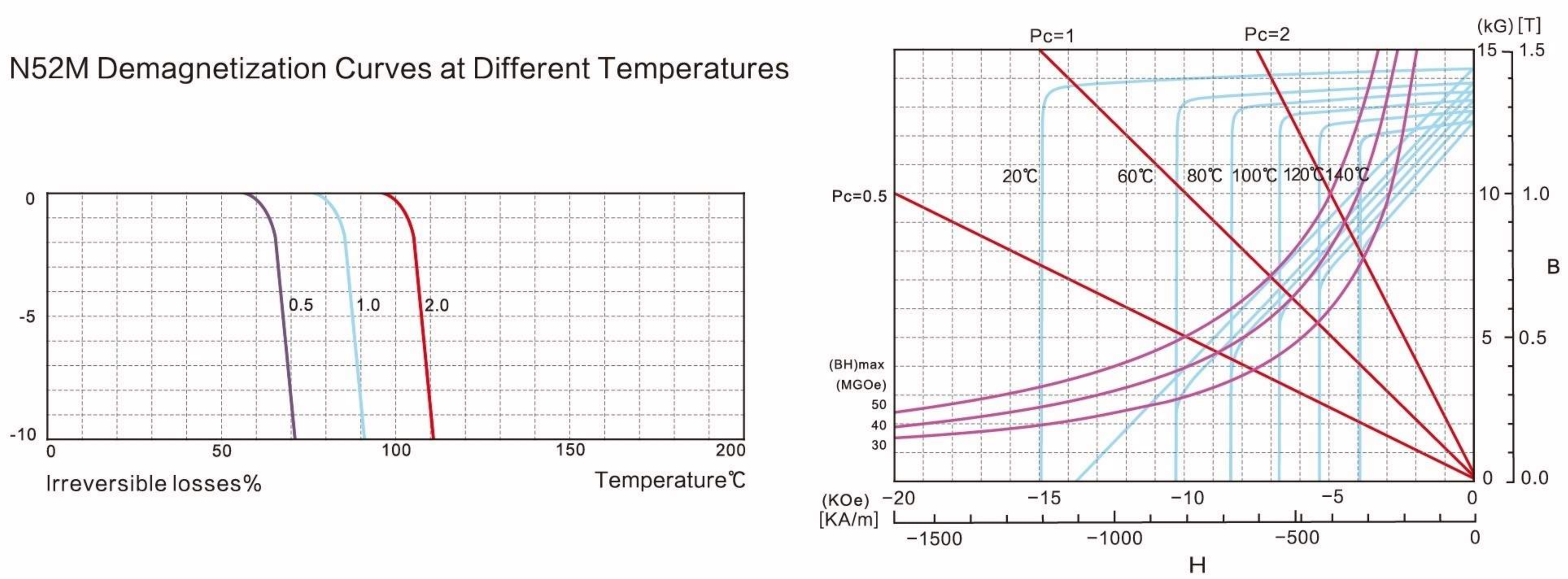


N40EH Demagnetization Curves at Different Temperatures

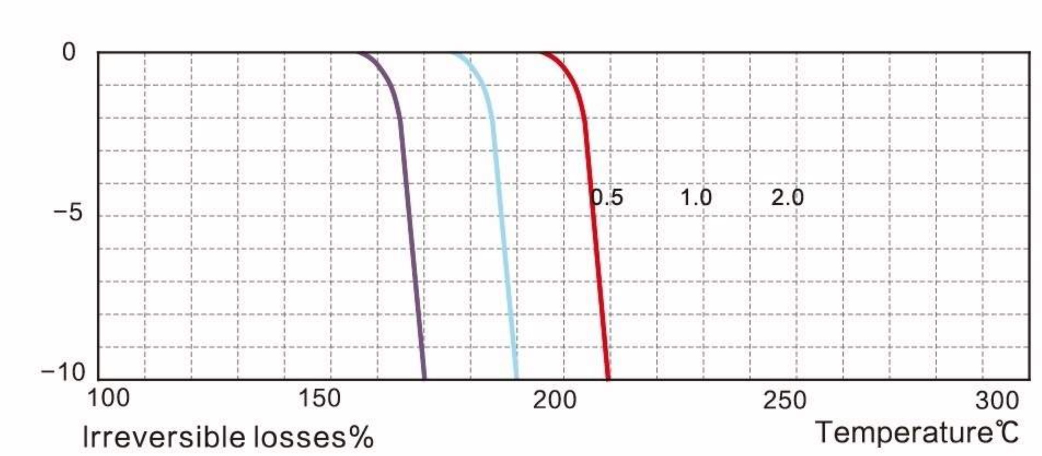


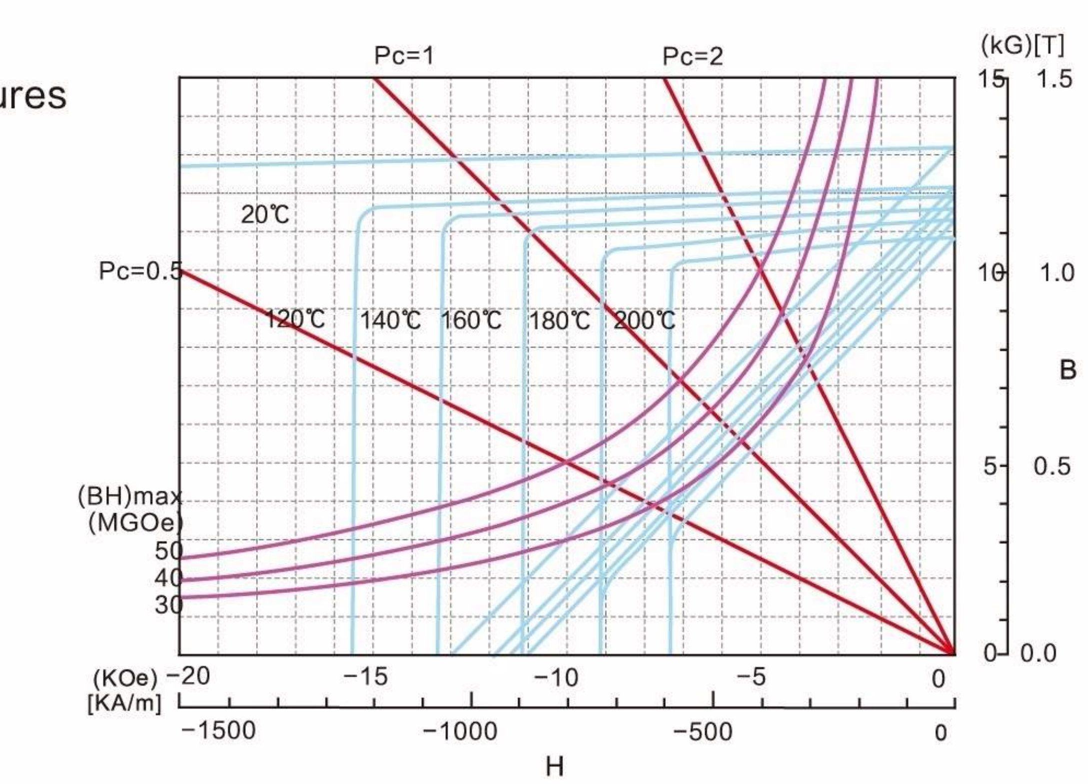


N52M Demagnetization Curves at Different Temperatures



N42EH Demagnetization Curves at Different Temperatures





NdFeB

Coating

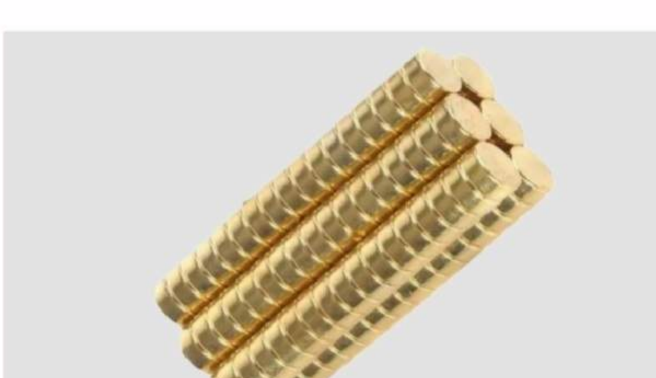
Coating	Technical Procedure Name	Color	Thickness (μm)	Duration (h)			Temperature (℃)	Environment
				SST	Damp Heat Test	PCT		
White Zn	Electrical Coating	Blue	4-10	24	48	---	<160	Normal Temperature
Zinc/ Yellow Chromated	Electrical Coating	Yellow	4-10	48	48	---	<160	Normal Temperature
Chemical Ni	Chemistry Coating	Silver	8-15	96	300	48	<200	Corrosive Environment
Ni-Ni	Electrical Coating	Silver+White	10-20	72	300	48	<200	Corrosive Environment
Ni-Cu-Ni	Electrical Coating	Silver+White	12-25	72	500	48	<200	
Ni-Cu-Ni+Sn	Electrical Coating	Silver+White	12-25	72	500	96	<200	Corrosive Environment
Sprayed Epoxy	Electrophoresis	Black or Grey	15-30	96	120	---	<180	Strong Corrosive Environment
Ni-Cu+ Epoxy	Electrical Coating +Electrophoresis	Black or Grey	25-45	500	1000	---	<200	
Everlube	Electrical Coating	Yellow	10-20	72	500	72	-70~180	
Phosphate/ Passivated	Chemical Deposition	Dark Gray	1-2	---	---	---	<500	Temporary Protection
Vacuum Aluminium	Vacuum Coating	Silver+White	2-10	100	500	72	<500	Fluctuating Temperature Environment
Teflon	Electrical Coating	Black	8-15	24	120	48	<260	High Temperature resistance

SST: Salt Spray Test PCT: Pressure Cooker Test

Zn

Colored Zn

NI-CU-NI

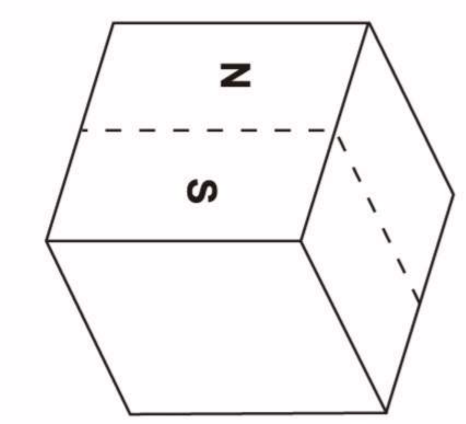


Gold

Phosphate/Passivated

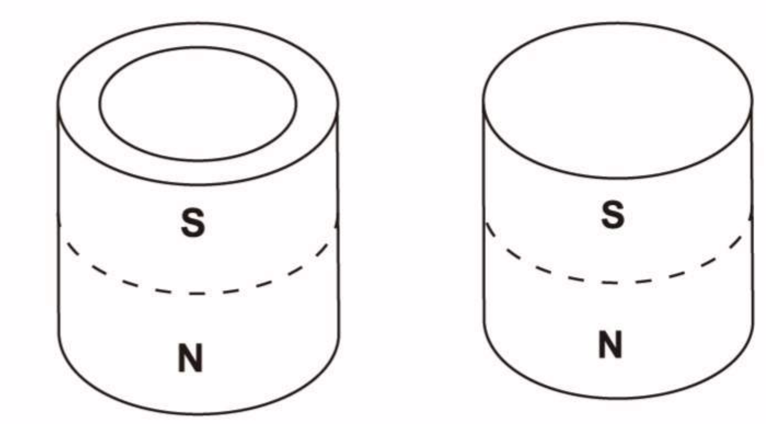
Black Epoxy

Magnetizing Orientation And Dimensions



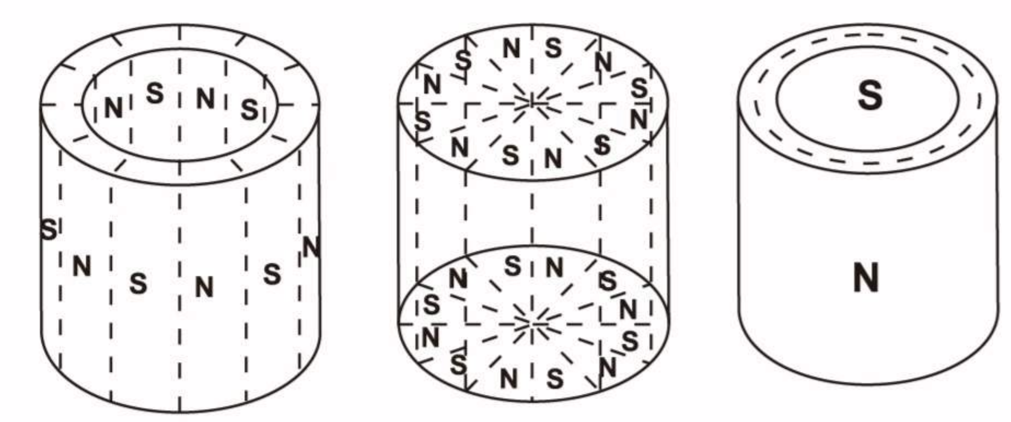
• L/W/H Magnetized

Orientation	Min	Max
L	Customized	200
W	Customized	200
T	Customized	60



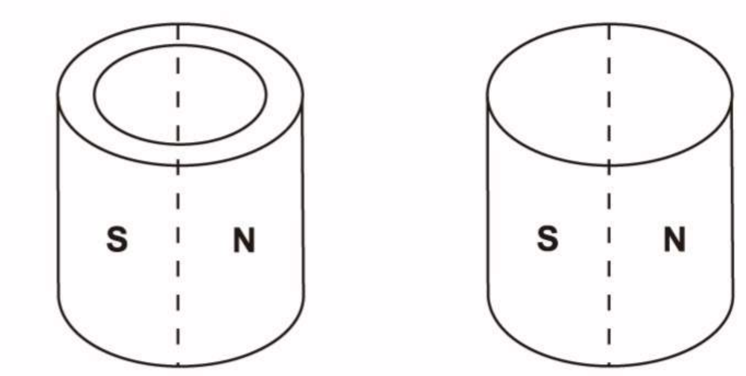
• Axial Magnetized • Axial Magnetized

Orientation	Min	Max
D	Customized	280
d	Customized	(85)
H	Customized	45



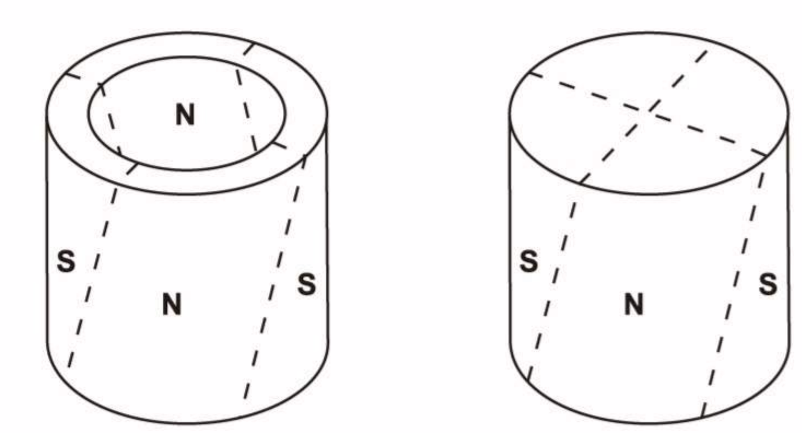
• Multi-poles Magnetized on Diameter • Multi-Poles Magnetized on the Plane • Radial Magnetized

Orientation	Min	Max
D	Customized	Customized
d	Customized	Customized
H	Customized	Customized



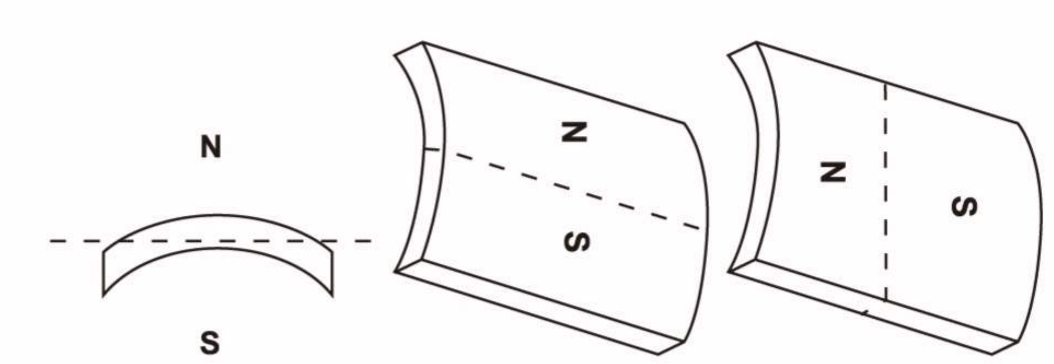
• Diametrical Magnetized • Diametrical Magnetized

Orientation	Min	Max
D	Customized	50
d	Customized	40
H	Customized	60



• Oblique Magnetized • Oblique Magnetized

Orientation	Min	Max
D	Customized	50
d	Customized	Customized
H	Customized	50



• Diametrical Magnetized • Chord Width Magnetized • Magnetized through Length

Orientation	Min	Max
L	Customized	200
W	Customized	100
T	Customized	50
H	Customized	60

* L: Length H: Height
W: Width D: Outer Diameter
T: Thickness d: Inner Diameter