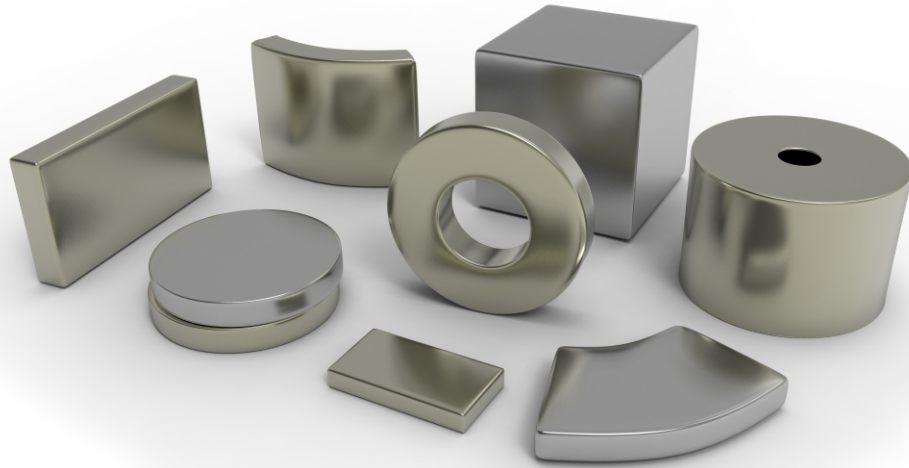




**ARNOLD**<sup>®</sup>  
**MAGNETIC TECHNOLOGIES**



# Neodymium Iron Boron Magnet Catalog

Neodymium iron boron (NdFeB), or “neo” magnets offer the highest energy product of any material today and are available in a wide range of shapes, sizes and grades. Magnetic properties will differ depending upon alignment direction during compaction and upon size and shape.

[www.ArnoldMagnetics.com](http://www.ArnoldMagnetics.com)

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## Neodymium-Iron-Boron Magnet Grades

### Summary Product List & Reference Guide

Basic Grades

Properties	$B_r$		$H_{cB}$		$H_{cJ}$		$(BH)_{max}$		Temp. Coef.		$T_w$	
	Grade**	Typical mT	Typical gauss	min kA/m	min oersteds	min kA/m	min oersteds	Typical kJ/m <sup>3</sup>	Typical MGOe	$\alpha(B_r)$ %/°C	$\alpha(H_{cJ})$ %/°C	max °C
4	<b>N35</b>	1210	12100	860	10800	955	12000	282.5	35	-0.12	-0.618	80
5	<b>N38</b>	1260	12600	860	10800	955	12000	306	38	-0.12	-0.618	80
6	<b>N40</b>	1270	12700	923	11600	955	12000	318	40	-0.12	-0.618	80
7	<b>N42</b>	1315	13150	860	10800	955	12000	334	42	-0.12	-0.618	80
8	<b>N45</b>	1350	13500	860	10800	955	12000	350	44	-0.12	-0.618	80
9	<b>N48</b>	1400	14000	836	10500	875	11000	374	47	-0.12	-0.618	80
10	<b>N50</b>	1425	14250	836	10500	875	11000	390	49	-0.12	-0.618	80
11	<b>N52</b>	1450	14500	836	10500	875	11000	406	51	-0.12	-0.618	60
12	<b>N55</b>	1490	14900	716	9000	876	11000	430	54	-0.15	-0.618	60
13	<b>N33M</b>	1175	11750	836	10500	1114	14000	267	34	-0.12	-0.595	100
14	<b>N35M</b>	1210	12100	868	10900	1114	14000	282.5	35	-0.12	-0.595	100
15	<b>N38M</b>	1260	12600	899	11300	1114	14000	306.5	39	-0.12	-0.595	100
16	<b>N40M</b>	1270	12700	923	11600	1114	14000	322	40	-0.12	-0.595	100
17	<b>N42M</b>	1315	13150	955	12000	1114	14000	338	42	-0.12	-0.595	100
18	<b>N45M</b>	1350	13500	971	12200	1114	14000	354	44	-0.12	-0.595	100
19	<b>N48M</b>	1395	13950	995	12500	1114	14000	378	48	-0.12	-0.595	100
20	<b>N30H</b>	1105	11050	796	10000	1353	17000	235	30	-0.12	-0.572	120
21	<b>N33H</b>	1175	11750	836	10500	1353	17000	267	34	-0.12	-0.572	120
22	<b>N35H</b>	1210	12100	868	10900	1353	17000	282.5	35	-0.12	-0.572	120
23	<b>N38H</b>	1260	12600	899	11300	1353	17000	306.5	39	-0.12	-0.572	120
24	<b>N40H</b>	1270	12700	923	11600	1353	17000	322	40	-0.12	-0.572	120
25	<b>N42H</b>	1300	13000	955	12000	1353	17000	330	41	-0.12	-0.572	120
26	<b>N45H</b>	1350	13500	971	12200	1353	17000	354	44	-0.12	-0.572	120
27	<b>N48H</b>	1390	13900	1011	12700	1273	16000	378	48	-0.12	-0.572	120
28	<b>N50H</b>	1425	14250	836	10500	1273	16000	390	49	-0.12	-0.618	140
29	<b>N30SH</b>	1125	11250	811	10200	1592	20000	243	31	-0.12	-0.549	150
30	<b>N33SH</b>	1175	11750	844	10600	1592	20000	267	34	-0.12	-0.549	150
31	<b>N35SH</b>	1210	12100	876	11000	1592	20000	282.5	35	-0.12	-0.549	150
32	<b>N38SH</b>	1260	12600	907	11400	1592	20000	306.5	39	-0.12	-0.549	150
33	<b>N40SH</b>	1270	12700	939	11800	1592	20000	322	40	-0.12	-0.549	150
34	<b>N42SH</b>	1310	13100	955	12000	1592	20000	330	41	-0.12	-0.549	150
35	<b>N45SH</b>	1350	13500	979	12300	1592	20000	354	44	-0.12	-0.549	150
36	<b>N48SH</b>	1390	13900	995	12500	1512	19000	378	48	-0.12	-0.572	150
37	<b>N28UH</b>	1075	10750	764	9600	1990	25000	227	29	-0.12	-0.51	180
38	<b>N30UH</b>	1125	11250	812	10200	1990	25000	243	31	-0.12	-0.51	180
39	<b>N33UH</b>	1175	11750	852	10700	1990	25000	267	34	-0.12	-0.51	180
40	<b>N35UH</b>	1210	12100	860	10800	1990	25000	282.5	35	-0.12	-0.51	180
41	<b>N38UH</b>	1260	12600	876	11000	1990	25000	306.5	39	-0.12	-0.51	180
42	<b>N40UH</b>	1270	12700	915	11500	1990	25000	318	40	-0.12	-0.51	180

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Click for: [Grain Boundary Diffused Neo Catalog](#)

## Neodymium-Iron-Boron Magnet Grades

### Summary Product List & Reference Guide

Basic Grades

Properties	$B_r$		$H_{cB}$		$H_{cJ}$		$(BH)_{max}$		Temp. Coef.		$T_w$	
	Grade**	Typical mT	Typical gauss	min kA/m	min oersteds	min kA/m	min oersteds	Typical kJ/m <sup>3</sup>	Typical MGOe	$\alpha(B_r)$ %/°C	$\alpha(H_{cJ})$ %/°C	max °C
43	<b>N42UH</b>	1310	13100	955	12000	1990	25000	330	41	-0.12	-0.51	180
44	<b>N45UH</b>	1350	13500	995	12500	1910	24000	358	45	-0.12	-0.51	180
45	<b>N28EH</b>	1085	10850	780	9800	2388	30000	227	29	-0.12	-0.472	200
46	<b>N30EH</b>	1125	11250	812	10200	2388	30000	243	31	-0.12	-0.472	200
47	<b>N33EH</b>	1165	11650	820	10300	2388	30000	267	34	-0.12	-0.472	200
48	<b>N35EH</b>	1200	12000	836	10500	2388	30000	279	35	-0.12	-0.472	200
49	<b>N38EH</b>	1235	12350	899	11300	2388	30000	302.5	38	-0.12	-0.472	200
50	<b>N40EH</b>	1270	12700	915	11500	2388	30000	314	39	-0.12	-0.465	200
51	<b>N28AH</b>	1075	10750	780	9800	2706	34000	223	28	-0.12	-0.449	220
52	<b>N30AH</b>	1120	11200	812	10200	2706	34000	239	30	-0.12	-0.449	220
53	<b>N35AH</b>	1195	11950	883	907	931	11700	269	34	-0.12	-0.375	220

## Neodymium-Iron-Boron Magnet Grades

### SUMMARY PRODUCT LIST & REFERENCE GUIDE

Enhanced Flux Grades\*\*

54	<b>N35X</b>	1210	12100	860	10800	955	12000	282.5	35	-0.11	-0.618	80
55	<b>N35MX</b>	1210	12100	868	10900	1114	14000	282.5	35	-0.11	-0.595	100
56	<b>N45MX</b>	1350	13500	971	12200	1114	14000	354	44	-0.11	-0.595	100
57	<b>N38HX</b>	1260	12600	899	11300	1353	17000	306.5	39	-0.11	-0.572	120
58	<b>N40HX</b>	1285	12850	923	11600	1353	17000	322	40	-0.11	-0.572	120
59	<b>N45HX</b>	1350	13500	971	12200	1353	17000	354	44	-0.11	-0.572	120
60	<b>N33SHX</b>	1175	11750	844	10600	1592	20000	267	34	-0.11	-0.549	150
61	<b>N35SHX</b>	1210	12100	876	11000	1592	20000	282.5	35	-0.11	-0.549	150
62	<b>N38SHX</b>	1260	12600	907	11400	1592	20000	306.5	39	-0.11	-0.549	150
63	<b>N42SHX</b>	1310	13100	955	12000	1592	20000	330	41	-0.11	-0.549	150
64	<b>N30SHZ</b>	1125	11250	804	10100	1592	20000	243	31	-0.1	-0.549	150
65	<b>N33SHZ</b>	1175	11750	844	10600	1592	20000	267	34	-0.1	-0.549	150
66	<b>N35SHZ</b>	1210	12100	876	11000	1592	20000	282.5	35	-0.1	-0.549	150
67	<b>N38SHZ</b>	1260	12600	907	11400	1592	20000	306.5	39	-0.1	-0.549	150
68	<b>N45SHZ</b>	1350	13500	979	12300	1592	20000	354	44	-0.1	-0.549	150
69	<b>N30UHZ</b>	1125	11250	812	10200	1990	25000	243	31	-0.1	-0.51	180
70	<b>N33UHZ</b>	1175	11750	852	10700	1990	25000	267	34	-0.1	-0.51	180
71	<b>N38UHZ</b>	1260	12600	876	11000	1990	25000	306.5	39	-0.1	-0.51	180
72	<b>N40UHZ</b>	1285	12850	915	11500	1990	25000	318	40	-0.1	-0.51	180
73	<b>N30EHZ</b>	1125	11250	812	10200	2388	30000	243	31	-0.1	-0.472	200
74	<b>N38EHZ</b>	1235	12350	899	11300	2388	30000	302.5	38	-0.1	-0.472	200
75	<b>N30AHZ</b>	1120	11200	812	10200	2706	34000	239	30	-0.1	-0.449	220

\*\* Please check with the factory for availability of grades ending in "X" or "Z".

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Click for: [Grain Boundary Diffused Neo Catalog](#)

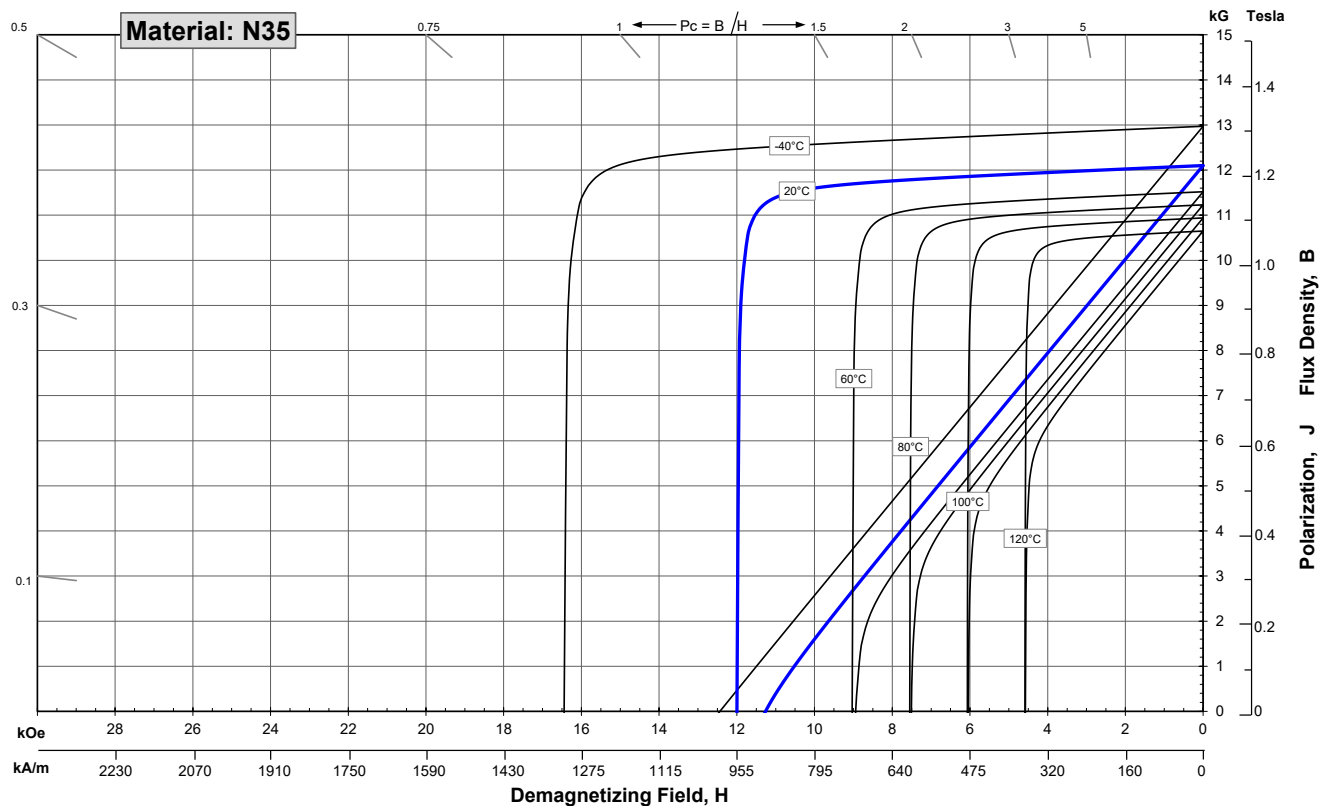
## Sintered Neodymium-Iron-Boron Magnets

These are also referred to as "Neo" or NdFeB magnets. They offer a combination of high magnetic output at moderate cost. Please contact Arnold for additional grade information and recommendations for protective coating. Assemblies using these magnets can also be provided.

Characteristic	Units	Magnetic Properties		
		min.	nominal	max.
<b>Br</b> , Residual Induction	Gauss	11,700	12,100	12,500
	mT	1170	1210	1250
<b>H<sub>cB</sub></b> , Coercivity	Oersteds	10,800	11,400	12,000
	kA/m	860	907	955
<b>H<sub>cJ</sub></b> , Intrinsic Coercivity	Oersteds	12,000		
	kA/m	955		
<b>BH<sub>max</sub></b> , Maximum Energy Product	MGOe	33	36	38
	kJ/m <sup>3</sup>	263	283	302

Characteristic	Units	Thermal Properties	
		C //	C ⊥
Reversible Temperature Coefficients <sup>(1)</sup>			
	of Induction, α(Br)	%/°C	-0.12
	of Coercivity, α(H <sub>cJ</sub> )	%/°C	-0.62
Coefficient of Thermal Expansion <sup>(2)</sup>	ΔL/L per °Cx10 <sup>-6</sup>	7	-1
Thermal Conductivity	kcal/mhr°C	5.3	5.8
Specific Heat <sup>(3)</sup>	cal/g°C	0.11	
Curie Temperature, T <sub>c</sub>	°C	310	
Flexural Strength	psi	41,300	
	MPa	285	
Density	g/cm <sup>3</sup>	7.6	
Hardness, Vickers	Hv	620	
Electrical Resistivity, ρ	μΩ • cm	150 // 130 ⊥	

Notes: (1) Coefficients measured between 20 and 80 °C  
 (2) Between 20 and 200 °C. Values are typical and can vary.  
 (3) Between 20 and 140 °C



1 kA/m = 12.566 Oe    1 kOe = 79.577 kA/m

**Notes** The material data and demagnetization curves shown above represent typical properties that may vary due to product shape and size. **Demagnetization curves show nominal Br and minimum H<sub>cI</sub>.** Magnets can be supplied thermally stabilized or magnetically calibrated to customer specifications. Additional grades are available. Please contact the factory for information.

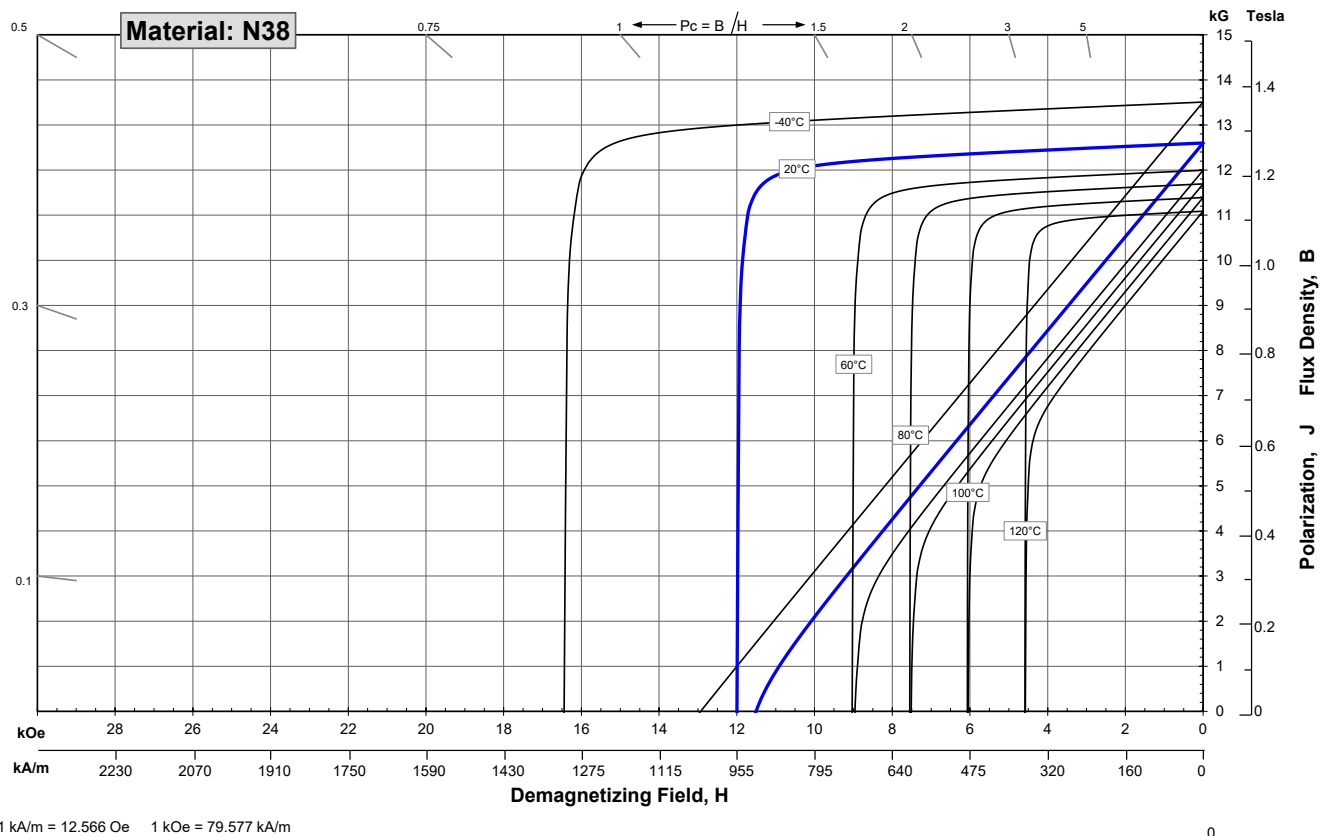
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Characteristic	Units	Magnetic Properties		
		min.	nominal	max.
<b>Br</b> , Residual Induction	Gauss	12,200	12,600	13,000
	mT	1220	1260	1300
<b>H<sub>cB</sub></b> , Coercivity	Oersteds	10,800	11,600	12,400
	kA/m	860	923	987
<b>H<sub>cJ</sub></b> , Intrinsic Coercivity	Oersteds	12,000		
	kA/m	955		
<b>BH<sub>max</sub></b> , Maximum Energy Product	MGOe	36	39	41
	kJ/m <sup>3</sup>	286	306	326

Characteristic	Units	Thermal Properties	
		C //	C ⊥
Reversible Temperature Coefficients <sup>(1)</sup>			
	of Induction, α(Br)	%/°C	-0.12
	of Coercivity, α(H <sub>cj</sub> )	%/°C	-0.62
Coefficient of Thermal Expansion <sup>(2)</sup>	ΔL/L per °Cx10 <sup>-6</sup>	7	-1
Thermal Conductivity	kcal/mhr°C	5.3	5.8
Specific Heat <sup>(3)</sup>	cal/g°C	0.11	
Curie Temperature, T <sub>c</sub>	°C	310	
Flexural Strength	psi	41,300	
	MPa	285	
Density	g/cm <sup>3</sup>	7.6	
Hardness, Vickers	Hv	620	
Electrical Resistivity, ρ	μΩ • cm	150 // 130 ⊥	

Notes: (1) Coefficients measured between 20 and 80 °C  
 (2) Between 20 and 200 °C. Values are typical and can vary.  
 (3) Between 20 and 140 °C



**Notes** The material data and demagnetization curves shown above represent typical properties that may vary due to product shape and size. **Demagnetization curves show nominal Br and minimum H<sub>cj</sub>.** Magnets can be supplied thermally stabilized or magnetically calibrated to customer specifications. Additional grades are available. Please contact the factory for information.

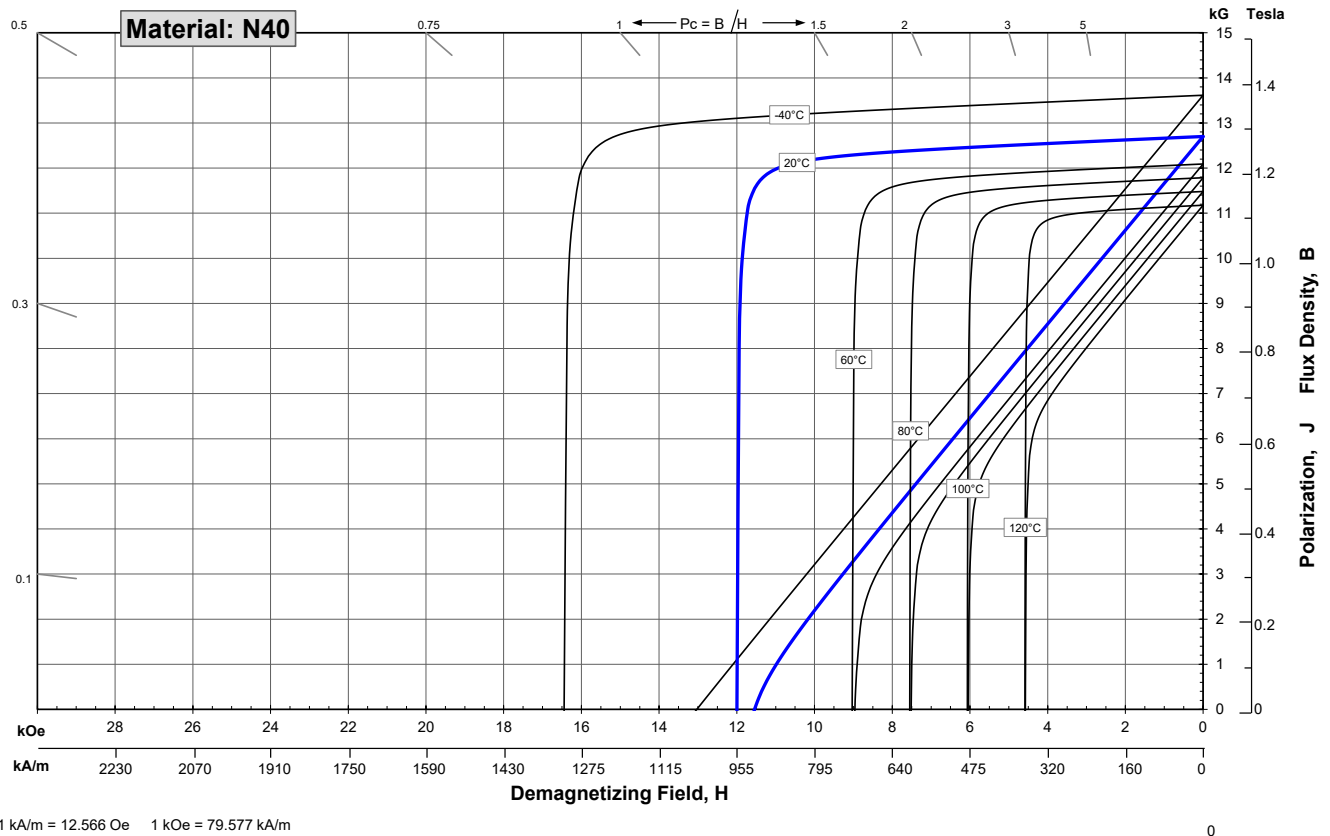
## Sintered Neodymium-Iron-Boron Magnets

These are also referred to as "Neo" or NdFeB magnets. They offer a combination of high magnetic output at moderate cost. Please contact Arnold for additional grade information and recommendations for protective coating. Assemblies using these magnets can also be provided.

Characteristic	Units	Magnetic Properties		
		min.	nominal	max.
<b>Br</b> , Residual Induction	Gauss	12,500	12,700	12,900
	mT	1250	1270	1290
<b>H<sub>cB</sub></b> , Coercivity	Oersteds	11,600	11,950	12,300
	kA/m	923	951	979
<b>H<sub>cJ</sub></b> , Intrinsic Coercivity	Oersteds	12,000		
	kA/m	955		
<b>BH<sub>max</sub></b> , Maximum Energy Product	MGOe	38	40	42
	kJ/m <sup>3</sup>	302	318	334

Characteristic	Units	Thermal Properties	
		C //	C ⊥
Reversible Temperature Coefficients <sup>(1)</sup>			
	of Induction, α(Br)	%/°C	-0.12
	of Coercivity, α(H <sub>cJ</sub> )	%/°C	-0.62
Coefficient of Thermal Expansion <sup>(2)</sup>	ΔL/L per °Cx10 <sup>-6</sup>	7	-1
Thermal Conductivity	kcal/mhr°C	5.3	5.8
Specific Heat <sup>(3)</sup>	cal/g°C	0.11	
Curie Temperature, T <sub>c</sub>	°C	310	
Flexural Strength		psi	41,300
		MPa	285
Density	g/cm <sup>3</sup>	7.6	
Hardness, Vickers	Hv	620	
Electrical Resistivity, ρ	μΩ • cm	150 // 130 ⊥	

Notes: (1) Coefficients measured between 20 and 80 °C  
 (2) Between 20 and 200 °C. Values are typical and can vary.  
 (3) Between 20 and 140 °C



**Notes** The material data and demagnetization curves shown above represent typical properties that may vary due to product shape and size. **Demagnetization curves show nominal Br and minimum H<sub>cI</sub>.** Magnets can be supplied thermally stabilized or magnetically calibrated to customer specifications. Additional grades are available. Please contact the factory for information.

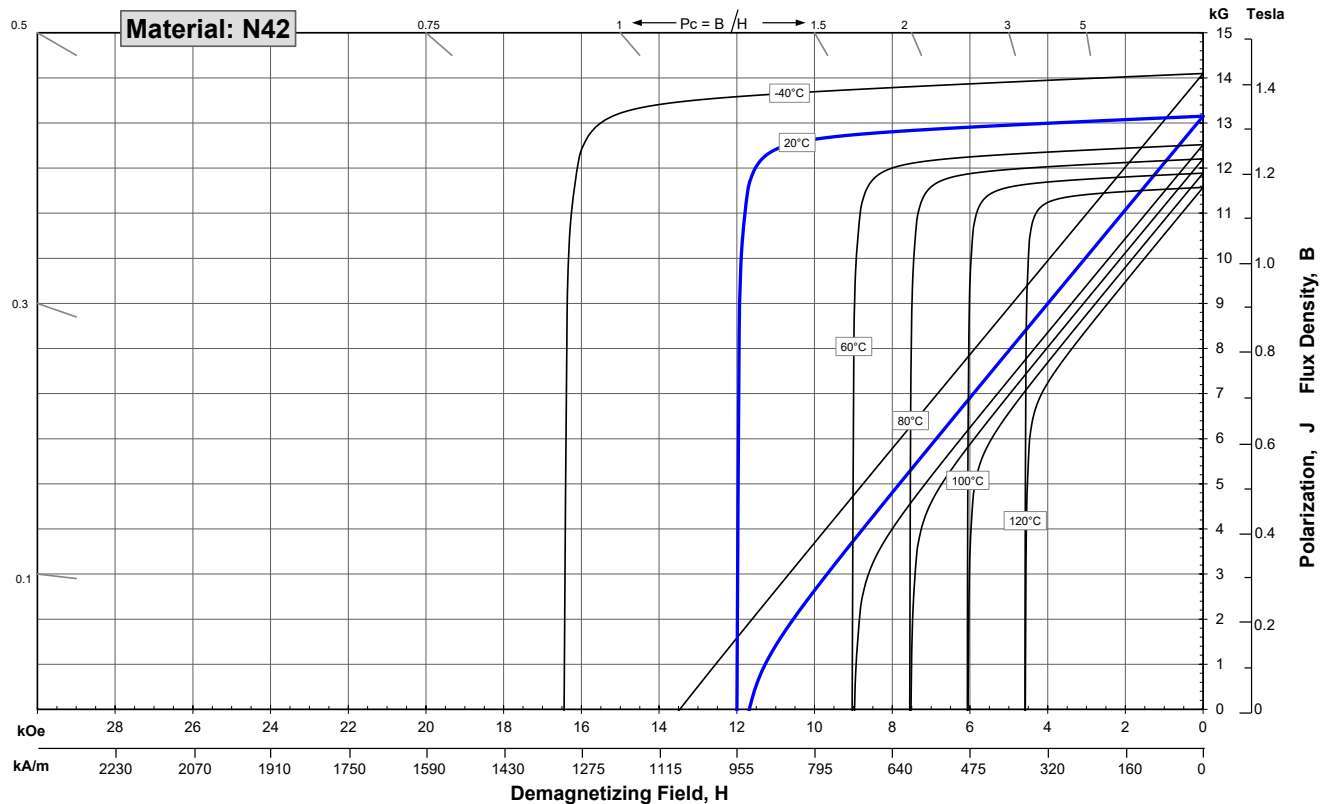
## Sintered Neodymium-Iron-Boron Magnets

These are also referred to as "Neo" or NdFeB magnets. They offer a combination of high magnetic output at moderate cost. Please contact Arnold for additional grade information and recommendations for protective coating. Assemblies using these magnets can also be provided.

Characteristic	Units	Magnetic Properties		
		min.	nominal	max.
<b>Br</b> , Residual Induction	Gauss	12,800	13,150	13,500
	mT	1280	1315	1350
<b>H<sub>cB</sub></b> , Coercivity	Oersteds	10,800	11,850	12,900
	kA/m	860	943	1027
<b>H<sub>cJ</sub></b> , Intrinsic Coercivity	Oersteds	12,000		
	kA/m	955		
<b>BH<sub>max</sub></b> , Maximum Energy Product	MGOe	40	42	44
	kJ/m <sup>3</sup>	318	334	350

Characteristic	Units	Thermal Properties	
		C //	C ⊥
Reversible Temperature Coefficients <sup>(1)</sup>			
	of Induction, α(Br)	%/°C	-0.12
	of Coercivity, α(H <sub>cj</sub> )	%/°C	-0.62
Coefficient of Thermal Expansion <sup>(2)</sup>	ΔL/L per °Cx10 <sup>-6</sup>	7	-1
Thermal Conductivity	kcal/mhr°C	5.3	5.8
Specific Heat <sup>(3)</sup>	cal/g°C	0.11	
Curie Temperature, T <sub>c</sub>	°C	310	
Flexural Strength	psi	41,300	
	MPa	285	
Density	g/cm <sup>3</sup>	7.6	
Hardness, Vickers	Hv	620	
Electrical Resistivity, ρ	μΩ • cm	150 // 130 ⊥	

Notes:  
 (1) Coefficients measured between 20 and 80 °C  
 (2) Between 20 and 200 °C. Values are typical and can vary.  
 (3) Between 20 and 140 °C



1 kA/m = 12.566 Oe    1 kOe = 79.577 kA/m

**Notes** The material data and demagnetization curves shown above represent typical properties that may vary due to product shape and size. **Demagnetization curves show nominal Br and minimum Hci.** Magnets can be supplied thermally stabilized or magnetically calibrated to customer specifications. Additional grades are available. Please contact the factory for information.

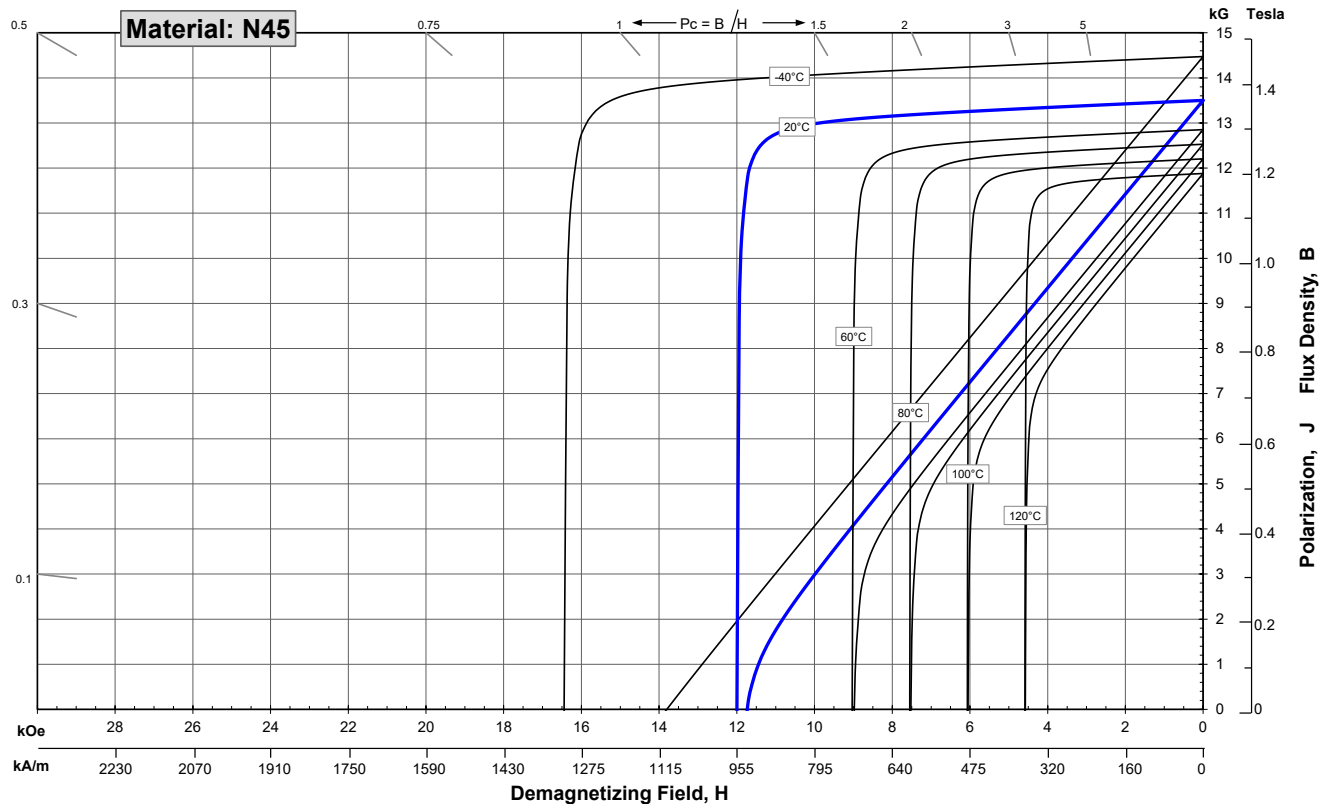
## Sintered Neodymium-Iron-Boron Magnets

These are also referred to as "Neo" or NdFeB magnets. They offer a combination of high magnetic output at moderate cost. Please contact Arnold for additional grade information and recommendations for protective coating. Assemblies using these magnets can also be provided.

Characteristic	Units	Magnetic Properties		
		min.	nominal	max.
<b>Br</b> , Residual Induction	Gauss	13,200	13,500	13,800
	mT	1320	1350	1380
<b>H<sub>cB</sub></b> , Coercivity	Oersteds	10,800	12,000	13,200
	kA/m	860	955	1050
<b>H<sub>cJ</sub></b> , Intrinsic Coercivity	Oersteds	12,000		
	kA/m	955		
<b>BHmax</b> , Maximum Energy Product	MGOe	42	44	46
	kJ/m <sup>3</sup>	334	350	366

Characteristic	Units	Thermal Properties	
		C //	C ⊥
Reversible Temperature Coefficients <sup>(1)</sup>			
	of Induction, α(Br)	%/°C	-0.12
	of Coercivity, α(H <sub>cj</sub> )	%/°C	-0.62
Coefficient of Thermal Expansion <sup>(2)</sup>	ΔL/L per °Cx10 <sup>-6</sup>	7	-1
Thermal Conductivity	kcal/mhr°C	5.3	5.8
Specific Heat <sup>(3)</sup>	cal/g°C	0.11	
Curie Temperature, T <sub>c</sub>	°C	310	
Other Properties	Flexural Strength	psi	41,300
		MPa	285
	Density	g/cm <sup>3</sup>	7.6
	Hardness, Vickers	Hv	620
	Electrical Resistivity, ρ	μΩ • cm	150 // 130 ⊥

Notes: (1) Coefficients measured between 20 and 80 °C  
 (2) Between 20 and 200 °C. Values are typical and can vary.  
 (3) Between 20 and 140 °C



1 kA/m = 12.566 Oe    1 kOe = 79.577 kA/m

**Notes** The material data and demagnetization curves shown above represent typical properties that may vary due to product shape and size. **Demagnetization curves show nominal Br and minimum Hci.** Magnets can be supplied thermally stabilized or magnetically calibrated to customer specifications. Additional grades are available. Please contact the factory for information.



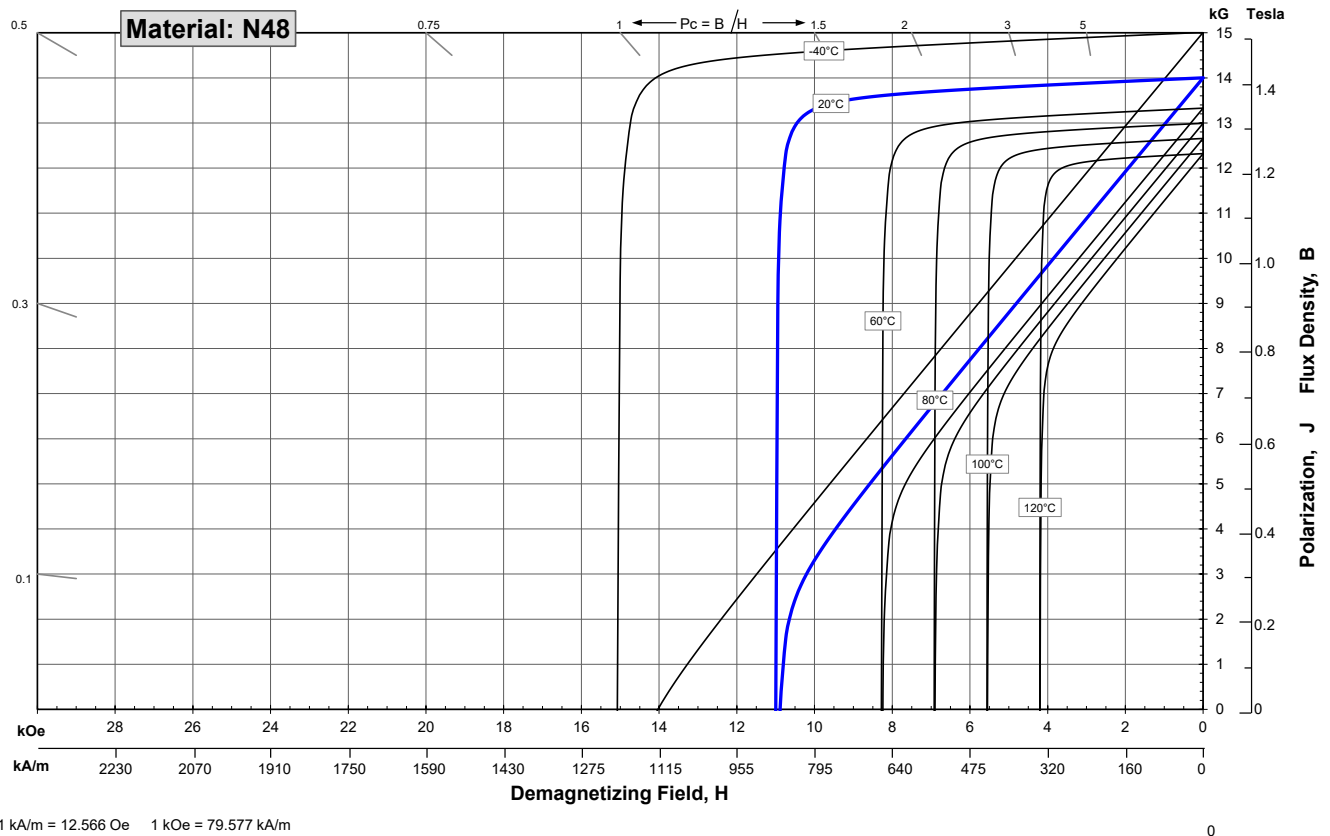
**Sintered Neodymium-Iron-Boron Magnets**

These are also referred to as "Neo" or NdFeB magnets. They offer a combination of high magnetic output at moderate cost. Please contact Arnold for additional grade information and recommendations for protective coating. Assemblies using these magnets can also be provided.

Characteristic	Units	Magnetic Properties		
		min.	nominal	max.
<b>Br</b> , Residual Induction	Gauss	13,700	14,000	14,300
	mT	1370	1400	1430
<b>H<sub>cB</sub></b> , Coercivity	Oersteds	10,500	12,100	13,700
	kA/m	836	963	1090
<b>H<sub>cJ</sub></b> , Intrinsic Coercivity	Oersteds	11,000		
	kA/m	875		
<b>BH<sub>max</sub></b> , Maximum Energy Product	MGOe	45	47	49
	kJ/m <sup>3</sup>	358	374	390

Characteristic	Units	Thermal Properties	
		C //	C ⊥
Reversible Temperature Coefficients <sup>(1)</sup>			
	of Induction, α(Br)	%/°C	-0.12
	of Coercivity, α(H <sub>cj</sub> )	%/°C	-0.62
Coefficient of Thermal Expansion <sup>(2)</sup>	ΔL/L per °Cx10 <sup>-6</sup>	7	-1
Thermal Conductivity	kcal/mhr°C	5.3	5.8
Specific Heat <sup>(3)</sup>	cal/g°C	0.11	
Curie Temperature, T <sub>c</sub>	°C	310	
Other Properties	Flexural Strength	psi	41,300
		MPa	285
	Density	g/cm <sup>3</sup>	7.6
	Hardness, Vickers	Hv	620
	Electrical Resistivity, ρ	μΩ • cm	150 // 130 ⊥

Notes: (1) Coefficients measured between 20 and 80 °C  
 (2) Between 20 and 200 °C. Values are typical and can vary.  
 (3) Between 20 and 140 °C



**Notes** The material data and demagnetization curves shown above represent typical properties that may vary due to product shape and size. **Demagnetization curves show nominal Br and minimum Hci.** Magnets can be supplied thermally stabilized or magnetically calibrated to customer specifications. Additional grades are available. Please contact the factory for information.

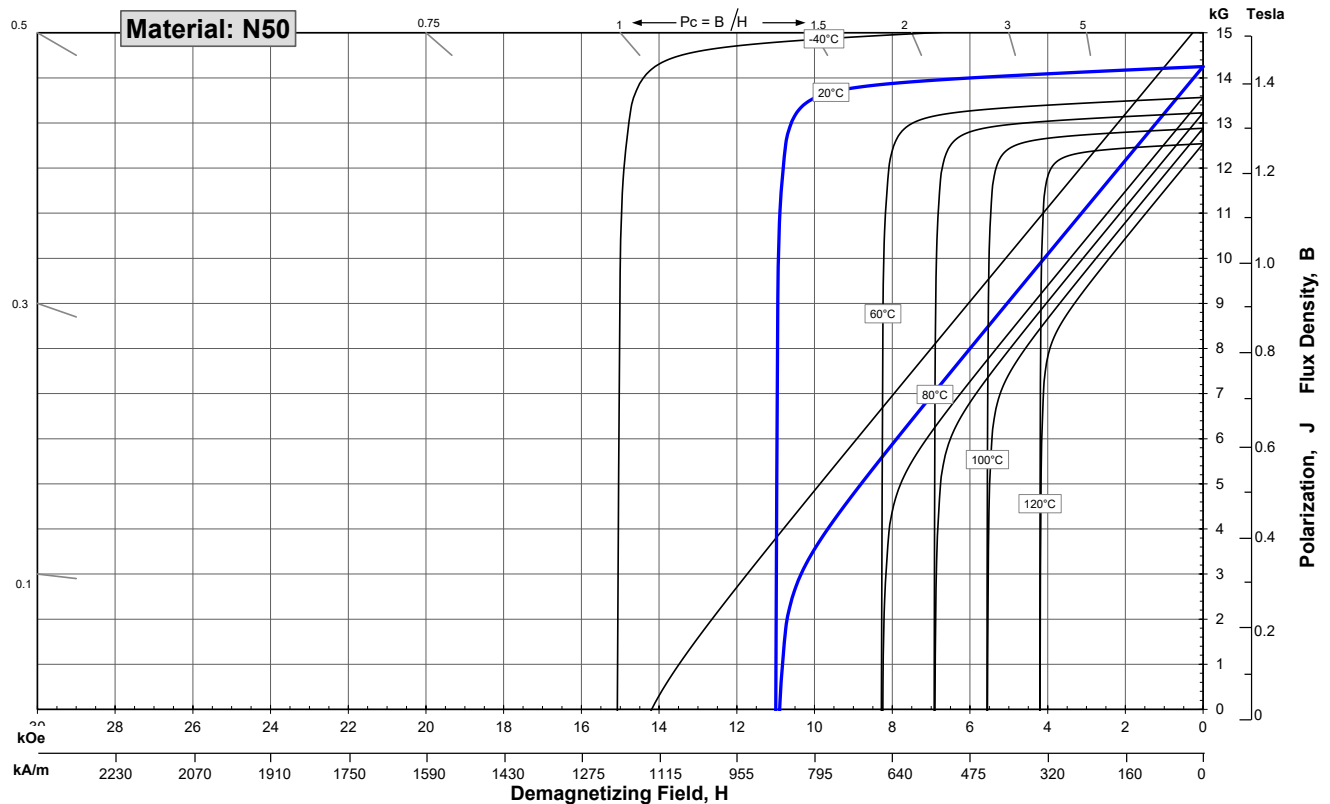
## Sintered Neodymium-Iron-Boron Magnets

These are also referred to as "Neo" or NdFeB magnets. They offer a combination of high magnetic output at moderate cost. Please contact Arnold for additional grade information and recommendations for protective coating. Assemblies using these magnets can also be provided.

Characteristic	Units	Magnetic Properties		
		min.	nominal	max.
<b>Br</b> , Residual Induction	Gauss	13,900	14,250	14,600
	mT	1390	1425	1460
<b>H<sub>cB</sub></b> , Coercivity	Oersteds	10,500	12,250	14,000
	kA/m	836	975	1114
<b>H<sub>cJ</sub></b> , Intrinsic Coercivity	Oersteds	11,000		
	kA/m	875		
<b>BHmax</b> , Maximum Energy Product	MGOe	47	49	51
	kJ/m <sup>3</sup>	374	390	406

Characteristic	Units	Thermal Properties	
		C //	C ⊥
Reversible Temperature Coefficients <sup>(1)</sup>			
	of Induction, α(Br)	%/°C	-0.12
	of Coercivity, α(H <sub>cj</sub> )	%/°C	-0.62
Coefficient of Thermal Expansion <sup>(2)</sup>	ΔL/L per °Cx10 <sup>-6</sup>	7	-1
Thermal Conductivity	kcal/mhr°C	5.3	5.8
Specific Heat <sup>(3)</sup>	cal/g°C	0.11	
Curie Temperature, T <sub>c</sub>	°C	310	
Flexural Strength		psi	41,300
		MPa	285
Density	g/cm <sup>3</sup>	7.6	
Hardness, Vickers	Hv	620	
Electrical Resistivity, ρ	μΩ • cm	150 // 130 ⊥	

Notes:  
 (1) Coefficients measured between 20 and 80 °C  
 (2) Between 20 and 200 °C. Values are typical and can vary.  
 (3) Between 20 and 140 °C



1 kA/m = 12.566 Oe    1 kOe = 79.577 kA/m

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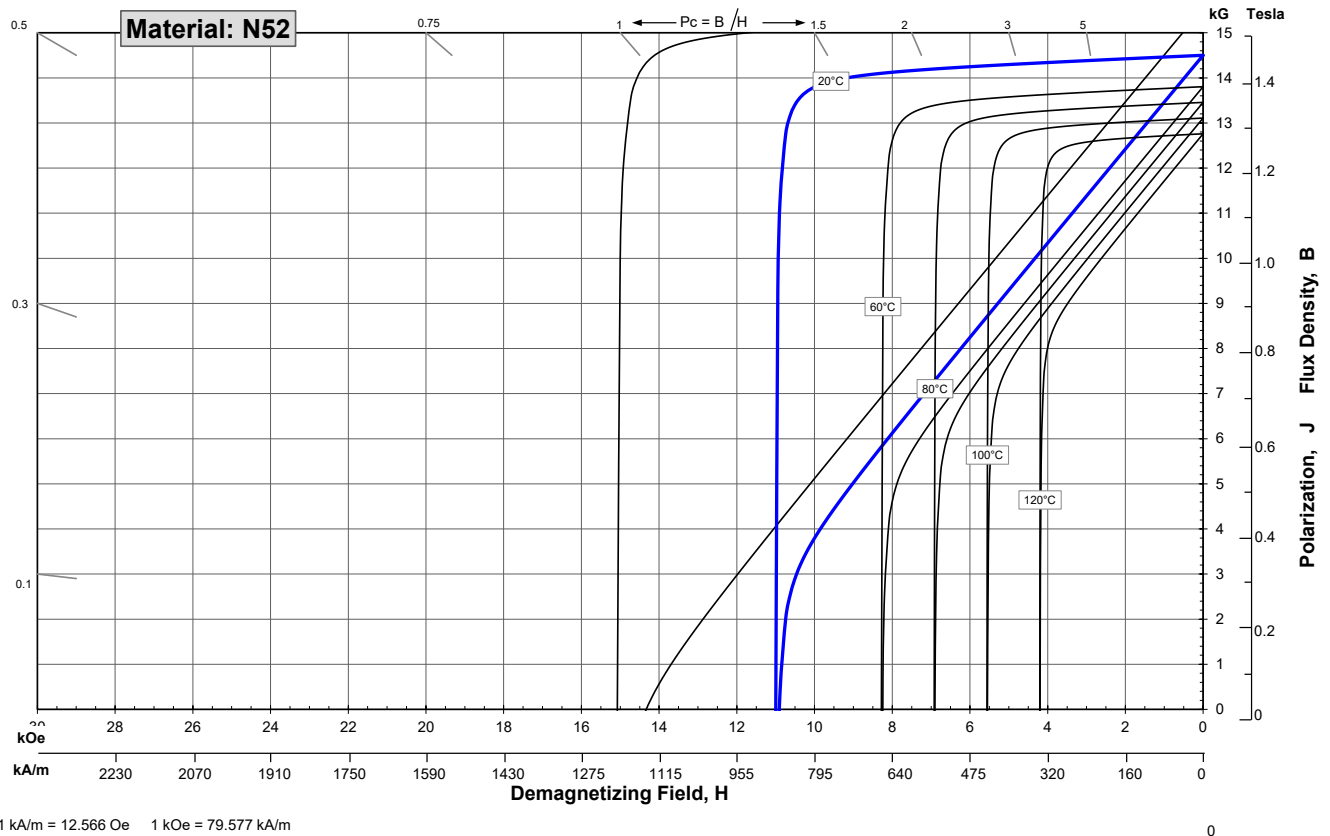
## Sintered Neodymium-Iron-Boron Magnets

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Magnetic Properties	Characteristic	Units	min.	nominal	max.
	<b>Br</b> , Residual Induction		Gauss	14,200	14,500
		mT	1420	1450	1480
<b>H<sub>cB</sub></b> , Coercivity		Oersteds	10,500	12,300	14,100
		kA/m	836	979	1122
<b>H<sub>cJ</sub></b> , Intrinsic Coercivity		Oersteds	11,000		
		kA/m	875		
<b>BHmax</b> , Maximum Energy Product		MGOe	49	51	53
		kJ/m <sup>3</sup>	390	406	422

Thermal Properties	Characteristic	Units	C //	C ⊥
	Reversible Temperature Coefficients <sup>(1)</sup>	of Induction, α(Br)	%/°C	
of Coercivity, α(H <sub>cj</sub> )		%/°C		-0.62
Coefficient of Thermal Expansion <sup>(2)</sup>		ΔL/L per °Cx10 <sup>-6</sup>	7	-1
Other Properties	Thermal Conductivity	kcal/mhr°C	5.3	5.8
	Specific Heat <sup>(3)</sup>	cal/g°C	0.11	
	Curie Temperature, T <sub>c</sub>	°C	310	
	Flexural Strength	psi	41,300	
Other Properties		MPa	285	
	Density	g/cm <sup>3</sup>	7.6	
	Hardness, Vickers	Hv	620	
	Electrical Resistivity, ρ	μΩ • cm	150 // 130 ⊥	

Notes:  
 (1) Coefficients measured between 20 and 60 °C  
 (2) Between 20 and 200 °C. Values are typical and can vary.  
 (3) Between 20 and 140 °C



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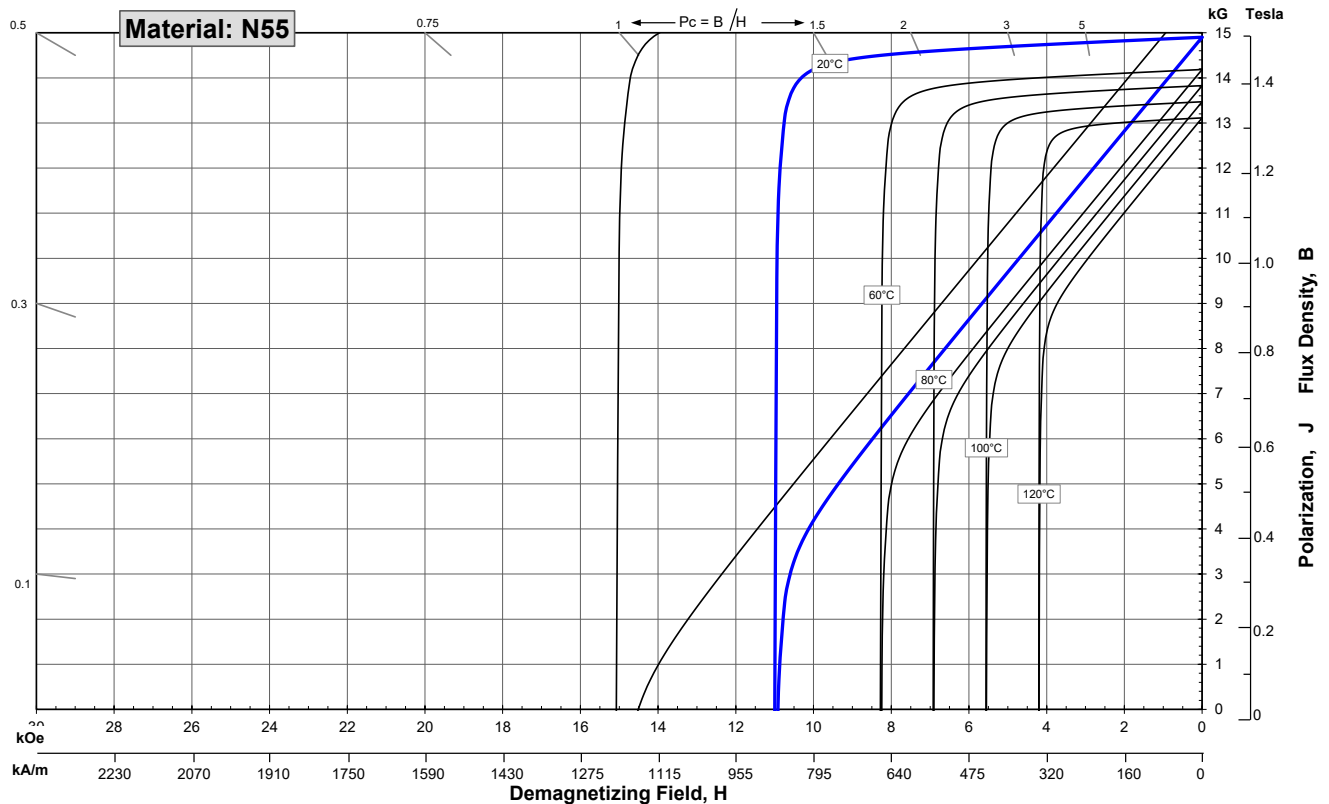
**Sintered Neodymium-Iron-Boron Magnets**

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Magnetic Properties	Characteristic	Units	min.	nominal	max.
	<b>Br</b> , Residual Induction		Gauss	14,600	14,900
		mT	1460	1490	1520
<b>H<sub>cB</sub></b> , Coercivity		Oersteds	9,000	11,750	14,500
		kA/m	716	935	1154
<b>H<sub>cJ</sub></b> , Intrinsic Coercivity		Oersteds	11,000		
		kA/m	876		
<b>BHmax</b> , Maximum Energy Product		MGOe	52	53	54
		kJ/m <sup>3</sup>	414	422	430

Thermal Properties	Characteristic	Units	C //	C ⊥
	Reversible Temperature Coefficients <sup>(1)</sup>	of Induction, α(Br)	%/°C	
of Coercivity, α(H <sub>cj</sub> )		%/°C		-0.62
Coefficient of Thermal Expansion <sup>(2)</sup>		ΔL/L per °Cx10 <sup>-6</sup>	7	-1
	Thermal Conductivity	kcal/mhr°C	5.3	5.8
Specific Heat <sup>(3)</sup>		cal/g°C	0.11	
Curie Temperature, T <sub>c</sub>		°C	310	
Other Properties	Flexural Strength	psi	41,300	
		MPa	285	
	Density	g/cm <sup>3</sup>	7.6	
	Hardness, Vickers	Hv	620	
	Electrical Resistivity, ρ	μΩ • cm	150 // 130 ⊥	

Notes: (1) Coefficients measured between 20 and 60 °C  
 (2) Between 20 and 200 °C. Values are typical and can vary.  
 (3) Between 20 and 140 °C



1 kA/m = 12.566 Oe 1 kOe = 79.577 kA/m

**Notes** The material data and demagnetization curves shown above represent typical properties that may vary due to product shape and size. **Demagnetization curves show nominal Br and minimum Hci.** Magnets can be supplied thermally stabilized or magnetically calibrated to customer specifications. Additional grades are available. Please contact the factory for information.

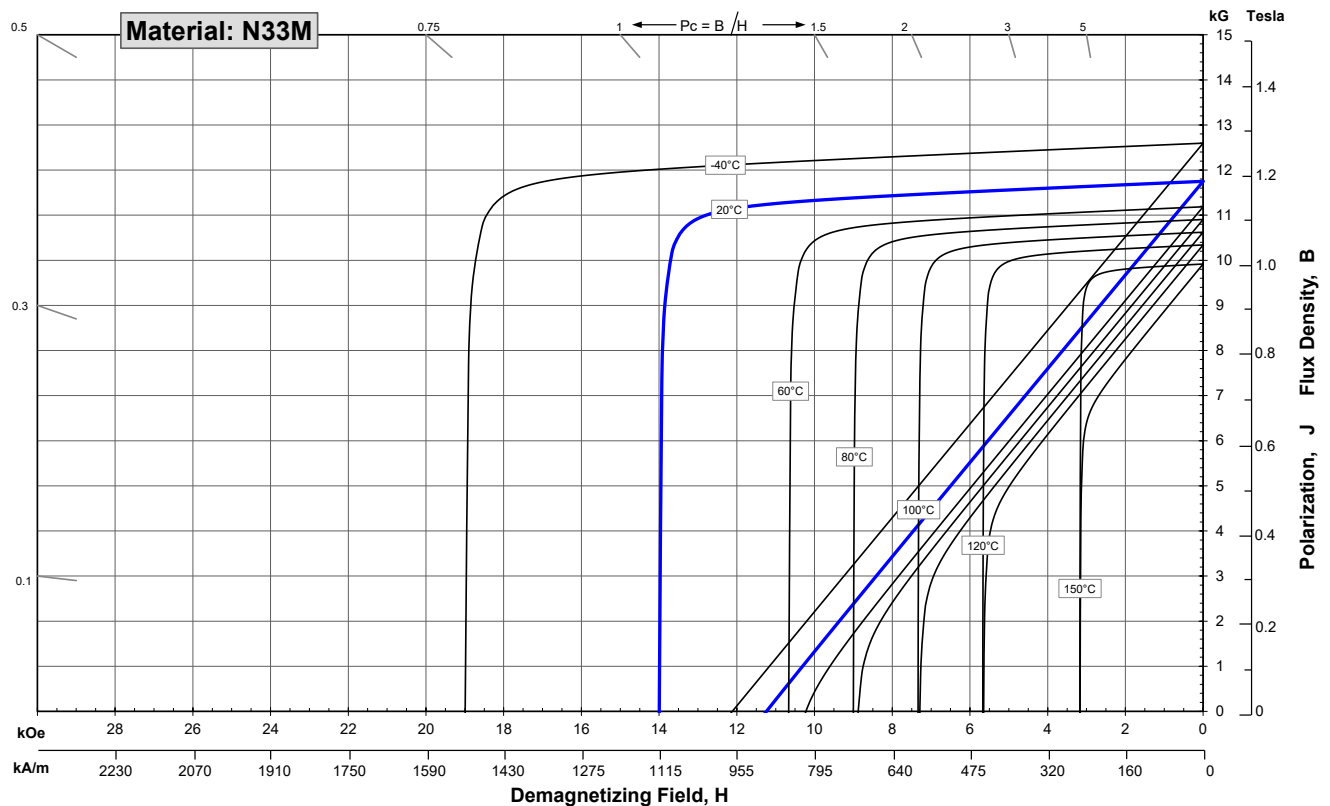
## Sintered Neodymium-Iron-Boron Magnets

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Characteristic	Units	Magnetic Properties		
		min.	nominal	max.
<b>Br</b> , Residual Induction	Gauss	11,300	11,750	12,200
	mT	1130	1175	1220
<b>H<sub>cB</sub></b> , Coercivity	Oersteds	10,500	11,100	11,700
	kA/m	836	883	931
<b>H<sub>cJ</sub></b> , Intrinsic Coercivity	Oersteds	14,000		
	kA/m	1,114		
<b>BHmax</b> , Maximum Energy Product	MGOe	31	34	36
	kJ/m <sup>3</sup>	247	267	287

Characteristic	Units	Thermal Properties	
		C //	C ⊥
Reversible Temperature Coefficients <sup>(1)</sup>			
	of Induction, α(Br)	%/°C	-0.12
	of Coercivity, α(H <sub>cj</sub> )	%/°C	-0.60
Coefficient of Thermal Expansion <sup>(2)</sup>	ΔL/L per °Cx10 <sup>-6</sup>	7	-1
Thermal Conductivity	kcal/mhr°C	5.3	5.8
Specific Heat <sup>(3)</sup>	cal/g°C	0.11	
Curie Temperature, T <sub>c</sub>	°C	310	
Flexural Strength	psi	41,300	
	MPa	285	
Density	g/cm <sup>3</sup>	7.6	
Hardness, Vickers	Hv	620	
Electrical Resistivity, ρ	μΩ • cm	150 // 130 ⊥	

Notes: (1) Coefficients measured between 20 and 100 °C  
 (2) Between 20 and 200 °C. Values are typical and can vary.  
 (3) Between 20 and 140 °C



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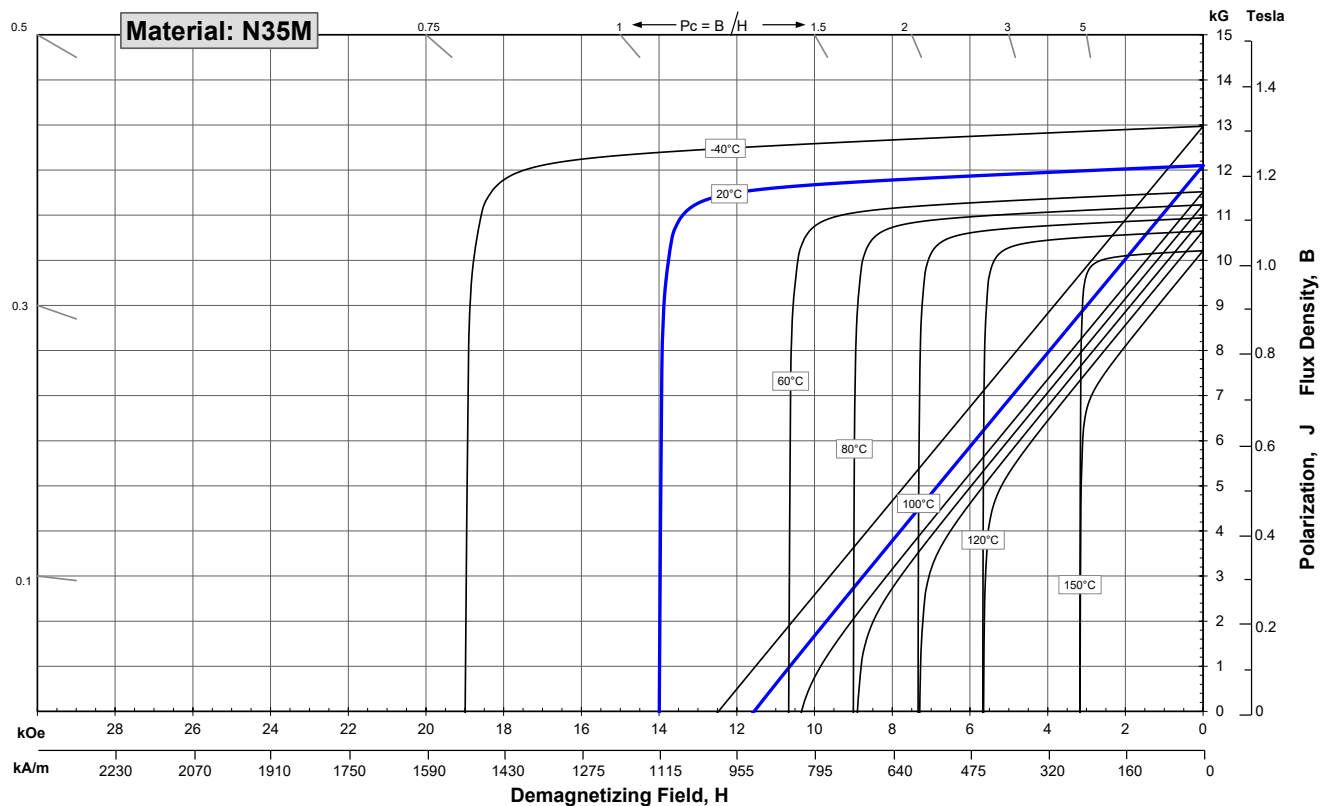
## Sintered Neodymium-Iron-Boron Magnets

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Magnetic Properties	Characteristic	Units	min.	nominal	max.
	<b>Br</b> , Residual Induction		Gauss	11,700	12,100
		mT	1170	1210	1250
<b>H<sub>cB</sub></b> , Coercivity		Oersteds	10,900	11,450	12,000
		kA/m	868	911	955
<b>H<sub>cJ</sub></b> , Intrinsic Coercivity		Oersteds	14,000		
		kA/m	1,114		
<b>BH<sub>max</sub></b> , Maximum Energy Product		MGOe	33	36	38
		kJ/m <sup>3</sup>	263	283	302

Thermal Properties	Characteristic	Units	C //	C ⊥
	Reversible Temperature Coefficients <sup>(1)</sup>	of Induction, α(Br)	%/°C	
of Coercivity, α(H <sub>cJ</sub> )		%/°C		-0.60
Coefficient of Thermal Expansion <sup>(2)</sup>		ΔL/L per °Cx10 <sup>-6</sup>	7	-1
Other Properties	Thermal Conductivity	kcal/mhr°C	5.3	5.8
	Specific Heat <sup>(3)</sup>	cal/g°C		0.11
	Curie Temperature, T <sub>c</sub>	°C		310
	Flexural Strength		psi	
		MPa		285
Density	g/cm <sup>3</sup>			7.6
Hardness, Vickers	Hv			620
Electrical Resistivity, ρ	μΩ • cm			150 // 130 ⊥

Notes: (1) Coefficients measured between 20 and 100 °C  
 (2) Between 20 and 200 °C. Values are typical and can vary.  
 (3) Between 20 and 140 °C



1 kA/m = 12.566 Oe    1 kOe = 79.577 kA/m

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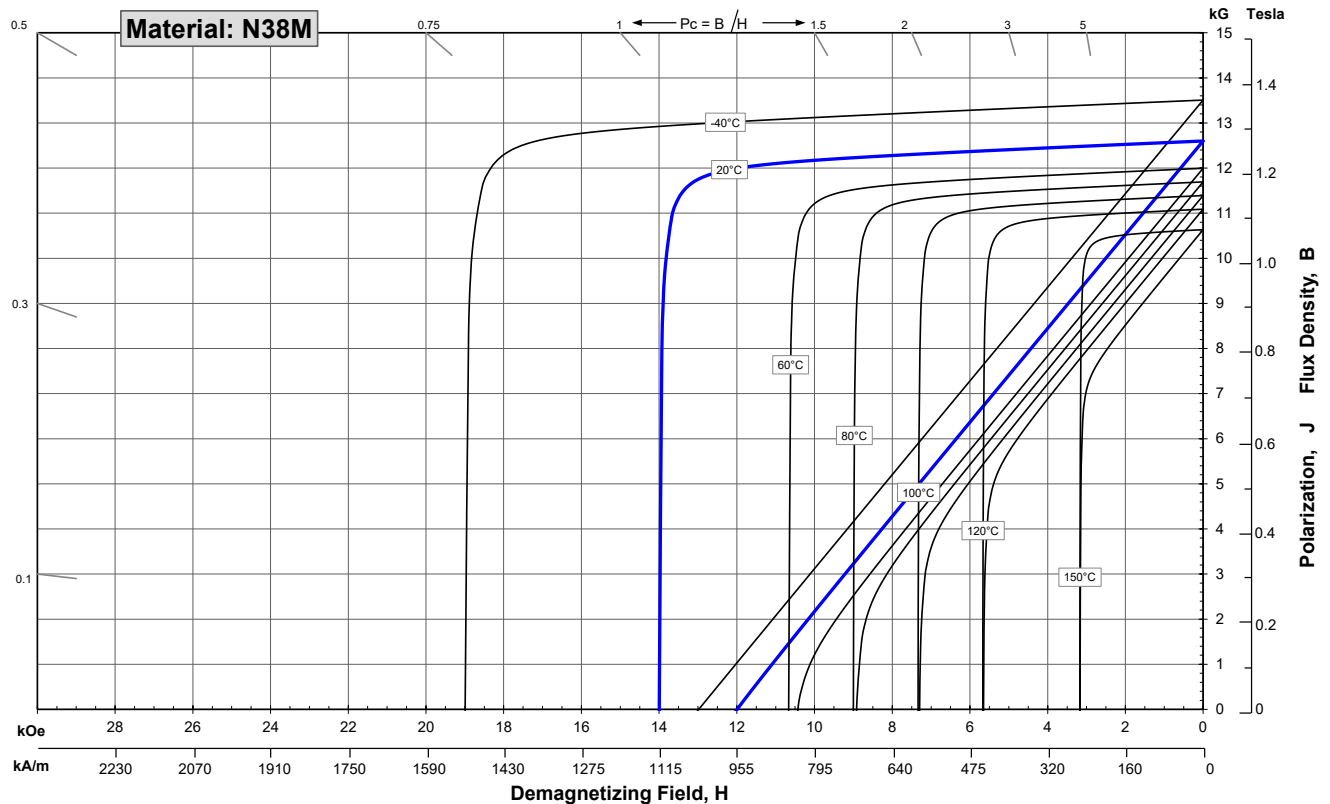
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Characteristic	Units	Magnetic Properties		
		min.	nominal	max.
<b>Br</b> , Residual Induction	Gauss	12,200	12,600	13,000
	mT	1220	1260	1300
<b>H<sub>cB</sub></b> , Coercivity	Oersteds	11,300	11,850	12,400
	kA/m	899	943	987
<b>H<sub>cJ</sub></b> , Intrinsic Coercivity	Oersteds	14,000		
	kA/m	1,114		
<b>BH<sub>max</sub></b> , Maximum Energy Product	MGOe	36	39	41
	kJ/m <sup>3</sup>	287	307	326

Characteristic	Units	Thermal Properties	
		C //	C ⊥
Reversible Temperature Coefficients <sup>(1)</sup>			
	of Induction, α(Br)	%/°C	-0.12
	of Coercivity, α(H <sub>cj</sub> )	%/°C	-0.60
Coefficient of Thermal Expansion <sup>(2)</sup>	ΔL/L per °Cx10 <sup>-6</sup>	7	-1
Thermal Conductivity	kcal/mhr°C	5.3	5.8
Specific Heat <sup>(3)</sup>	cal/g°C	0.11	
Curie Temperature, T <sub>c</sub>	°C	310	
Flexural Strength	psi	41,300	
	MPa	285	
Density	g/cm <sup>3</sup>	7.6	
Hardness, Vickers	Hv	620	
Electrical Resistivity, ρ	μΩ • cm	150 // 130 ⊥	

Notes: (1) Coefficients measured between 20 and 100 °C  
 (2) Between 20 and 200 °C. Values are typical and can vary.  
 (3) Between 20 and 140 °C



1 kA/m = 12.566 Oe    1 kOe = 79.577 kA/m

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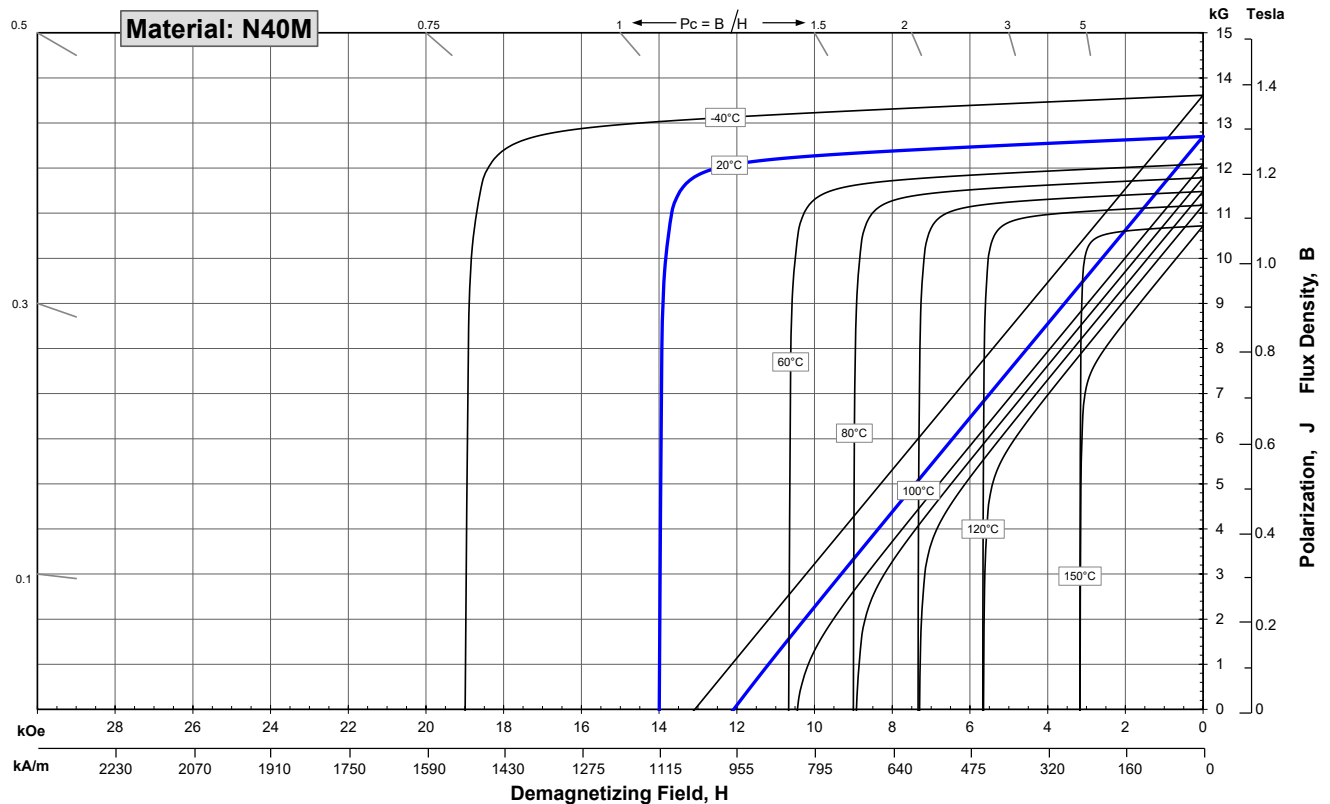
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Characteristic	Units	Magnetic Properties		
		min.	nominal	max.
<b>Br</b> , Residual Induction	Gauss	12,500	12,700	12,900
	mT	1250	1270	1290
<b>H<sub>cB</sub></b> , Coercivity	Oersteds	11,600	11,950	12,300
	kA/m	923	951	979
<b>H<sub>cJ</sub></b> , Intrinsic Coercivity	Oersteds	14,000		
	kA/m	1,114		
<b>BH<sub>max</sub></b> , Maximum Energy Product	MGOe	38	41	43
	kJ/m <sup>3</sup>	302	322	342

Characteristic	Units	Thermal Properties	
		C //	C ⊥
Reversible Temperature Coefficients <sup>(1)</sup>			
	of Induction, α(Br)	%/°C	-0.12
	of Coercivity, α(H <sub>cJ</sub> )	%/°C	-0.60
Coefficient of Thermal Expansion <sup>(2)</sup>	ΔL/L per °Cx10 <sup>-6</sup>	7	-1
Thermal Conductivity	kcal/mhr°C	5.3	5.8
Specific Heat <sup>(3)</sup>	cal/g°C	0.11	
Curie Temperature, T <sub>c</sub>	°C	310	
Flexural Strength	psi	41,300	
	MPa	285	
Density	g/cm <sup>3</sup>	7.6	
Hardness, Vickers	Hv	620	
Electrical Resistivity, ρ	μΩ • cm	150 // 130 ⊥	

Notes: (1) Coefficients measured between 20 and 100 °C  
 (2) Between 20 and 200 °C. Values are typical and can vary.  
 (3) Between 20 and 140 °C



1 kA/m = 12.566 Oe    1 kOe = 79.577 kA/m

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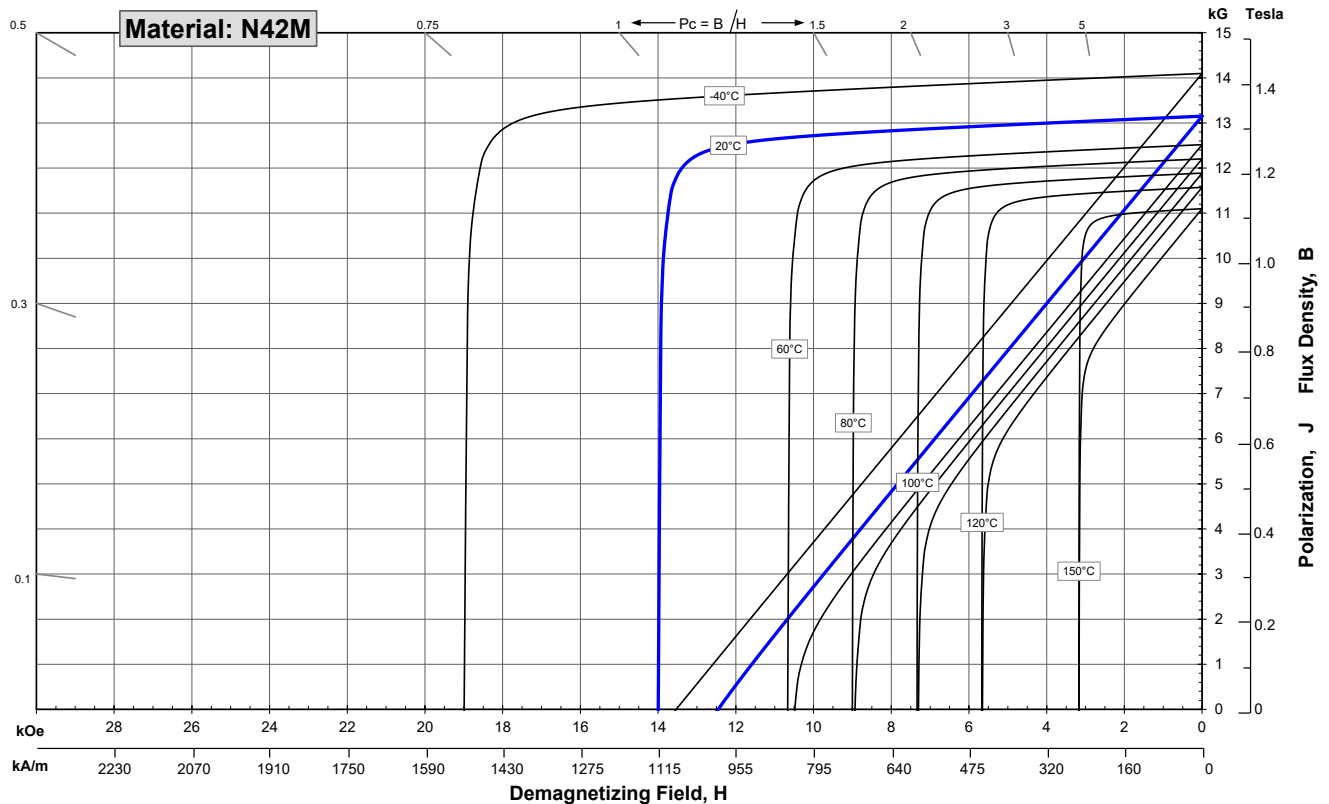
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Characteristic	Units	Magnetic Properties		
		min.	nominal	max.
<b>Br</b> , Residual Induction	Gauss	12,800	13,150	13,500
	mT	1280	1315	1350
<b>H<sub>cB</sub></b> , Coercivity	Oersteds	12,000	12,450	12,900
	kA/m	955	991	1027
<b>H<sub>cJ</sub></b> , Intrinsic Coercivity	Oersteds	14,000		
	kA/m	1,114		
<b>BH<sub>max</sub></b> , Maximum Energy Product	MGOe	40	43	45
	kJ/m <sup>3</sup>	318	338	358

Characteristic	Units	Thermal Properties	
		C //	C ⊥
Reversible Temperature Coefficients <sup>(1)</sup>			
	of Induction, α(Br)	%/°C	-0.12
	of Coercivity, α(H <sub>cJ</sub> )	%/°C	-0.60
Coefficient of Thermal Expansion <sup>(2)</sup>	ΔL/L per °Cx10 <sup>-6</sup>	7	-1
Thermal Conductivity	kcal/mhr°C	5.3	5.8
Specific Heat <sup>(3)</sup>	cal/g°C	0.11	
Curie Temperature, T <sub>c</sub>	°C	310	
Flexural Strength	psi	41,300	
	MPa	285	
Density	g/cm <sup>3</sup>	7.6	
Hardness, Vickers	Hv	620	
Electrical Resistivity, ρ	μΩ • cm	150 // 130 ⊥	

Notes: (1) Coefficients measured between 20 and 100 °C  
 (2) Between 20 and 200 °C. Values are typical and can vary.  
 (3) Between 20 and 140 °C



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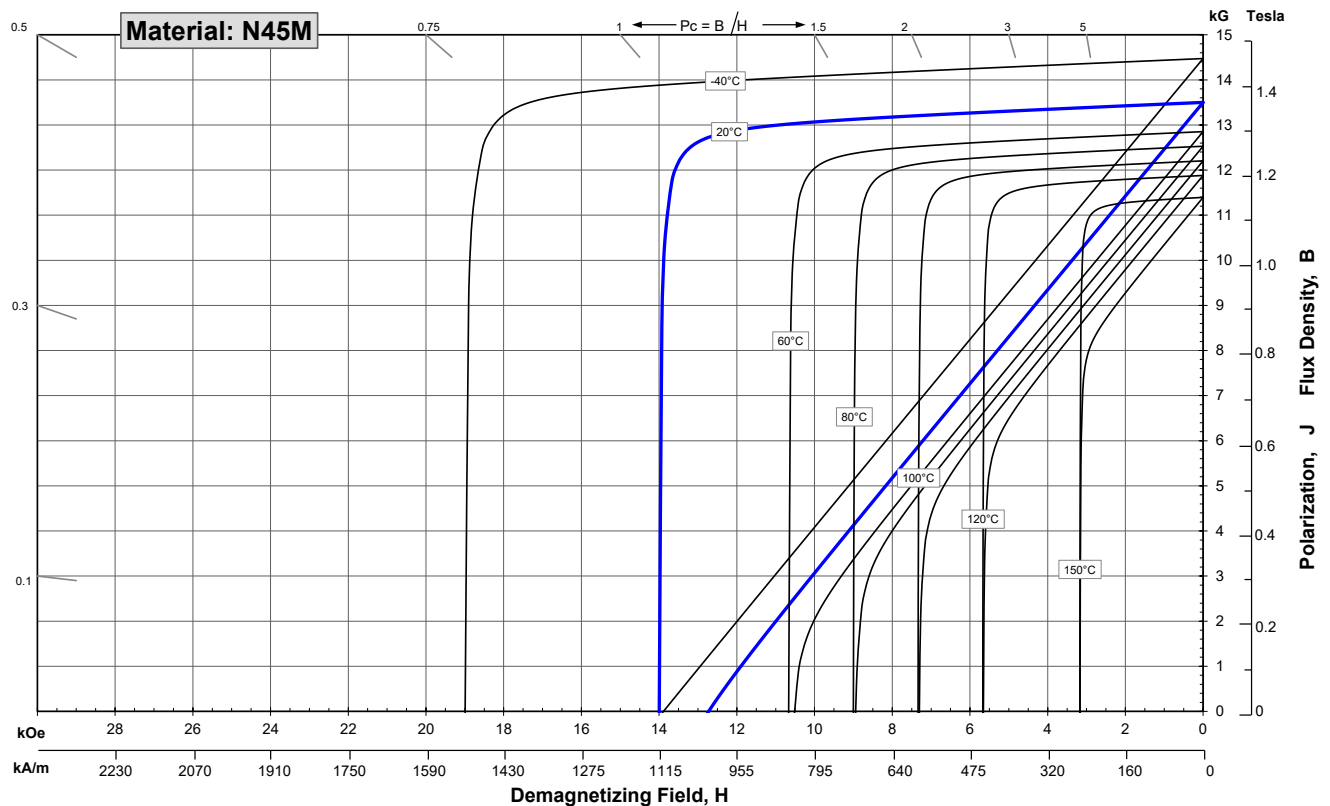
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Characteristic	Units	Magnetic Properties		
		min.	nominal	max.
<b>Br</b> , Residual Induction	Gauss	13,200	13,500	13,800
	mT	1320	1350	1380
<b>H<sub>cB</sub></b> , Coercivity	Oersteds	12,200	12,700	13,200
	kA/m	971	1011	1050
<b>H<sub>cJ</sub></b> , Intrinsic Coercivity	Oersteds	14,000		
	kA/m	1,114		
<b>BH<sub>max</sub></b> , Maximum Energy Product	MGOe	42	45	47
	kJ/m <sup>3</sup>	334	354	374

Characteristic	Units	Thermal Properties	
		C //	C ⊥
Reversible Temperature Coefficients <sup>(1)</sup>			
	of Induction, α(Br)	%/°C	-0.12
	of Coercivity, α(H <sub>cj</sub> )	%/°C	-0.60
Coefficient of Thermal Expansion <sup>(2)</sup>	ΔL/L per °Cx10 <sup>-6</sup>	7	-1
Thermal Conductivity	kcal/mhr°C	5.3	5.8
Specific Heat <sup>(3)</sup>	cal/g°C	0.11	
Curie Temperature, T <sub>c</sub>	°C	310	
Flexural Strength	psi	41,300	
	MPa	285	
Density	g/cm <sup>3</sup>	7.6	
Hardness, Vickers	Hv	620	
Electrical Resistivity, ρ	μΩ • cm	150 // 130 ⊥	

Notes: (1) Coefficients measured between 20 and 100 °C  
 (2) Between 20 and 200 °C. Values are typical and can vary.  
 (3) Between 20 and 140 °C



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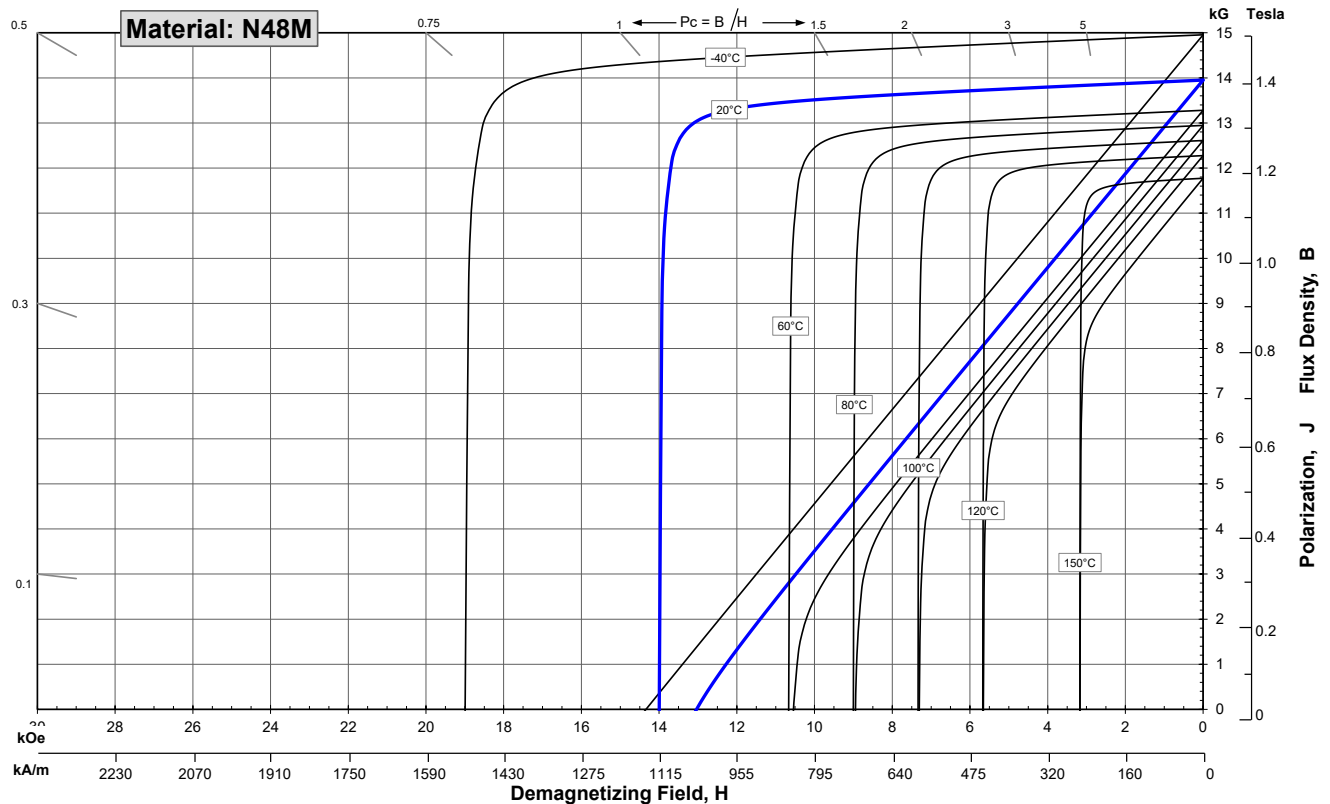
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Characteristic	Units	Magnetic Properties		
		min.	nominal	max.
<b>Br</b> , Residual Induction	Gauss	13,600	13,950	14,300
	mT	1360	1395	1430
<b>H<sub>cB</sub></b> , Coercivity	Oersteds	12,500	13,100	13,700
	kA/m	995	1042	1090
<b>H<sub>cJ</sub></b> , Intrinsic Coercivity	Oersteds	14,000		
	kA/m	1,114		
<b>BH<sub>max</sub></b> , Maximum Energy Product	MGOe	45	48	50
	kJ/m <sup>3</sup>	358	378	398

Characteristic	Units	Thermal Properties		
		C //	C ⊥	
Reversible Temperature Coefficients <sup>(1)</sup>				
	of Induction, α(Br)	%/°C	-0.12	
	of Coercivity, α(H <sub>cj</sub> )	%/°C	-0.60	
Coefficient of Thermal Expansion <sup>(2)</sup>	ΔL/L per °Cx10 <sup>-6</sup>	7	-1	
Thermal Conductivity	kcal/mhr°C	5.3	5.8	
Specific Heat <sup>(3)</sup>	cal/g°C	0.11		
Curie Temperature, T <sub>c</sub>	°C	310		
Other Properties	Flexural Strength	psi	41,300	
		MPa	285	
	Density	g/cm <sup>3</sup>	7.6	
	Hardness, Vickers	Hv	620	
	Electrical Resistivity, ρ	μΩ • cm	150 // 130 ⊥	

Notes: (1) Coefficients measured between 20 and 100 °C  
 (2) Between 20 and 200 °C. Values are typical and can vary.  
 (3) Between 20 and 140 °C



1 kA/m = 12.566 Oe 1 kOe = 79.577 kA/m

**Notes** The material data and demagnetization curves shown above represent typical properties that may vary due to product shape and size. **Demagnetization curves show nominal Br and minimum H<sub>cj</sub>.** Magnets can be supplied thermally stabilized or magnetically calibrated to customer specifications. Additional grades are available. Please contact the factory for information.

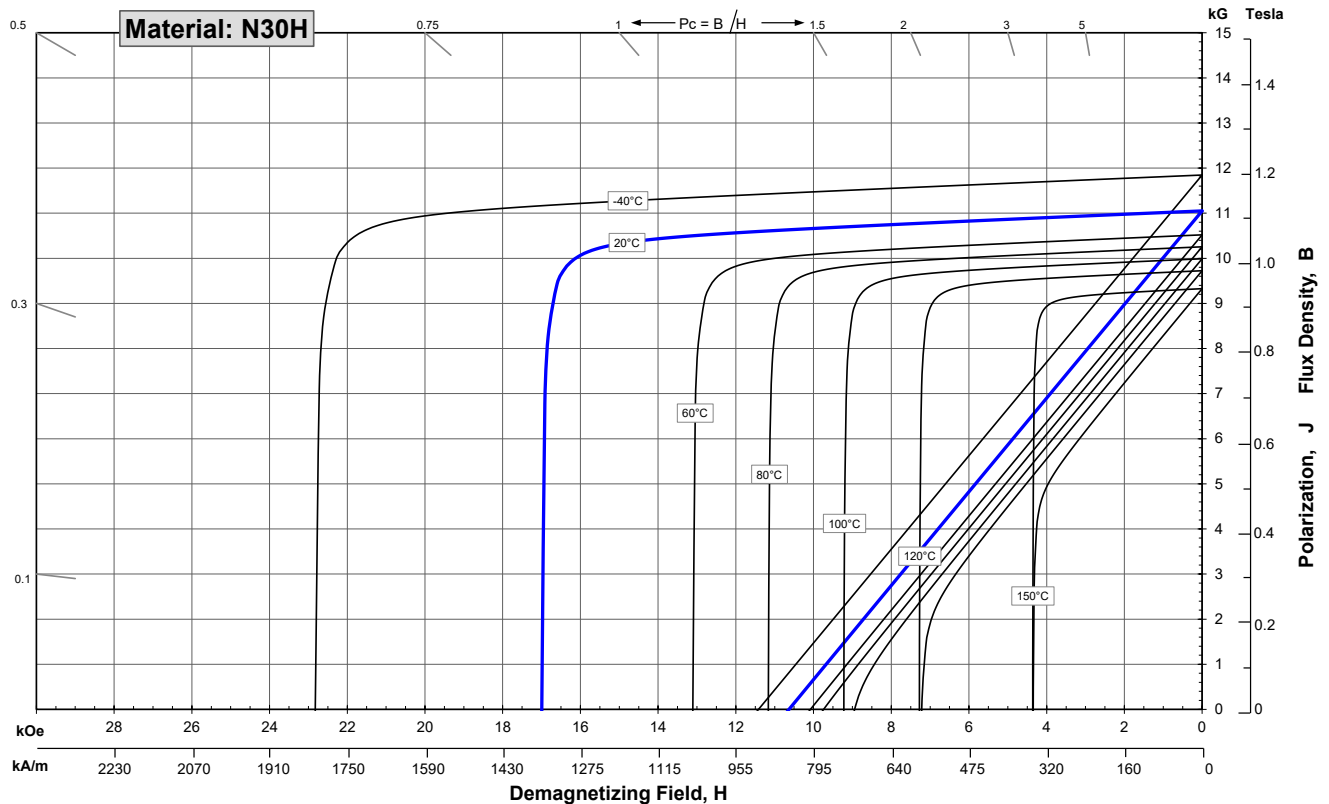
## Sintered Neodymium-Iron-Boron Magnets

These are also referred to as "Neo" or NdFeB magnets. They offer a combination of high magnetic output at moderate cost. Please contact Arnold for additional grade information and recommendations for protective coating. Assemblies using these magnets can also be provided.

Characteristic	Units	Magnetic Properties		
		min.	nominal	max.
<b>Br</b> , Residual Induction	Gauss	10,800	11,050	11,300
	mT	1080	1105	1130
<b>H<sub>cB</sub></b> , Coercivity	Oersteds	10,000	10,400	10,800
	kA/m	796	828	859
<b>H<sub>cJ</sub></b> , Intrinsic Coercivity	Oersteds	17,000		
	kA/m	1,353		
<b>BHmax</b> , Maximum Energy Product	MGOe	28	30	31
	kJ/m <sup>3</sup>	223	235	247

Characteristic	Units	Thermal Properties	
		C //	C ⊥
Reversible Temperature Coefficients <sup>(1)</sup>			
	of Induction, α(Br)	%/°C	-0.12
	of Coercivity, α(H <sub>cj</sub> )	%/°C	-0.57
Coefficient of Thermal Expansion <sup>(2)</sup>	ΔL/L per °Cx10 <sup>-6</sup>	7	-1
Thermal Conductivity	kcal/mhr°C	5.3	5.8
Specific Heat <sup>(3)</sup>	cal/g°C	0.11	
Curie Temperature, T <sub>c</sub>	°C	310	
Flexural Strength	psi	41,300	
	MPa	285	
Density	g/cm <sup>3</sup>	7.6	
Hardness, Vickers	Hv	620	
Electrical Resistivity, ρ	μΩ • cm	150 // 130 ⊥	

Notes: (1) Coefficients measured between 20 and 120 °C  
 (2) Between 20 and 200 °C. Values are typical and can vary.  
 (3) Between 20 and 140 °C



1 kA/m = 12.566 Oe    1 kOe = 79.577 kA/m

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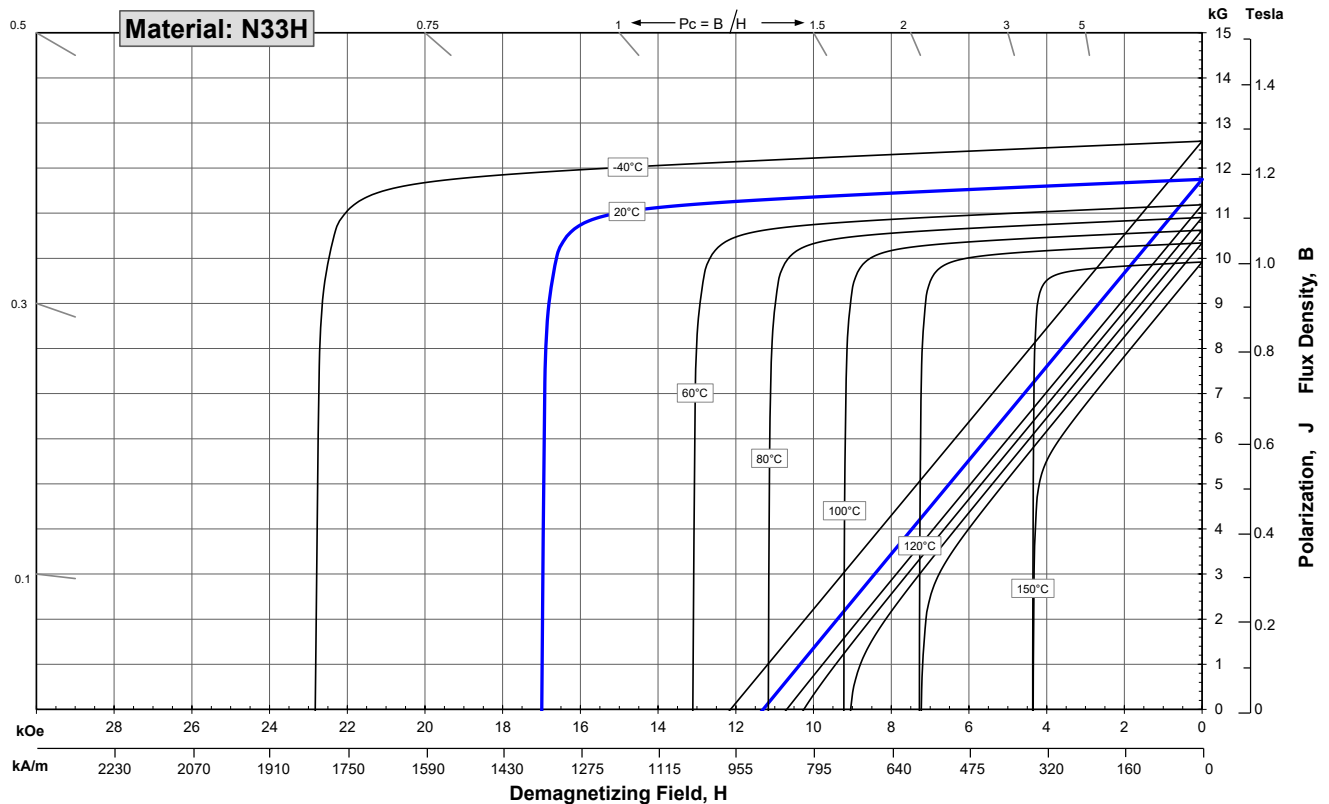
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Characteristic	Units	Magnetic Properties		
		min.	nominal	max.
<b>Br</b> , Residual Induction	Gauss	11,300	11,750	12,200
	mT	1130	1175	1220
<b>H<sub>cB</sub></b> , Coercivity	Oersteds	10,500	11,100	11,700
	kA/m	836	883	931
<b>H<sub>cJ</sub></b> , Intrinsic Coercivity	Oersteds	17,000		
	kA/m	1,353		
<b>BHmax</b> , Maximum Energy Product	MGOe	31	34	36
	kJ/m <sup>3</sup>	247	267	287

Characteristic	Units	Thermal Properties	
		C //	C ⊥
Reversible Temperature Coefficients <sup>(1)</sup>			
	of Induction, α(Br)	%/°C	-0.12
	of Coercivity, α(H <sub>cj</sub> )	%/°C	-0.57
Coefficient of Thermal Expansion <sup>(2)</sup>	ΔL/L per °Cx10 <sup>-6</sup>	7	-1
Thermal Conductivity	kcal/mhr°C	5.3	5.8
Specific Heat <sup>(3)</sup>	cal/g°C	0.11	
Curie Temperature, T <sub>c</sub>	°C	310	
Flexural Strength	psi	41,300	
	MPa	285	
Density	g/cm <sup>3</sup>	7.6	
Hardness, Vickers	Hv	620	
Electrical Resistivity, ρ	μΩ • cm	150 // 130 ⊥	

Notes: (1) Coefficients measured between 20 and 120 °C  
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 (3) Between 20 and 140 °C



1 kA/m = 12.566 Oe    1 kOe = 79.577 kA/m

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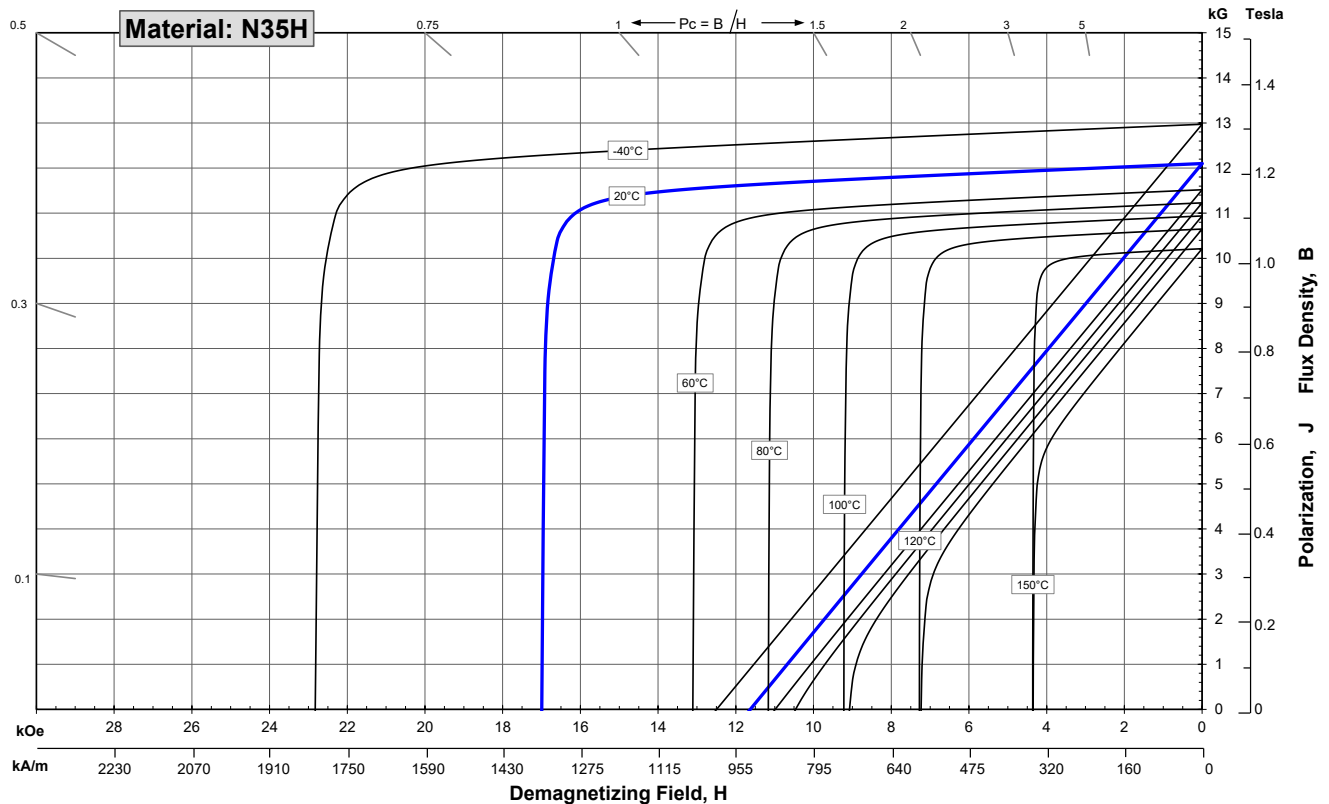
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Characteristic	Units	Magnetic Properties		
		min.	nominal	max.
<b>Br</b> , Residual Induction	Gauss	11,700	12,100	12,500
	mT	1170	1210	1250
<b>H<sub>cB</sub></b> , Coercivity	Oersteds	10,900	11,450	12,000
	kA/m	868	911	955
<b>H<sub>cJ</sub></b> , Intrinsic Coercivity	Oersteds	17,000		
	kA/m	1,353		
<b>BHmax</b> , Maximum Energy Product	MGOe	33	36	38
	kJ/m <sup>3</sup>	263	283	302

Characteristic	Units	Thermal Properties	
		C //	C ⊥
Reversible Temperature Coefficients <sup>(1)</sup>			
	of Induction, α(Br)	%/°C	-0.12
	of Coercivity, α(H <sub>cj</sub> )	%/°C	-0.57
Coefficient of Thermal Expansion <sup>(2)</sup>	ΔL/L per °Cx10 <sup>-6</sup>	7	-1
Thermal Conductivity	kcal/mhr°C	5.3	5.8
Specific Heat <sup>(3)</sup>	cal/g°C	0.11	
Curie Temperature, T <sub>c</sub>	°C	310	
Flexural Strength	psi	41,300	
	MPa	285	
Density	g/cm <sup>3</sup>	7.6	
Hardness, Vickers	Hv	620	
Electrical Resistivity, ρ	μΩ • cm	150 // 130 ⊥	

Notes: (1) Coefficients measured between 20 and 120 °C  
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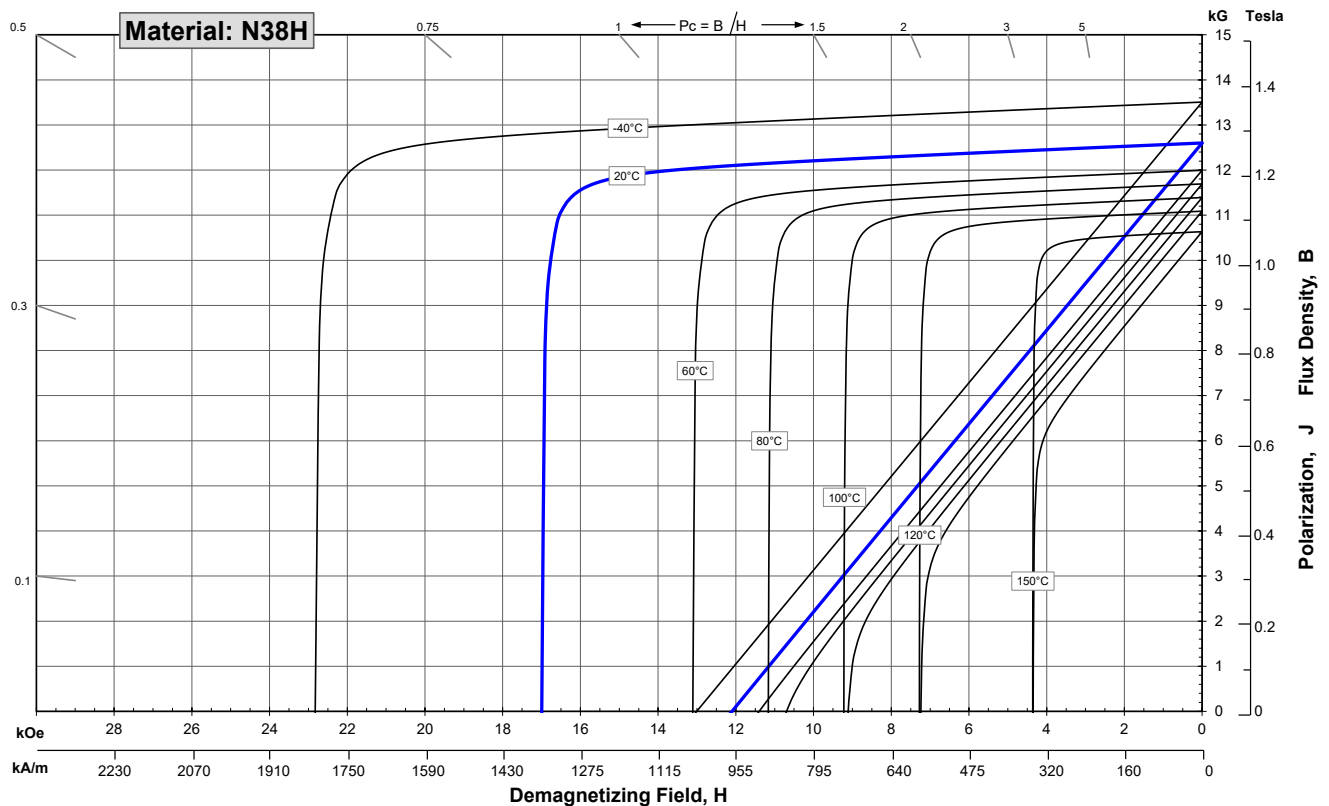
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Characteristic	Units	Magnetic Properties		
		min.	nominal	max.
<b>Br</b> , Residual Induction	Gauss	12,200	12,600	13,000
	mT	1220	1260	1300
<b>H<sub>cB</sub></b> , Coercivity	Oersteds	11,300	11,850	12,400
	kA/m	899	943	987
<b>H<sub>cJ</sub></b> , Intrinsic Coercivity	Oersteds	17,000		
	kA/m	1,353		
<b>BH<sub>max</sub></b> , Maximum Energy Product	MGOe	36	39	41
	kJ/m <sup>3</sup>	287	307	326

Characteristic	Units	Thermal Properties	
		C //	C ⊥
Reversible Temperature Coefficients <sup>(1)</sup>			
	of Induction, α(Br)	%/°C	-0.12
	of Coercivity, α(H <sub>cJ</sub> )	%/°C	-0.57
Coefficient of Thermal Expansion <sup>(2)</sup>	ΔL/L per °Cx10 <sup>-6</sup>	7	-1
Thermal Conductivity	kcal/mhr°C	5.3	5.8
Specific Heat <sup>(3)</sup>	cal/g°C	0.11	
Curie Temperature, T <sub>c</sub>	°C	310	
Flexural Strength	psi	41,300	
	MPa	285	
Density	g/cm <sup>3</sup>	7.6	
Hardness, Vickers	Hv	620	
Electrical Resistivity, ρ	μΩ • cm	150 // 130 ⊥	

Notes: (1) Coefficients measured between 20 and 120 °C  
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 (3) Between 20 and 140 °C



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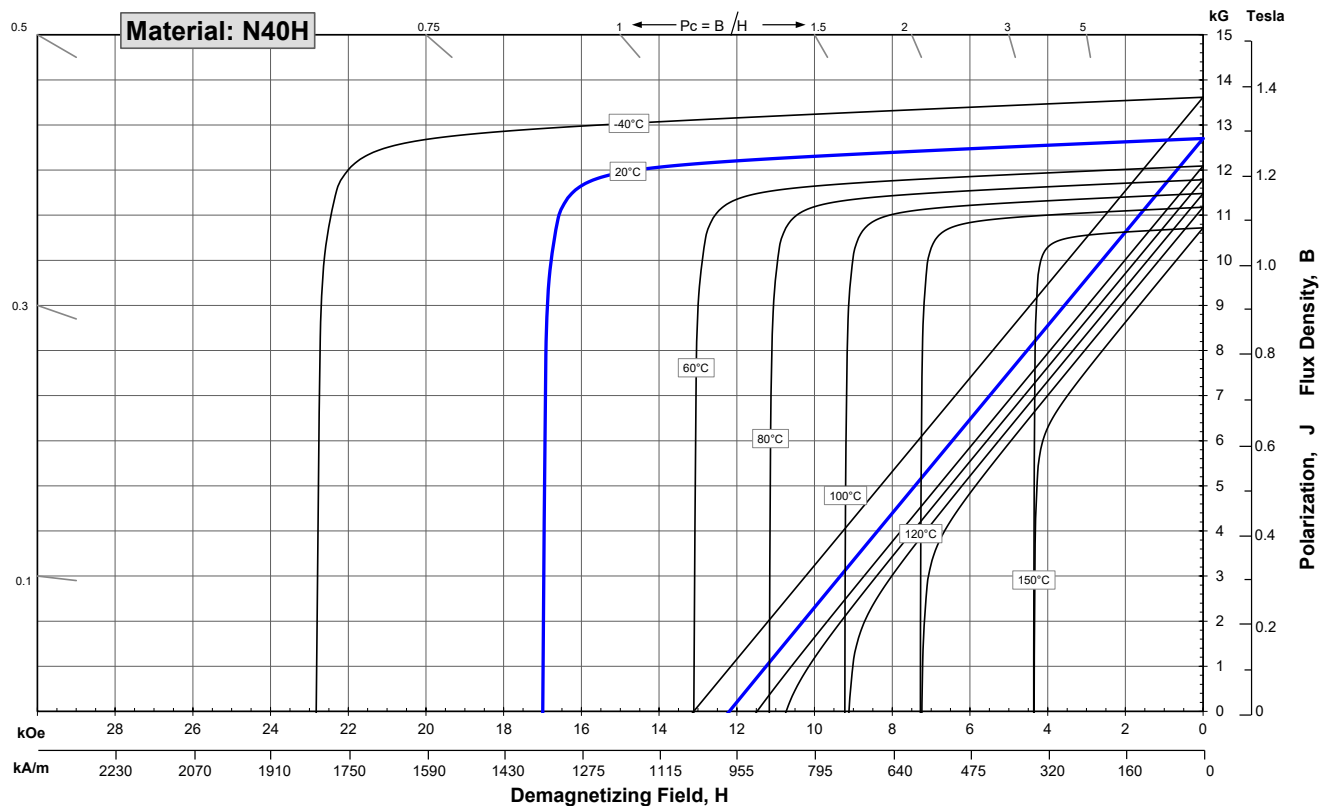
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Characteristic	Units	Magnetic Properties		
		min.	nominal	max.
<b>Br</b> , Residual Induction	Gauss	12,500	12,700	12,900
	mT	1250	1270	1290
<b>H<sub>cB</sub></b> , Coercivity	Oersteds	11,600	11,950	12,300
	kA/m	923	951	979
<b>H<sub>cJ</sub></b> , Intrinsic Coercivity	Oersteds	17,000		
	kA/m	1,353		
<b>BH<sub>max</sub></b> , Maximum Energy Product	MGOe	38	41	43
	kJ/m <sup>3</sup>	302	322	342

Characteristic	Units	Thermal Properties	
		C //	C ⊥
Reversible Temperature Coefficients <sup>(1)</sup>			
	of Induction, α(Br)	%/°C	-0.12
	of Coercivity, α(H <sub>cJ</sub> )	%/°C	-0.57
Coefficient of Thermal Expansion <sup>(2)</sup>	ΔL/L per °Cx10 <sup>-6</sup>	7	-1
Thermal Conductivity	kcal/mhr°C	5.3	5.8
Specific Heat <sup>(3)</sup>	cal/g°C	0.11	
Curie Temperature, T <sub>c</sub>	°C	310	
Flexural Strength	psi	41,300	
	MPa	285	
Density	g/cm <sup>3</sup>	7.6	
Hardness, Vickers	Hv	620	
Electrical Resistivity, ρ	μΩ • cm	150 // 130 ⊥	

Notes: (1) Coefficients measured between 20 and 120 °C  
 (2) Between 20 and 200 °C. Values are typical and can vary.  
 (3) Between 20 and 140 °C



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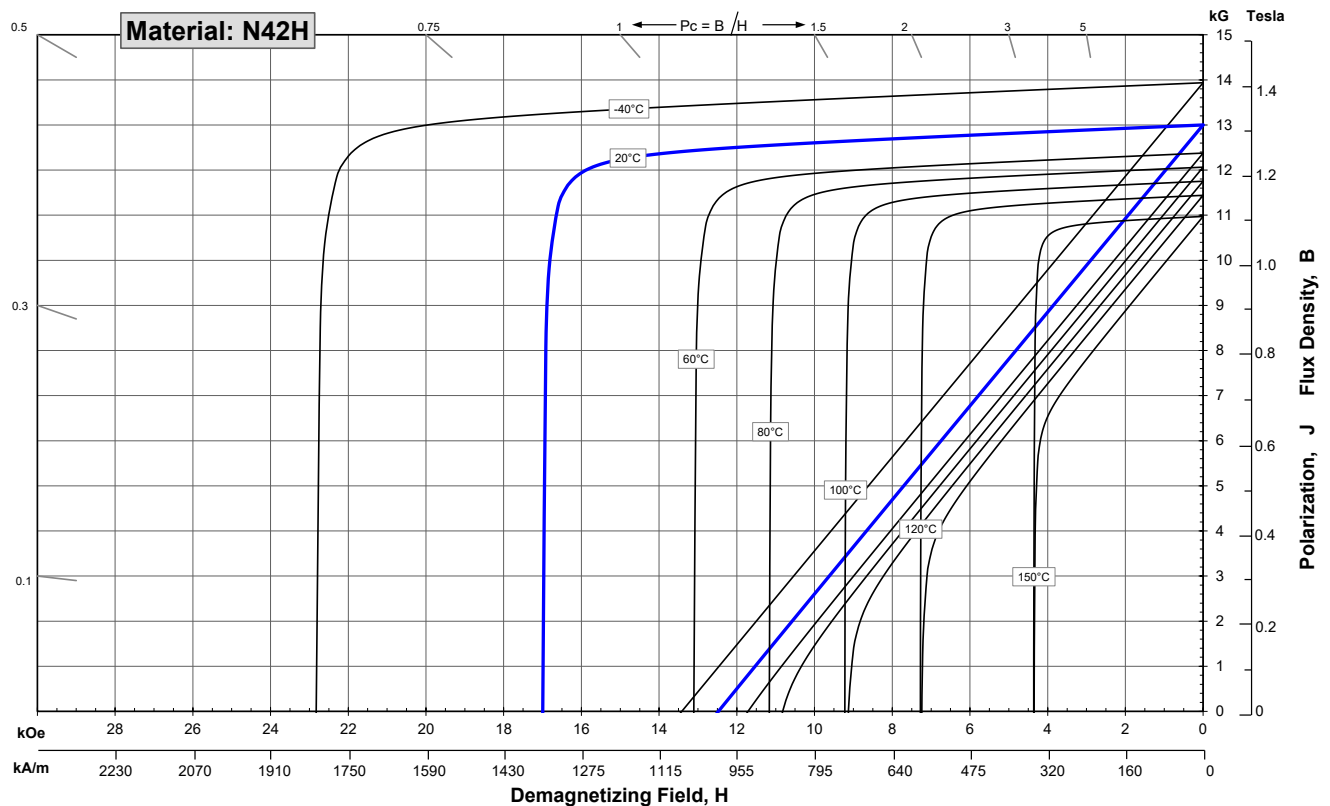
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Characteristic	Units	Magnetic Properties		
		min.	nominal	max.
<b>Br</b> , Residual Induction	Gauss	12,800	13,000	13,200
	mT	1280	1300	1320
<b>H<sub>cB</sub></b> , Coercivity	Oersteds	12,000	12,300	12,600
	kA/m	955	979	1003
<b>H<sub>cJ</sub></b> , Intrinsic Coercivity	Oersteds	17,000		
	kA/m	1,353		
<b>BH<sub>max</sub></b> , Maximum Energy Product	MGOe	40	42	43
	kJ/m <sup>3</sup>	318	330	342

Characteristic	Units	Thermal Properties	
		C //	C ⊥
Reversible Temperature Coefficients <sup>(1)</sup>			
	of Induction, α(Br)	%/°C	-0.12
	of Coercivity, α(H <sub>cj</sub> )	%/°C	-0.57
Coefficient of Thermal Expansion <sup>(2)</sup>	ΔL/L per °Cx10 <sup>-6</sup>	7	-1
Thermal Conductivity	kcal/mhr°C	5.3	5.8
Specific Heat <sup>(3)</sup>	cal/g°C	0.11	
Curie Temperature, T <sub>c</sub>	°C	310	
Flexural Strength		psi	41,300
		MPa	285
Density	g/cm <sup>3</sup>	7.6	
Hardness, Vickers	Hv	620	
Electrical Resistivity, ρ	μΩ • cm	150 // 130 ⊥	

Notes: (1) Coefficients measured between 20 and 120 °C  
 (2) Between 20 and 200 °C. Values are typical and can vary.  
 (3) Between 20 and 140 °C



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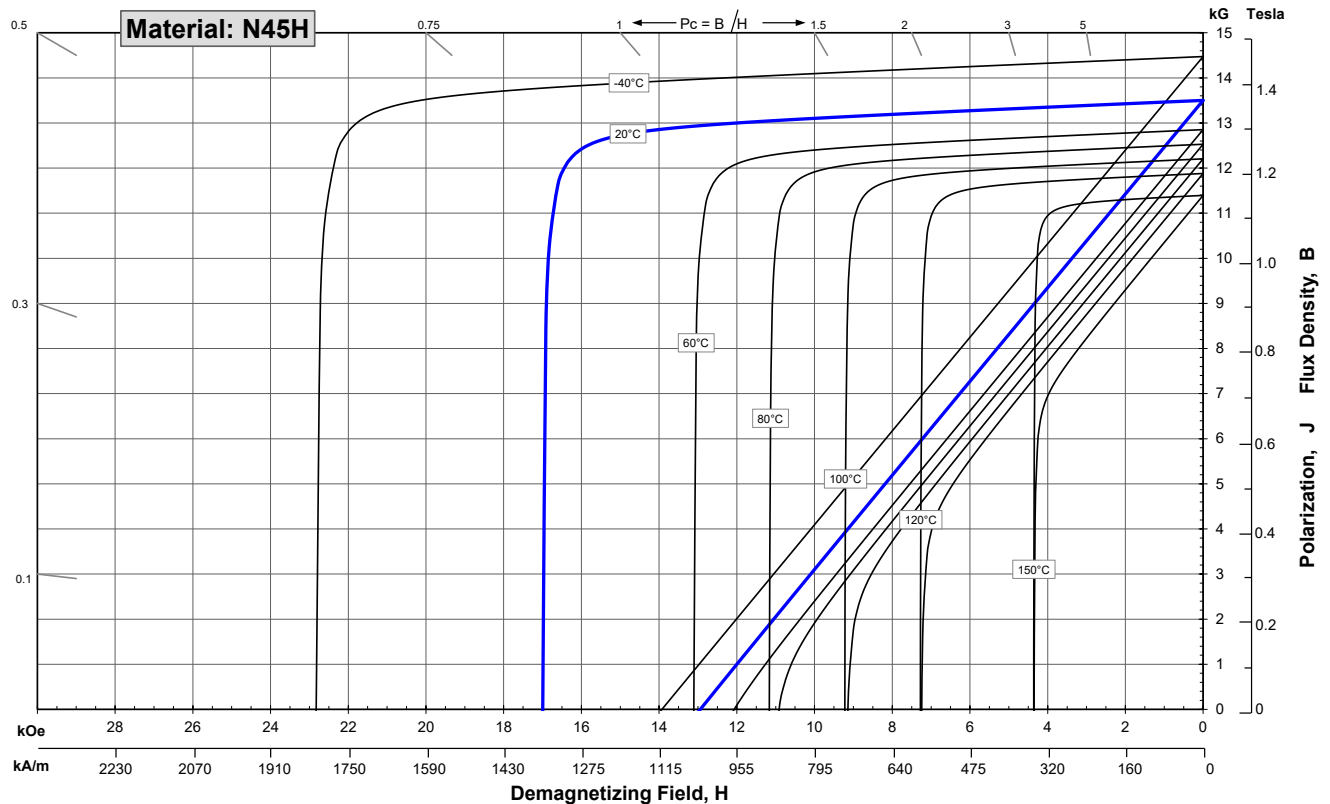
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Characteristic	Units	Magnetic Properties		
		min.	nominal	max.
<b>Br</b> , Residual Induction	Gauss	13,200	13,500	13,800
	mT	1320	1350	1380
<b>H<sub>cB</sub></b> , Coercivity	Oersteds	12,200	12,700	13,200
	kA/m	971	1011	1050
<b>H<sub>cJ</sub></b> , Intrinsic Coercivity	Oersteds	17,000		
	kA/m	1,353		
<b>BHmax</b> , Maximum Energy Product	MGOe	42	45	47
	kJ/m <sup>3</sup>	334	354	374

Characteristic	Units	Thermal Properties		
		C //	C ⊥	
Reversible Temperature Coefficients <sup>(1)</sup>				
	of Induction, α(Br)	%/°C	-0.12	
	of Coercivity, α(H <sub>cj</sub> )	%/°C	-0.57	
Coefficient of Thermal Expansion <sup>(2)</sup>	ΔL/L per °Cx10 <sup>-6</sup>	7	-1	
Thermal Conductivity	kcal/mhr°C	5.3	5.8	
Specific Heat <sup>(3)</sup>	cal/g°C	0.11		
Curie Temperature, T <sub>c</sub>	°C	310		
Other Properties	Flexural Strength	psi	41,300	
		MPa	285	
	Density	g/cm <sup>3</sup>	7.6	
	Hardness, Vickers	Hv	620	
	Electrical Resistivity, ρ	μΩ • cm	150 // 130 ⊥	

Notes: (1) Coefficients measured between 20 and 120 °C  
 (2) Between 20 and 200 °C. Values are typical and can vary.  
 (3) Between 20 and 140 °C



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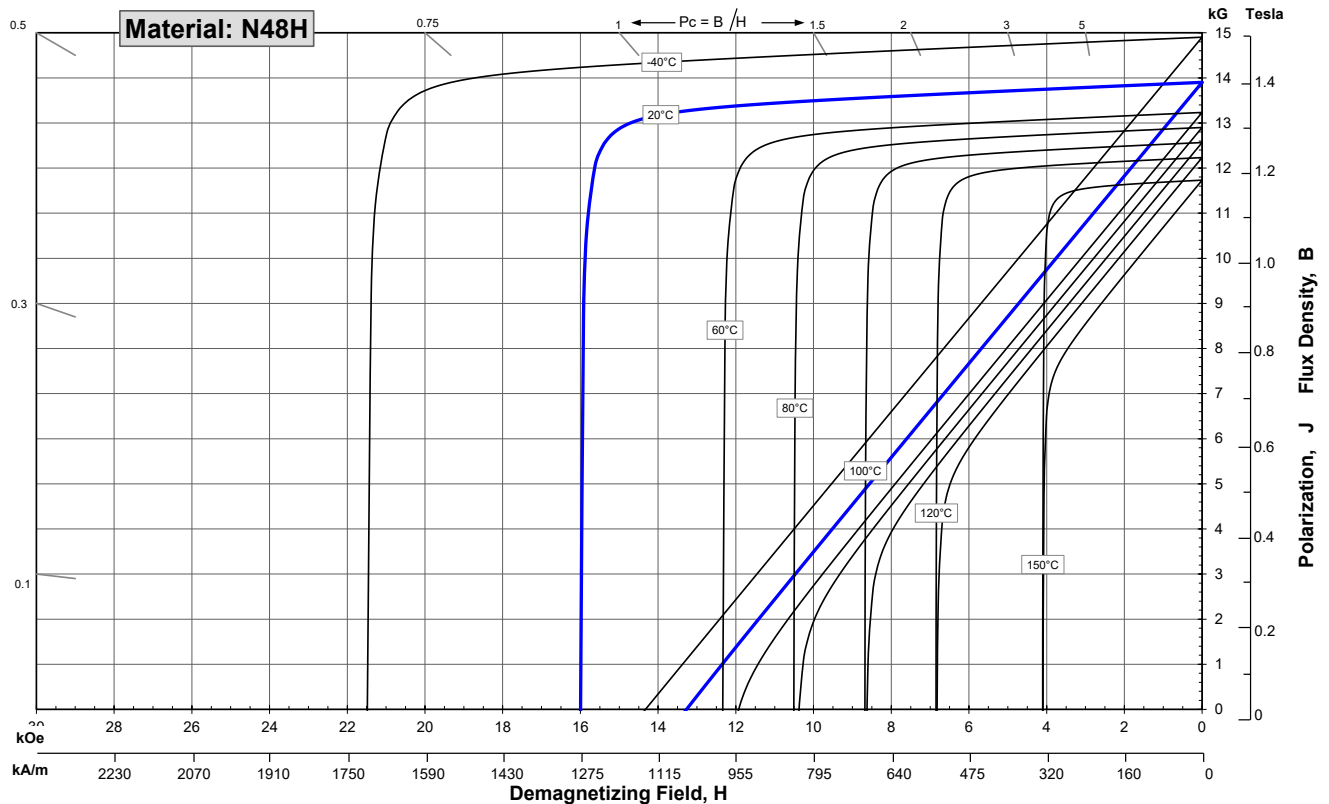
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Characteristic	Units	Magnetic Properties		
		min.	nominal	max.
<b>Br</b> , Residual Induction	Gauss	13,600	13,900	14,200
	mT	1360	1390	1420
<b>H<sub>cB</sub></b> , Coercivity	Oersteds	12,700	13,150	13,600
	kA/m	1011	1046	1082
<b>H<sub>cJ</sub></b> , Intrinsic Coercivity	Oersteds	16,000		
	kA/m	1,273		
<b>BH<sub>max</sub></b> , Maximum Energy Product	MGOe	45	48	50
	kJ/m <sup>3</sup>	358	378	398

Characteristic	Units	Thermal Properties	
		C //	C ⊥
Reversible Temperature Coefficients <sup>(1)</sup>			
	of Induction, α(Br)	%/°C	-0.12
	of Coercivity, α(H <sub>cJ</sub> )	%/°C	-0.57
Coefficient of Thermal Expansion <sup>(2)</sup>	ΔL/L per °Cx10 <sup>-6</sup>	7	-1
Thermal Conductivity	kcal/mhr°C	5.3	5.8
Specific Heat <sup>(3)</sup>	cal/g°C	0.11	
Curie Temperature, T <sub>c</sub>	°C	310	
Flexural Strength	psi	41,300	
	MPa	285	
Density	g/cm <sup>3</sup>	7.6	
Hardness, Vickers	Hv	620	
Electrical Resistivity, ρ	μΩ • cm	150 // 130 ⊥	

Notes:  
 (1) Coefficients measured between 20 and 120 °C  
 (2) Between 20 and 200 °C. Values are typical and can vary.  
 (3) Between 20 and 140 °C



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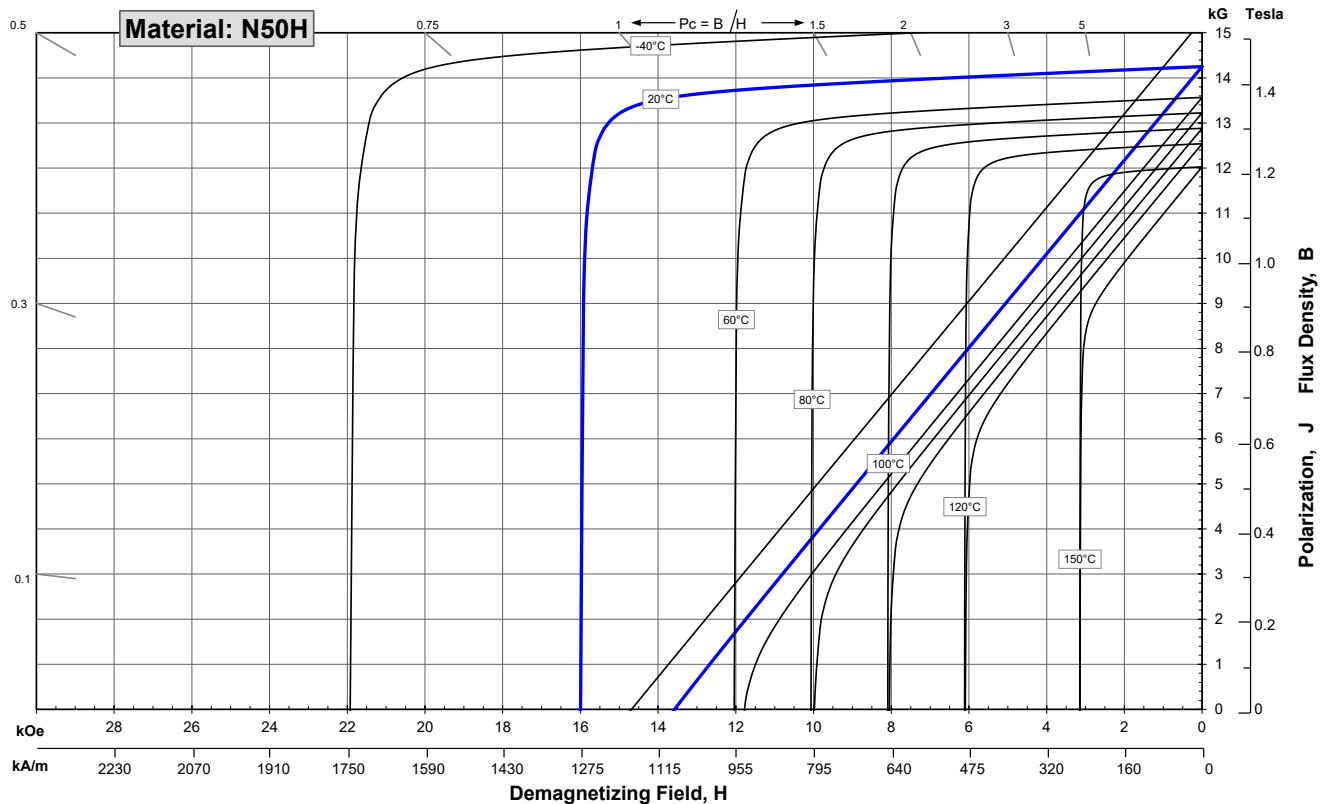
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Characteristic	Units	Magnetic Properties		
		min.	nominal	max.
<b>Br</b> , Residual Induction	Gauss	13,900	14,250	14,600
	mT	1390	1425	1460
<b>H<sub>cB</sub></b> , Coercivity	Oersteds	10,500	12,250	14,000
	kA/m	836	975	1114
<b>H<sub>cJ</sub></b> , Intrinsic Coercivity	Oersteds	16,000		
	kA/m	1,273		
<b>BH<sub>max</sub></b> , Maximum Energy Product	MGOe	47	49	51
	kJ/m <sup>3</sup>	374	390	406

Characteristic	Units	Thermal Properties	
		C //	C ⊥
Reversible Temperature Coefficients <sup>(1)</sup>			
	of Induction, α(Br)	%/°C	-0.12
	of Coercivity, α(H <sub>cj</sub> )	%/°C	-0.62
Coefficient of Thermal Expansion <sup>(2)</sup>	ΔL/L per °Cx10 <sup>-6</sup>	7	-1
Thermal Conductivity	kcal/mhr°C	5.3	5.8
Specific Heat <sup>(3)</sup>	cal/g°C	0.11	
Curie Temperature, T <sub>c</sub>	°C	310	
Flexural Strength	psi	41,300	
	MPa	285	
Density	g/cm <sup>3</sup>	7.6	
Hardness, Vickers	Hv	620	
Electrical Resistivity, ρ	μΩ • cm	150 // 130 ⊥	

Notes: (1) Coefficients measured between 20 and 100 °C  
 (2) Between 20 and 200 °C. Values are typical and can vary.  
 (3) Between 20 and 140 °C



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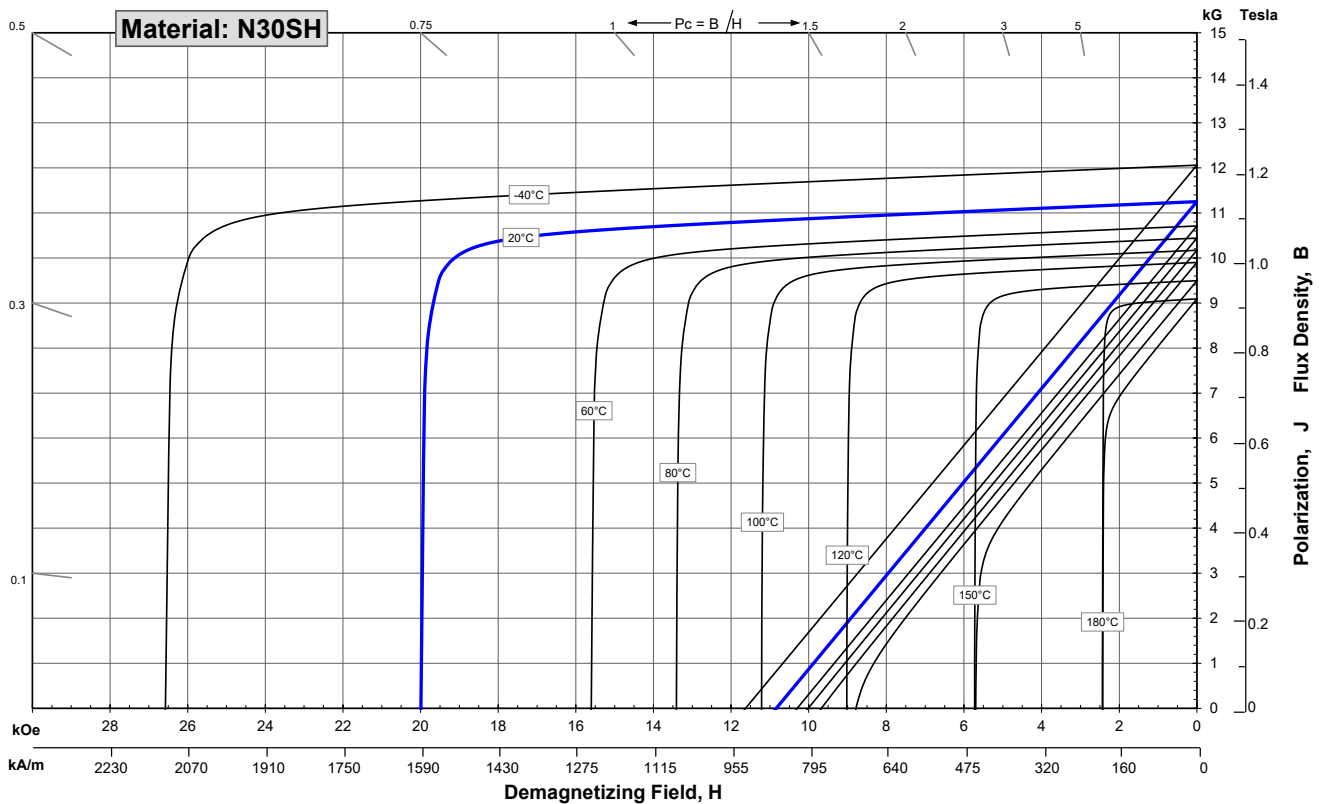
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Characteristic	Units	Magnetic Properties		
		min.	nominal	max.
<b>Br</b> , Residual Induction	Gauss	10,800	11,250	11,700
	mT	1080	1125	1170
<b>H<sub>cB</sub></b> , Coercivity	Oersteds	10,200	10,700	11,200
	kA/m	811	852	891
<b>H<sub>cJ</sub></b> , Intrinsic Coercivity	Oersteds	20,000		
	kA/m	1,592		
<b>BHmax</b> , Maximum Energy Product	MGOe	28	31	33
	kJ/m <sup>3</sup>	223	243	263

Characteristic	Units	Thermal Properties	
		C //	C ⊥
Reversible Temperature Coefficients <sup>(1)</sup>			
	of Induction, α(Br)	%/°C	-0.12
	of Coercivity, α(H <sub>cj</sub> )	%/°C	-0.55
Coefficient of Thermal Expansion <sup>(2)</sup>	ΔL/L per °Cx10 <sup>-6</sup>	7	-1
Thermal Conductivity	kcal/mhr°C	5.3	5.8
Specific Heat <sup>(3)</sup>	cal/g°C	0.11	
Curie Temperature, T <sub>c</sub>	°C	310	
Other Properties	Flexural Strength	psi	41,300
		MPa	285
	Density	g/cm <sup>3</sup>	7.6
	Hardness, Vickers	Hv	620
	Electrical Resistivity, ρ	μΩ • cm	150 // 130 ⊥

Notes: (1) Coefficients measured between 20 and 150 °C  
 (2) Between 20 and 200 °C. Values are typical and can vary.  
 (3) Between 20 and 140 °C



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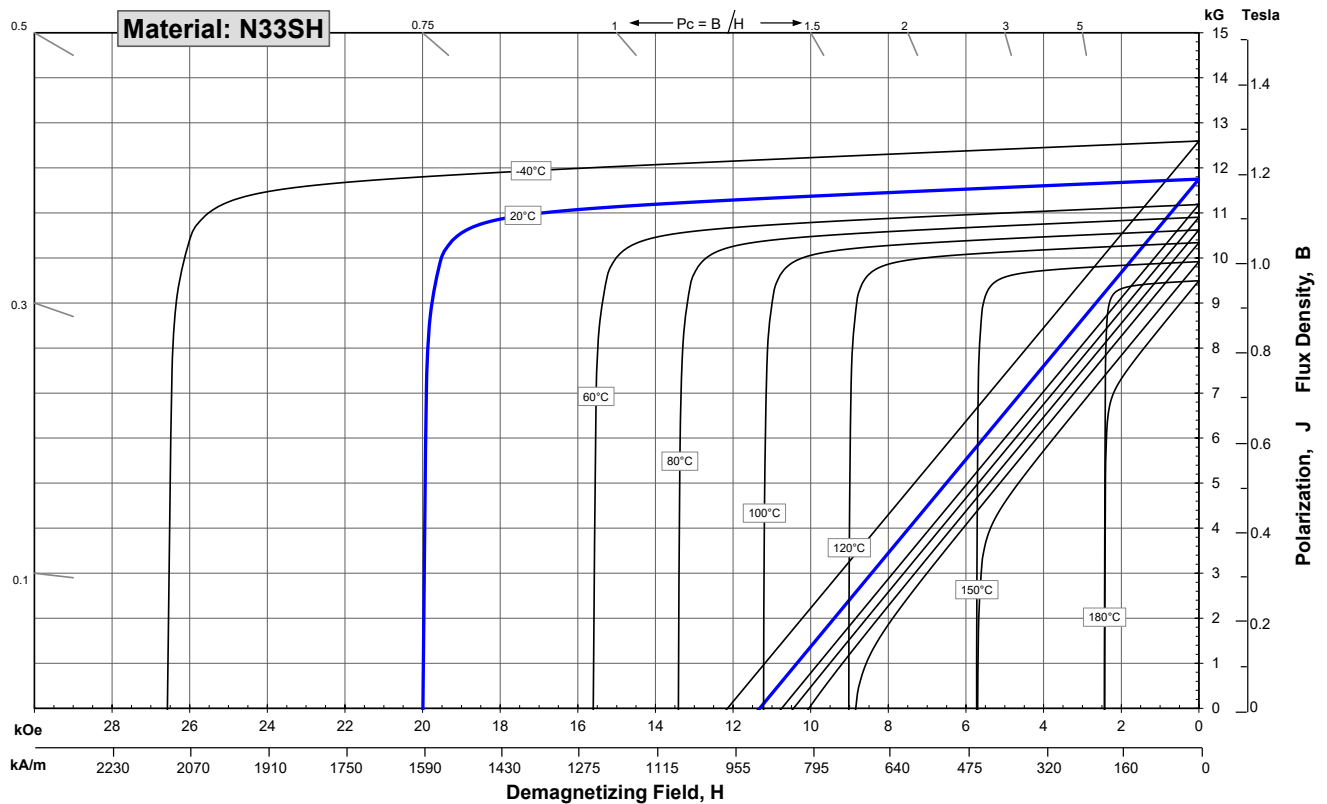
## Sintered Neodymium-Iron-Boron Magnets

These are also referred to as "Neo" or NdFeB magnets. They offer a combination of high magnetic output at moderate cost. Please contact Arnold for additional grade information and recommendations for protective coating. Assemblies using these magnets can also be provided.

Characteristic	Units	Magnetic Properties		
		min.	nominal	max.
<b>Br</b> , Residual Induction	Gauss	11,300	11,750	12,200
	mT	1130	1175	1220
<b>H<sub>cB</sub></b> , Coercivity	Oersteds	10,600	11,150	11,700
	kA/m	844	887	931
<b>H<sub>cJ</sub></b> , Intrinsic Coercivity	Oersteds	20,000		
	kA/m	1,592		
<b>BH<sub>max</sub></b> , Maximum Energy Product	MGOe	31	34	36
	kJ/m <sup>3</sup>	247	267	287

Characteristic	Units	Thermal Properties	
		C //	C ⊥
Reversible Temperature Coefficients <sup>(1)</sup>			
	of Induction, α(Br)	%/°C	-0.12
	of Coercivity, α(H <sub>cj</sub> )	%/°C	-0.55
Coefficient of Thermal Expansion <sup>(2)</sup>	ΔL/L per °Cx10 <sup>-6</sup>	7	-1
Thermal Conductivity	kcal/mhr°C	5.3	5.8
Specific Heat <sup>(3)</sup>	cal/g°C	0.11	
Curie Temperature, T <sub>c</sub>	°C	310	
Flexural Strength	psi	41,300	
	MPa	285	
Density	g/cm <sup>3</sup>	7.6	
Hardness, Vickers	Hv	620	
Electrical Resistivity, ρ	μΩ • cm	150 // 130 ⊥	

Notes: (1) Coefficients measured between 20 and 150 °C  
 (2) Between 20 and 200 °C. Values are typical and can vary.  
 (3) Between 20 and 140 °C



1 kA/m = 12.566 Oe    1 kOe = 79.577 kA/m

**Notes** The material data and demagnetization curves shown above represent typical properties that may vary due to product shape and size.  
**Demagnetization curves show nominal Br and minimum H<sub>cj</sub>.**  
 Magnets can be supplied thermally stabilized or magnetically calibrated to customer specifications.  
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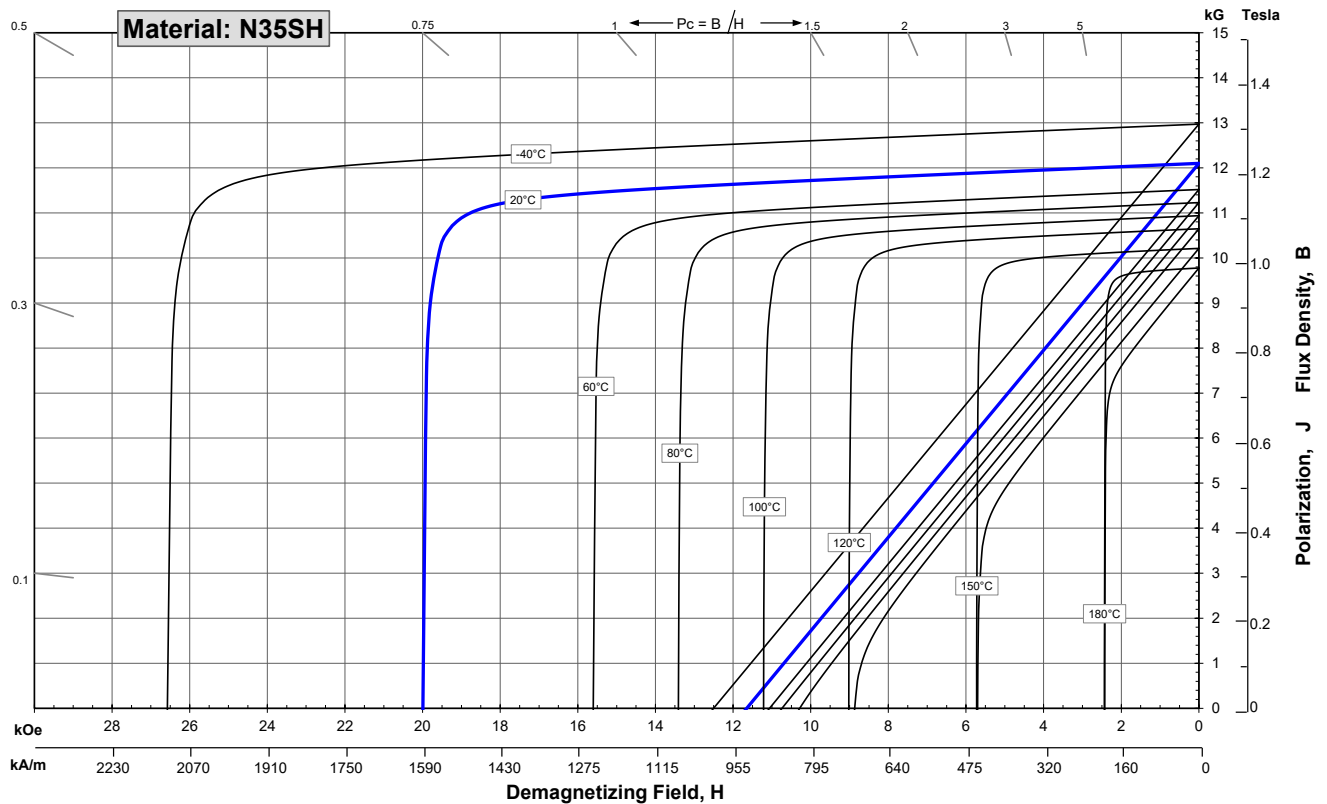
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Characteristic	Units	Magnetic Properties		
		min.	nominal	max.
<b>Br</b> , Residual Induction	Gauss	11,700	12,100	12,500
	mT	1170	1210	1250
<b>H<sub>cB</sub></b> , Coercivity	Oersteds	11,000	11,500	12,000
	kA/m	876	915	955
<b>H<sub>cJ</sub></b> , Intrinsic Coercivity	Oersteds	20,000		
	kA/m	1,592		
<b>BHmax</b> , Maximum Energy Product	MGOe	33	36	38
	kJ/m <sup>3</sup>	263	283	302

Characteristic	Units	Thermal Properties	
		C //	C ⊥
Reversible Temperature Coefficients <sup>(1)</sup>			
	of Induction, α(Br)	%/°C	-0.12
	of Coercivity, α(H <sub>cj</sub> )	%/°C	-0.55
Coefficient of Thermal Expansion <sup>(2)</sup>	ΔL/L per °C x 10 <sup>-6</sup>	7	-1
Thermal Conductivity	kcal/mhr°C	5.3	5.8
Specific Heat <sup>(3)</sup>	cal/g°C	0.11	
Curie Temperature, T <sub>c</sub>	°C	310	
Flexural Strength		psi	41,300
		MPa	285
Density	g/cm <sup>3</sup>	7.6	
Hardness, Vickers	Hv	620	
Electrical Resistivity, ρ	μΩ • cm	150 // 130 ⊥	

Notes:  
 (1) Coefficients measured between 20 and 150 °C  
 (2) Between 20 and 200 °C. Values are typical and can vary.  
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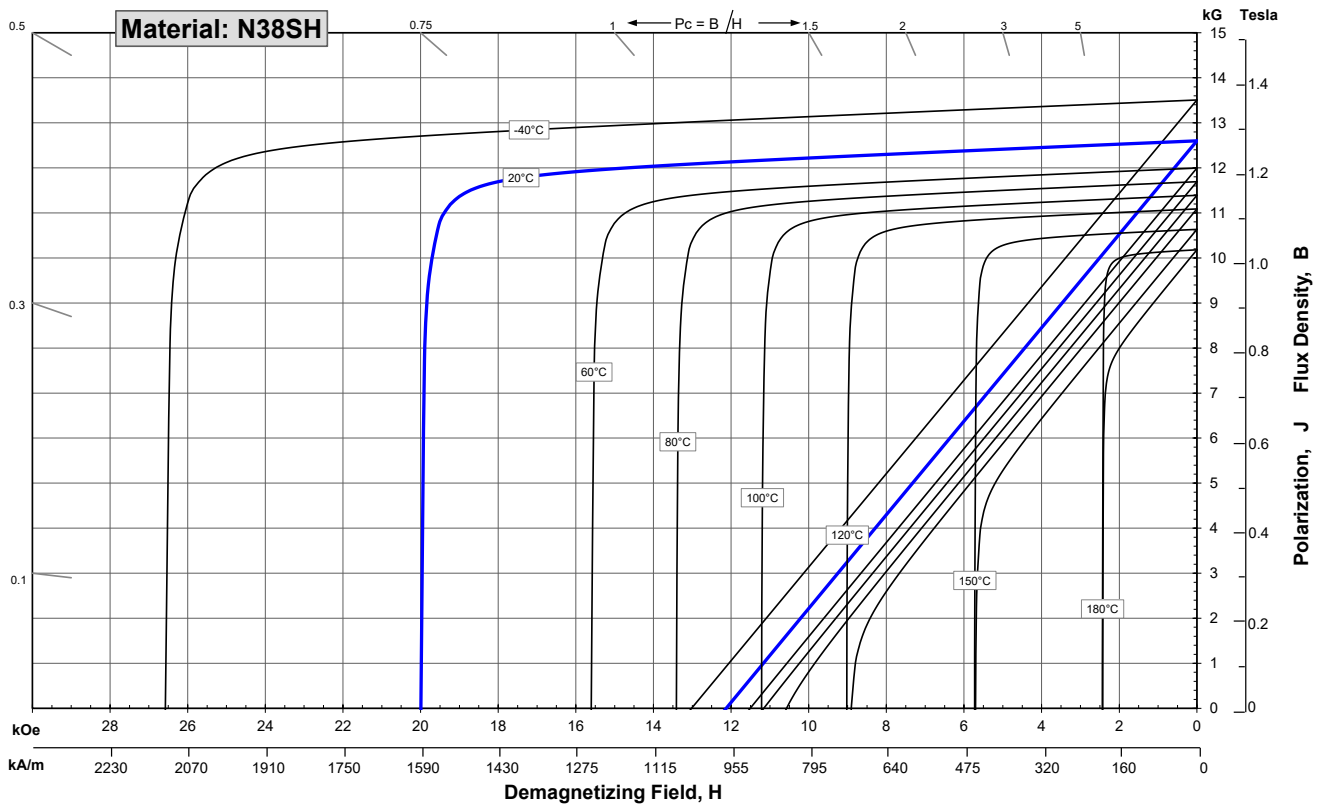
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Characteristic	Units	Magnetic Properties		
		min.	nominal	max.
<b>Br</b> , Residual Induction	Gauss	12,200	12,600	13,000
	mT	1220	1260	1300
<b>H<sub>cB</sub></b> , Coercivity	Oersteds	11,400	11,900	12,400
	kA/m	907	947	987
<b>H<sub>cJ</sub></b> , Intrinsic Coercivity	Oersteds	20,000		
	kA/m	1,592		
<b>BH<sub>max</sub></b> , Maximum Energy Product	MGOe	36	39	41
	kJ/m <sup>3</sup>	287	307	326

Characteristic	Units	Thermal Properties	
		C //	C ⊥
Reversible Temperature Coefficients <sup>(1)</sup>			
	of Induction, α(Br)	%/°C	-0.12
	of Coercivity, α(H <sub>cj</sub> )	%/°C	-0.55
Coefficient of Thermal Expansion <sup>(2)</sup>	ΔL/L per °Cx10 <sup>-6</sup>	7	-1
Thermal Conductivity	kcal/mhr°C	5.3	5.8
Specific Heat <sup>(3)</sup>	cal/g°C	0.11	
Curie Temperature, T <sub>c</sub>	°C	310	
Other Properties	Flexural Strength	psi	41,300
		MPa	285
	Density	g/cm <sup>3</sup>	7.6
	Hardness, Vickers	Hv	620
	Electrical Resistivity, ρ	μΩ • cm	150 // 130 ⊥

Notes: (1) Coefficients measured between 20 and 150 °C  
 (2) Between 20 and 200 °C. Values are typical and can vary.  
 (3) Between 20 and 140 °C



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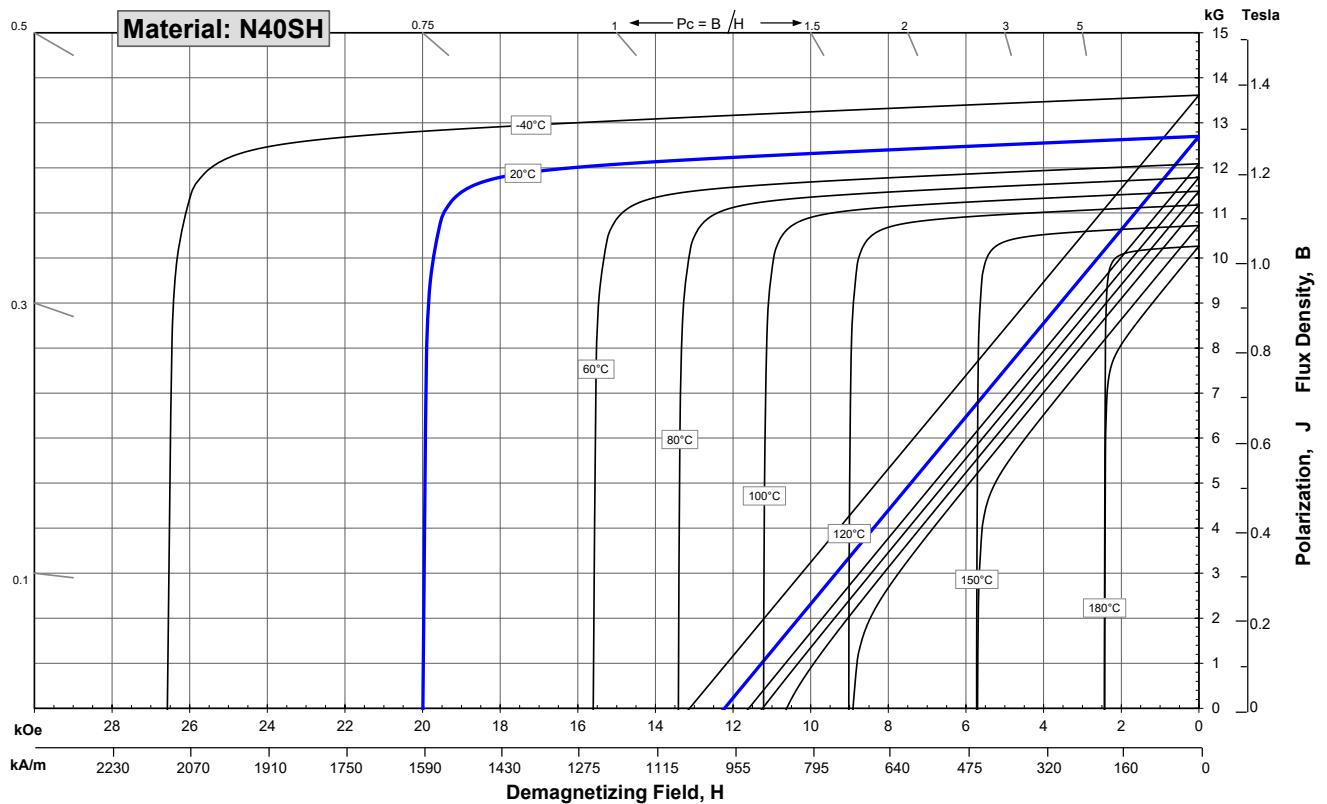
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Characteristic	Units	Magnetic Properties		
		min.	nominal	max.
<b>Br</b> , Residual Induction	Gauss	12,500	12,700	12,900
	mT	1250	1270	1290
<b>H<sub>cB</sub></b> , Coercivity	Oersteds	11,800	12,050	12,300
	kA/m	939	959	979
<b>H<sub>cJ</sub></b> , Intrinsic Coercivity	Oersteds	20,000		
	kA/m	1,592		
<b>BHmax</b> , Maximum Energy Product	MGOe	38	41	43
	kJ/m <sup>3</sup>	302	322	342

Characteristic	Units	Thermal Properties	
		C //	C ⊥
Reversible Temperature Coefficients <sup>(1)</sup>			
	of Induction, α(Br)	%/°C	-0.12
	of Coercivity, α(H <sub>cj</sub> )	%/°C	-0.55
Coefficient of Thermal Expansion <sup>(2)</sup>	ΔL/L per °Cx10 <sup>-6</sup>	7	-1
Thermal Conductivity	kcal/mhr°C	5.3	5.8
Specific Heat <sup>(3)</sup>	cal/g°C	0.11	
Curie Temperature, T <sub>c</sub>	°C	310	
Other Properties	Flexural Strength	psi	41,300
		MPa	285
	Density	g/cm <sup>3</sup>	7.6
	Hardness, Vickers	Hv	620
	Electrical Resistivity, ρ	μΩ • cm	150 // 130 ⊥

Notes: (1) Coefficients measured between 20 and 150 °C  
 (2) Between 20 and 200 °C. Values are typical and can vary.  
 (3) Between 20 and 140 °C



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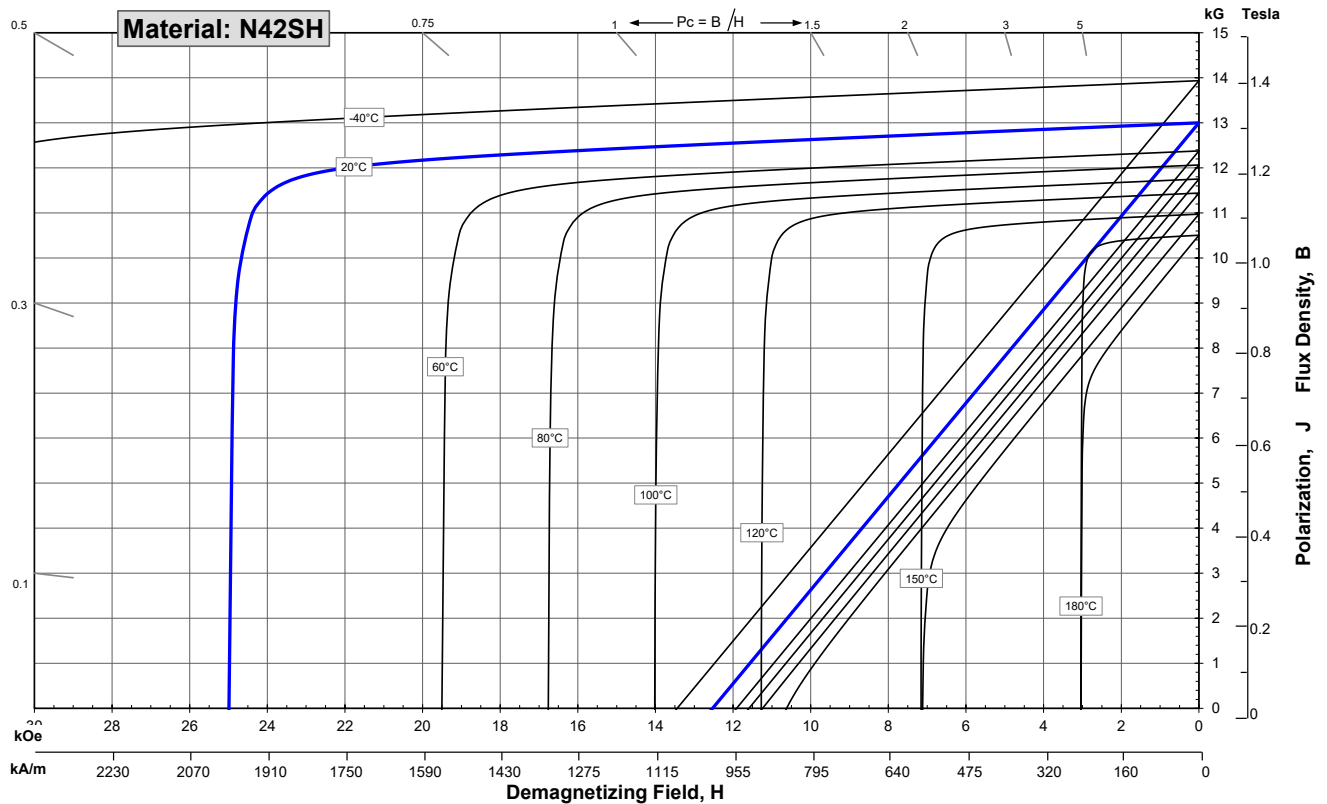
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Characteristic	Units	Magnetic Properties		
		min.	nominal	max.
<b>Br</b> , Residual Induction	Gauss	12,800	13,100	13,400
	mT	1280	1310	1340
<b>H<sub>cB</sub></b> , Coercivity	Oersteds	12,000	12,400	12,800
	kA/m	955	987	1019
<b>H<sub>cJ</sub></b> , Intrinsic Coercivity	Oersteds	20,000		
	kA/m	1,592		
<b>BH<sub>max</sub></b> , Maximum Energy Product	MGOe	39	42	44
	kJ/m <sup>3</sup>	310	330	350

Characteristic	Units	Thermal Properties	
		C //	C ⊥
Reversible Temperature Coefficients <sup>(1)</sup>			
	of Induction, α(Br)	%/°C	-0.12
	of Coercivity, α(H <sub>cj</sub> )	%/°C	-0.55
Coefficient of Thermal Expansion <sup>(2)</sup>	ΔL/L per °Cx10 <sup>-6</sup>	7	-1
Thermal Conductivity	kcal/mhr°C	5.3	5.8
Specific Heat <sup>(3)</sup>	cal/g°C	0.11	
Curie Temperature, T <sub>c</sub>	°C	310	
Flexural Strength	psi	41,300	
	MPa	285	
Density	g/cm <sup>3</sup>	7.6	
Hardness, Vickers	Hv	620	
Electrical Resistivity, ρ	μΩ • cm	150 // 130 ⊥	

Notes:  
 (1) Coefficients measured between 20 and 150 °C  
 (2) Between 20 and 200 °C. Values are typical and can vary.  
 (3) Between 20 and 140 °C



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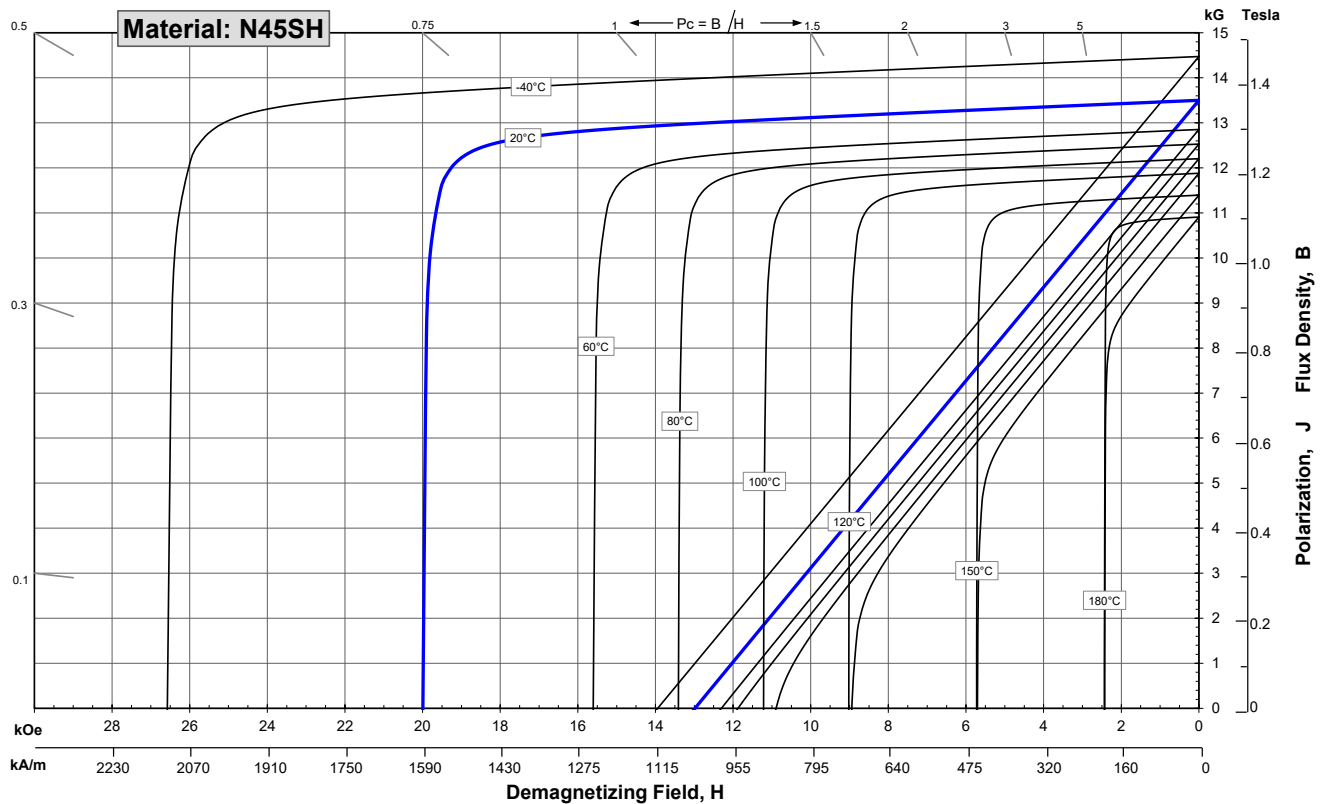
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Characteristic	Units	Magnetic Properties		
		min.	nominal	max.
<b>Br</b> , Residual Induction	Gauss	13,200	13,500	13,800
	mT	1320	1350	1380
<b>H<sub>cB</sub></b> , Coercivity	Oersteds	12,300	12,750	13,200
	kA/m	979	1015	1050
<b>H<sub>cJ</sub></b> , Intrinsic Coercivity	Oersteds	20,000		
	kA/m	1,592		
<b>BH<sub>max</sub></b> , Maximum Energy Product	MGOe	43	45	46
	kJ/m <sup>3</sup>	342	354	366

Characteristic	Units	Thermal Properties	
		C //	C ⊥
Reversible Temperature Coefficients <sup>(1)</sup>			
	of Induction, α(Br)	%/°C	-0.12
	of Coercivity, α(H <sub>cj</sub> )	%/°C	-0.55
Coefficient of Thermal Expansion <sup>(2)</sup>	ΔL/L per °Cx10 <sup>-6</sup>	7	-1
Thermal Conductivity	kcal/mhr°C	5.3	5.8
Specific Heat <sup>(3)</sup>	cal/g°C	0.11	
Curie Temperature, T <sub>c</sub>	°C	310	
Flexural Strength		psi	41,300
		MPa	285
Density	g/cm <sup>3</sup>	7.6	
Hardness, Vickers	Hv	620	
Electrical Resistivity, ρ	μΩ • cm	150 // 130 ⊥	

Notes: (1) Coefficients measured between 20 and 150 °C  
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 (3) Between 20 and 140 °C



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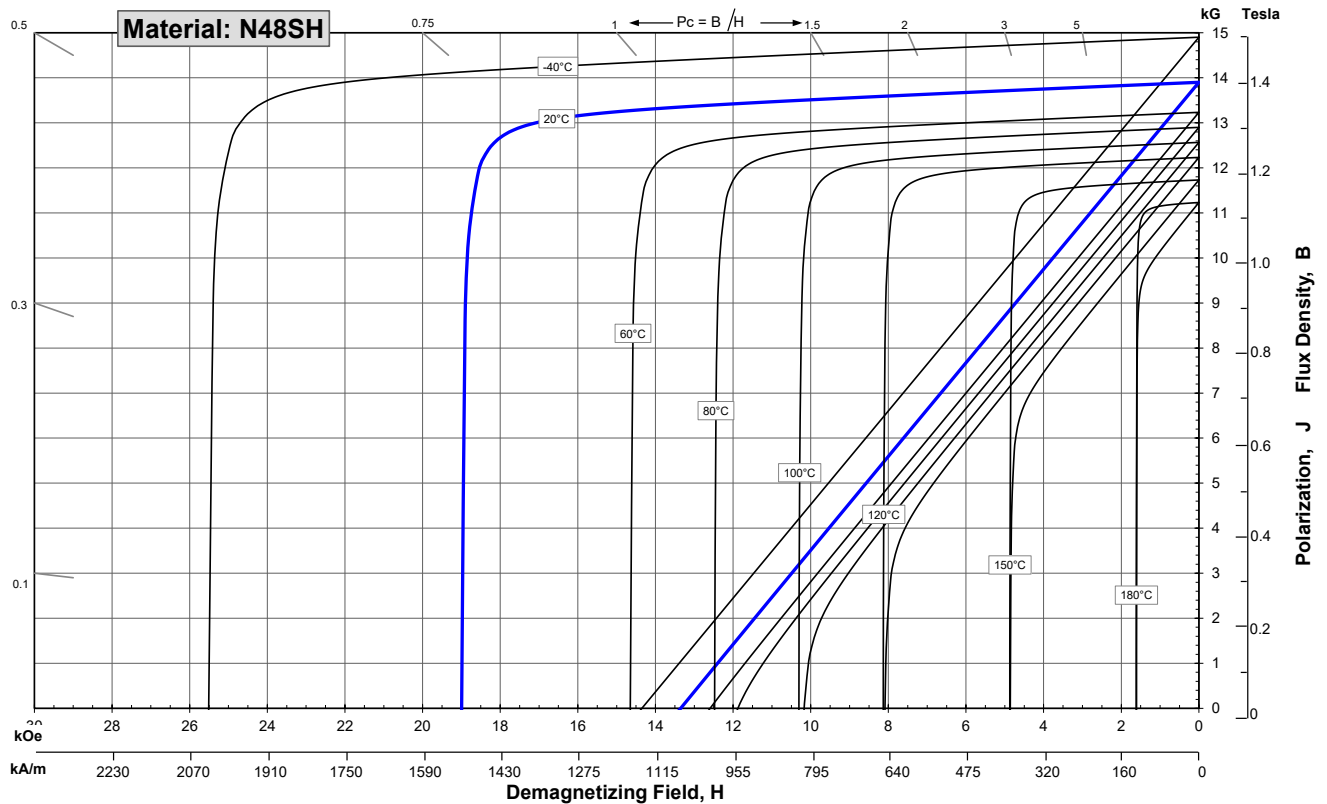
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Characteristic	Units	Magnetic Properties		
		min.	nominal	max.
<b>Br</b> , Residual Induction	Gauss	13,600	13,900	14,200
	mT	1360	1390	1420
<b>H<sub>cB</sub></b> , Coercivity	Oersteds	12,500	13,050	13,600
	kA/m	995	1039	1082
<b>H<sub>cJ</sub></b> , Intrinsic Coercivity	Oersteds	19,000		
	kA/m	1,512		
<b>BH<sub>max</sub></b> , Maximum Energy Product	MGOe	45	48	50
	kJ/m <sup>3</sup>	358	378	398

Characteristic	Units	Thermal Properties	
		C //	C ⊥
Reversible Temperature Coefficients <sup>(1)</sup>			
	of Induction, α(Br)	%/°C	-0.12
	of Coercivity, α(H <sub>cj</sub> )	%/°C	-0.57
Coefficient of Thermal Expansion <sup>(2)</sup>	ΔL/L per °Cx10 <sup>-6</sup>	7	-1
Thermal Conductivity	kcal/mhr°C	5.3	5.8
Specific Heat <sup>(3)</sup>	cal/g°C	0.11	
Curie Temperature, T <sub>c</sub>	°C	310	
Flexural Strength		psi	41,300
		MPa	285
Density	g/cm <sup>3</sup>	7.6	
Hardness, Vickers	Hv	620	
Electrical Resistivity, ρ	μΩ • cm	150 // 130 ⊥	

Notes: (1) Coefficients measured between 20 and 150 °C  
 (2) Between 20 and 200 °C. Values are typical and can vary.  
 (3) Between 20 and 140 °C



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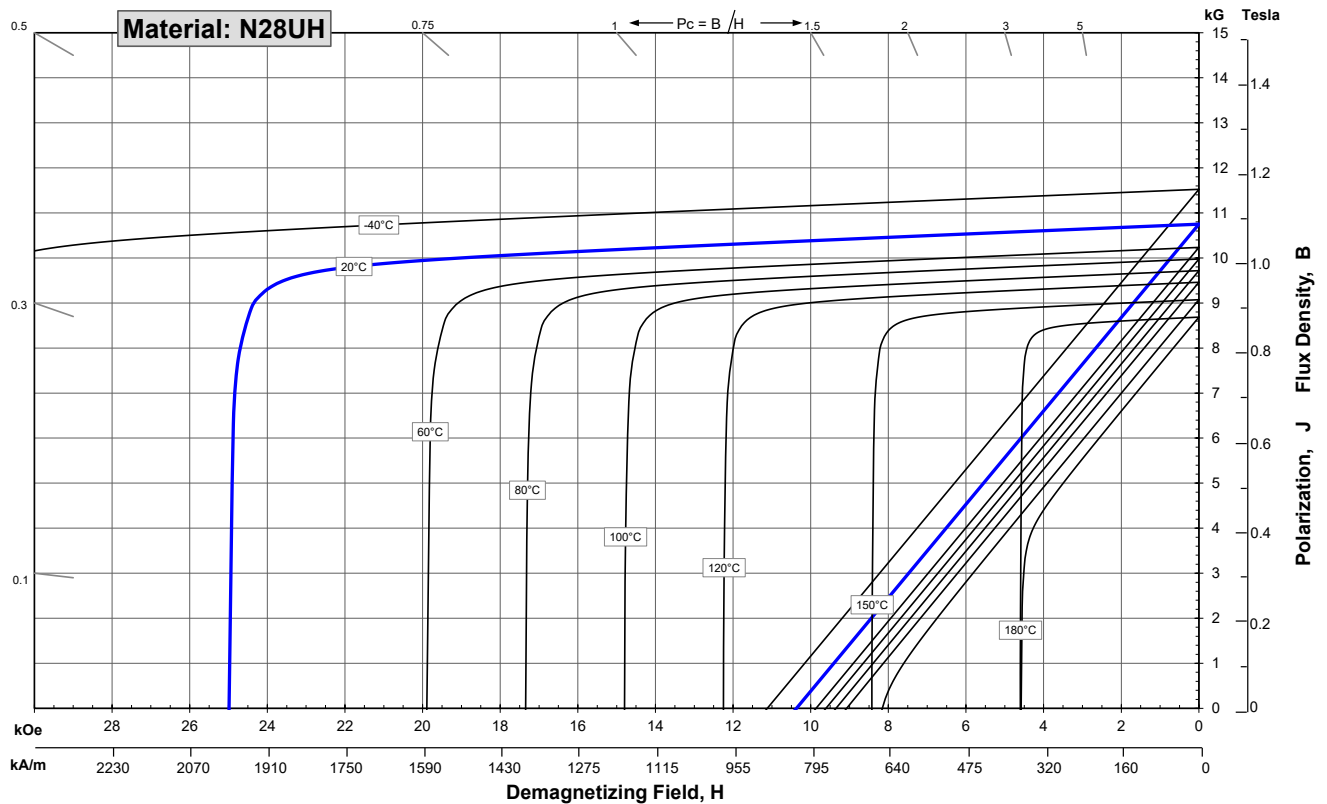
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Characteristic	Units	Magnetic Properties		
		min.	nominal	max.
<b>Br</b> , Residual Induction	Gauss	10,200	10,750	11,300
	mT	1020	1075	1130
<b>H<sub>cB</sub></b> , Coercivity	Oersteds	9,600	10,200	10,800
	kA/m	764	812	859
<b>H<sub>cJ</sub></b> , Intrinsic Coercivity	Oersteds	25,000		
	kA/m	1,990		
<b>BHmax</b> , Maximum Energy Product	MGOe	26	29	31
	kJ/m <sup>3</sup>	207	227	247

Characteristic	Units	Thermal Properties	
		C //	C ⊥
Reversible Temperature Coefficients <sup>(1)</sup>			
	of Induction, α(Br)	%/°C	-0.12
	of Coercivity, α(H <sub>cj</sub> )	%/°C	-0.51
Coefficient of Thermal Expansion <sup>(2)</sup>	ΔL/L per °Cx10 <sup>-6</sup>	7	-1
Thermal Conductivity	kcal/mhr°C	5.3	5.8
Specific Heat <sup>(3)</sup>	cal/g°C	0.11	
Curie Temperature, T <sub>c</sub>	°C	310	
Other Properties	Flexural Strength	psi	41,300
		MPa	285
	Density	g/cm <sup>3</sup>	7.6
	Hardness, Vickers	Hv	620
	Electrical Resistivity, ρ	μΩ • cm	150 // 130 ⊥

Notes: (1) Coefficients measured between 20 and 180 °C  
 (2) Between 20 and 200 °C. Values are typical and can vary.  
 (3) Between 20 and 140 °C



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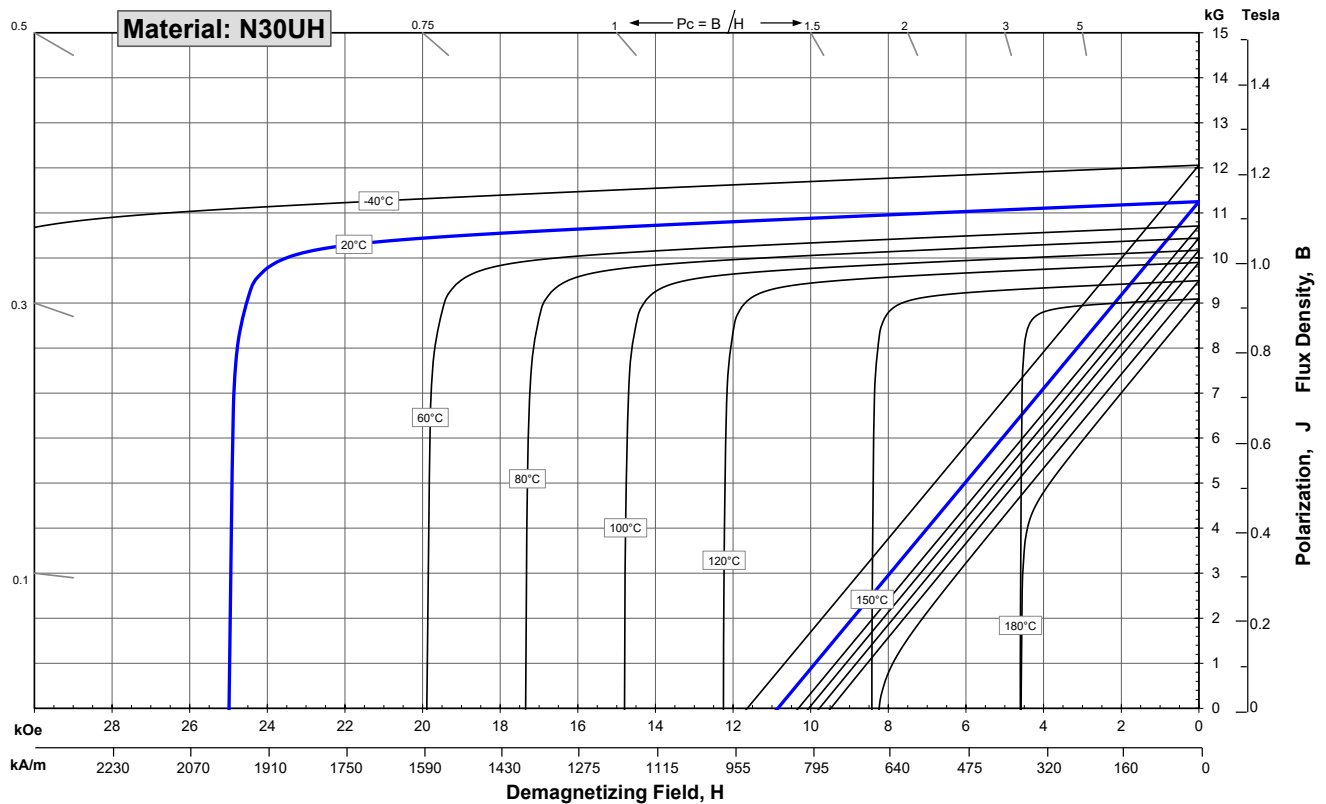
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Characteristic	Units	Magnetic Properties		
		min.	nominal	max.
<b>Br</b> , Residual Induction	Gauss	10,800	11,250	11,700
	mT	1080	1125	1170
<b>H<sub>cB</sub></b> , Coercivity	Oersteds	10,200	10,700	11,200
	kA/m	812	852	891
<b>H<sub>cJ</sub></b> , Intrinsic Coercivity	Oersteds	25,000		
	kA/m	1,990		
<b>BH<sub>max</sub></b> , Maximum Energy Product	MGOe	28	31	33
	kJ/m <sup>3</sup>	223	243	263

Characteristic	Units	Thermal Properties	
		C //	C ⊥
Reversible Temperature Coefficients <sup>(1)</sup>			
	of Induction, α(Br)	%/°C	-0.12
	of Coercivity, α(H <sub>cj</sub> )	%/°C	-0.51
Coefficient of Thermal Expansion <sup>(2)</sup>	ΔL/L per °Cx10 <sup>-6</sup>	7	-1
Thermal Conductivity	kcal/mhr°C	5.3	5.8
Specific Heat <sup>(3)</sup>	cal/g°C	0.11	
Curie Temperature, T <sub>c</sub>	°C	310	
Flexural Strength	psi	41,300	
	MPa	285	
Density	g/cm <sup>3</sup>	7.6	
Hardness, Vickers	Hv	620	
Electrical Resistivity, ρ	μΩ • cm	150 // 130 ⊥	

Notes: (1) Coefficients measured between 20 and 180 °C  
 (2) Between 20 and 200 °C. Values are typical and can vary.  
 (3) Between 20 and 140 °C



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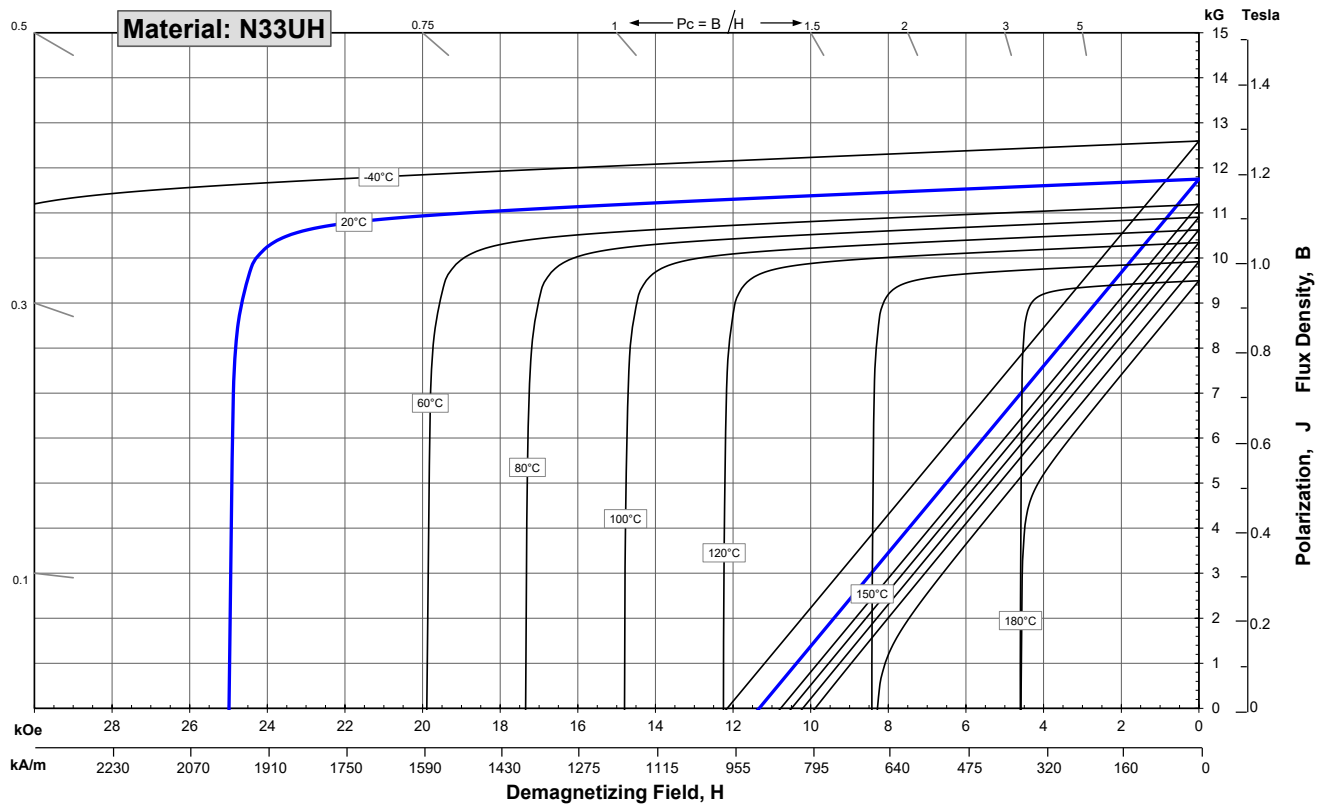
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Characteristic	Units	Magnetic Properties		
		min.	nominal	max.
<b>Br</b> , Residual Induction	Gauss	11,300	11,750	12,200
	mT	1130	1175	1220
<b>H<sub>cB</sub></b> , Coercivity	Oersteds	10,700	11,200	11,700
	kA/m	852	891	931
<b>H<sub>cJ</sub></b> , Intrinsic Coercivity	Oersteds	25,000		
	kA/m	1,990		
<b>BH<sub>max</sub></b> , Maximum Energy Product	MGOe	31	34	36
	kJ/m <sup>3</sup>	247	267	287

Characteristic	Units	Thermal Properties	
		C //	C ⊥
Reversible Temperature Coefficients <sup>(1)</sup>			
	of Induction, α(Br)	%/°C	-0.12
	of Coercivity, α(H <sub>cj</sub> )	%/°C	-0.51
Coefficient of Thermal Expansion <sup>(2)</sup>	ΔL/L per °Cx10 <sup>-6</sup>	7	-1
Thermal Conductivity	kcal/mhr°C	5.3	5.8
Specific Heat <sup>(3)</sup>	cal/g°C	0.11	
Curie Temperature, T <sub>c</sub>	°C	310	
Flexural Strength	psi	41,300	
	MPa	285	
Density	g/cm <sup>3</sup>	7.6	
Hardness, Vickers	Hv	620	
Electrical Resistivity, ρ	μΩ • cm	150 // 130 ⊥	

Notes: (1) Coefficients measured between 20 and 180 °C  
 (2) Between 20 and 200 °C. Values are typical and can vary.  
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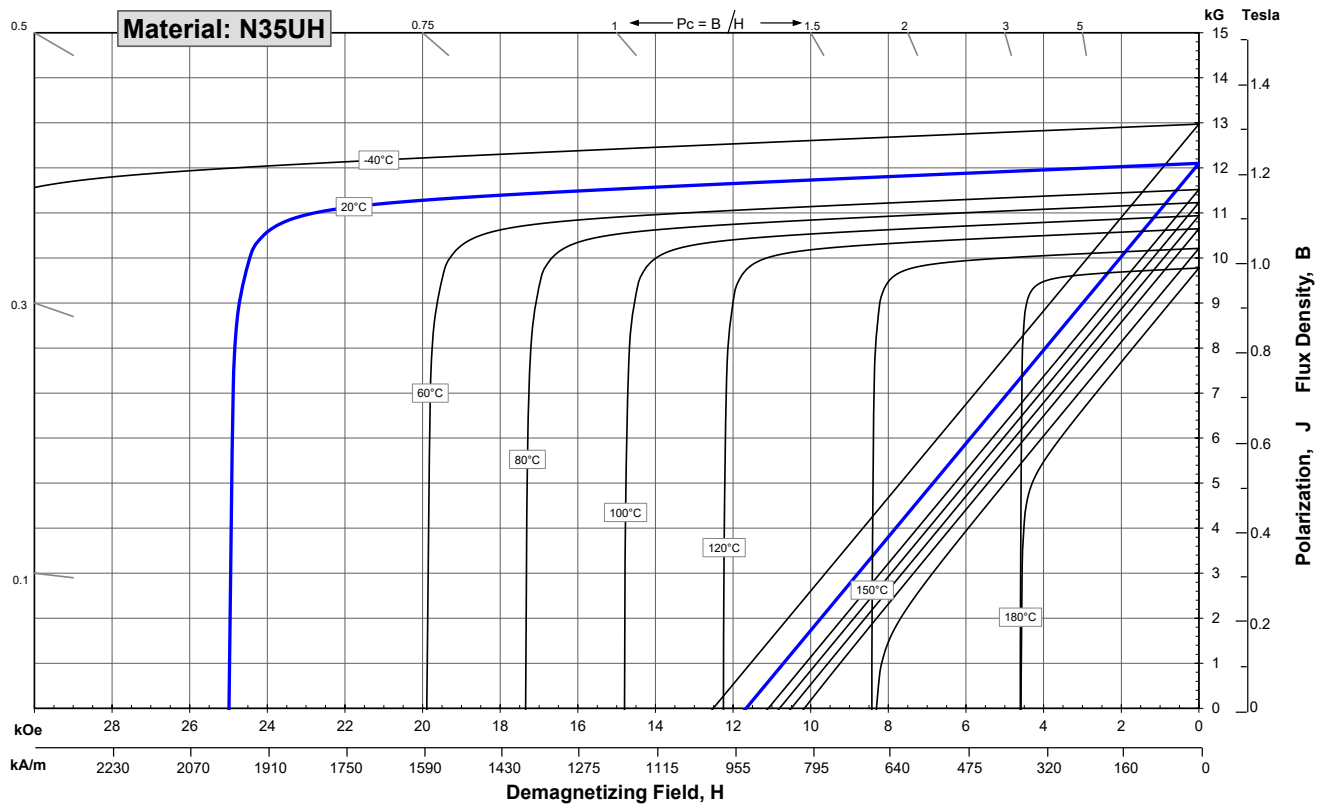
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Characteristic	Units	Magnetic Properties		
		min.	nominal	max.
<b>Br</b> , Residual Induction	Gauss	11,700	12,100	12,500
	mT	1170	1210	1250
<b>H<sub>cB</sub></b> , Coercivity	Oersteds	10,800	11,400	12,000
	kA/m	860	907	955
<b>H<sub>cJ</sub></b> , Intrinsic Coercivity	Oersteds	25,000		
	kA/m	1,990		
<b>BH<sub>max</sub></b> , Maximum Energy Product	MGOe	33	36	38
	kJ/m <sup>3</sup>	263	283	302

Characteristic	Units	Thermal Properties	
		C //	C ⊥
Reversible Temperature Coefficients <sup>(1)</sup>			
	of Induction, α(Br)	%/°C	-0.12
	of Coercivity, α(H <sub>cj</sub> )	%/°C	-0.51
Coefficient of Thermal Expansion <sup>(2)</sup>	ΔL/L per °Cx10 <sup>-6</sup>	7	-1
Thermal Conductivity	kcal/mhr°C	5.3	5.8
Specific Heat <sup>(3)</sup>	cal/g°C	0.11	
Curie Temperature, T <sub>c</sub>	°C	310	
Flexural Strength	psi	41,300	
	MPa	285	
Density	g/cm <sup>3</sup>	7.6	
Hardness, Vickers	Hv	620	
Electrical Resistivity, ρ	μΩ • cm	150 // 130 ⊥	

Notes: (1) Coefficients measured between 20 and 180 °C  
 (2) Between 20 and 200 °C. Values are typical and can vary.  
 (3) Between 20 and 140 °C



1 kA/m = 12.566 Oe 1 kOe = 79.577 kA/m

**Notes** The material data and demagnetization curves shown above represent typical properties that may vary due to product shape and size. **Demagnetization curves show nominal Br and minimum H<sub>c</sub>.** Magnets can be supplied thermally stabilized or magnetically calibrated to customer specifications. Additional grades are available. Please contact the factory for information.



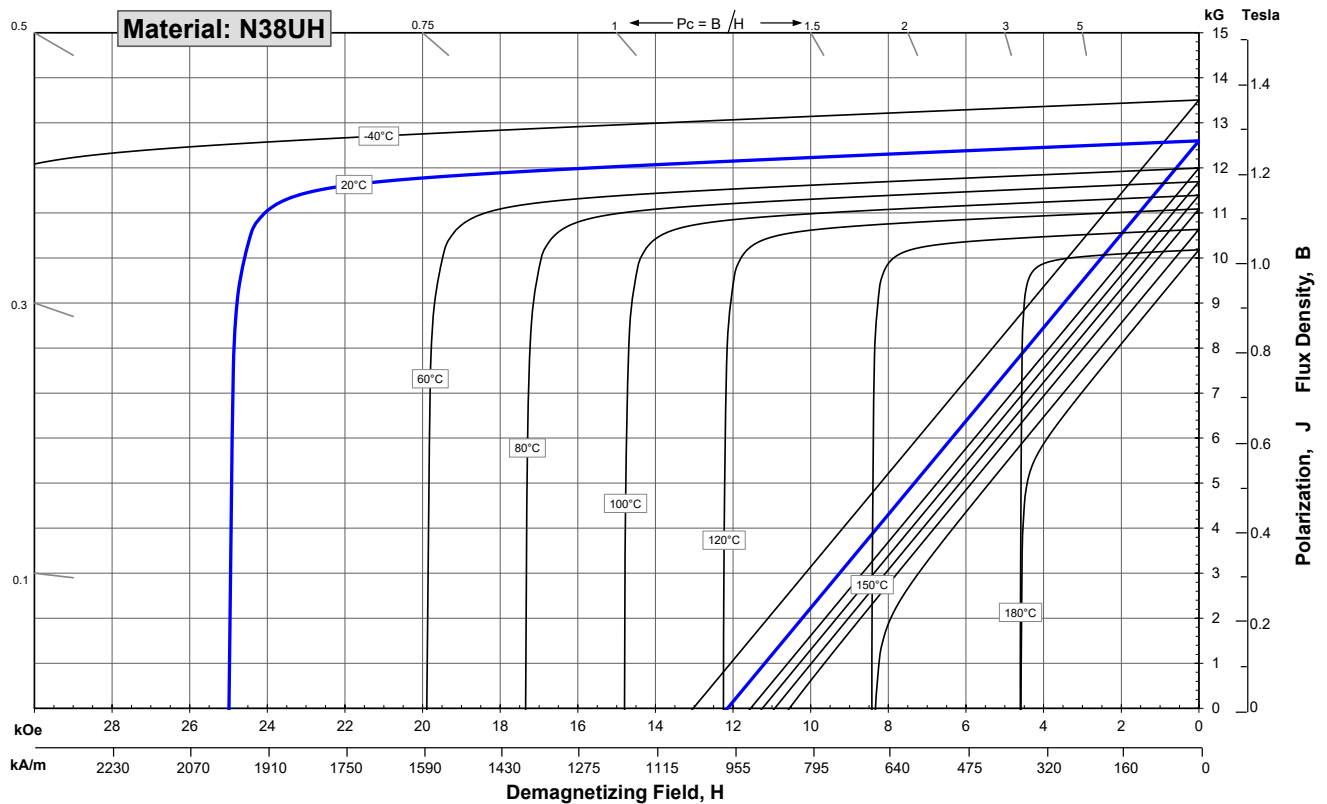
## Sintered Neodymium-Iron-Boron Magnets

These are also referred to as "Neo" or NdFeB magnets. They offer a combination of high magnetic output at moderate cost. Please contact Arnold for additional grade information and recommendations for protective coating. Assemblies using these magnets can also be provided.

Characteristic	Units	Magnetic Properties		
		min.	nominal	max.
<b>Br</b> , Residual Induction	Gauss	12,200	12,600	13,000
	mT	1220	1260	1300
<b>H<sub>cB</sub></b> , Coercivity	Oersteds	11,000	11,700	12,400
	kA/m	876	931	987
<b>H<sub>cJ</sub></b> , Intrinsic Coercivity	Oersteds	25,000		
	kA/m	1,990		
<b>BH<sub>max</sub></b> , Maximum Energy Product	MGOe	36	39	41
	kJ/m <sup>3</sup>	287	307	326

Characteristic	Units	Thermal Properties	
		C //	C ⊥
Reversible Temperature Coefficients <sup>(1)</sup>			
	of Induction, α(Br)	%/°C	-0.12
	of Coercivity, α(H <sub>cj</sub> )	%/°C	-0.51
Coefficient of Thermal Expansion <sup>(2)</sup>	ΔL/L per °Cx10 <sup>-6</sup>	7	-1
Thermal Conductivity	kcal/mhr°C	5.3	5.8
Specific Heat <sup>(3)</sup>	cal/g°C	0.11	
Curie Temperature, T <sub>c</sub>	°C	310	
Flexural Strength		psi	41,300
		MPa	285
Density	g/cm <sup>3</sup>	7.6	
Hardness, Vickers	Hv	620	
Electrical Resistivity, ρ	μΩ • cm	150 // 130 ⊥	

Notes: (1) Coefficients measured between 20 and 180 °C  
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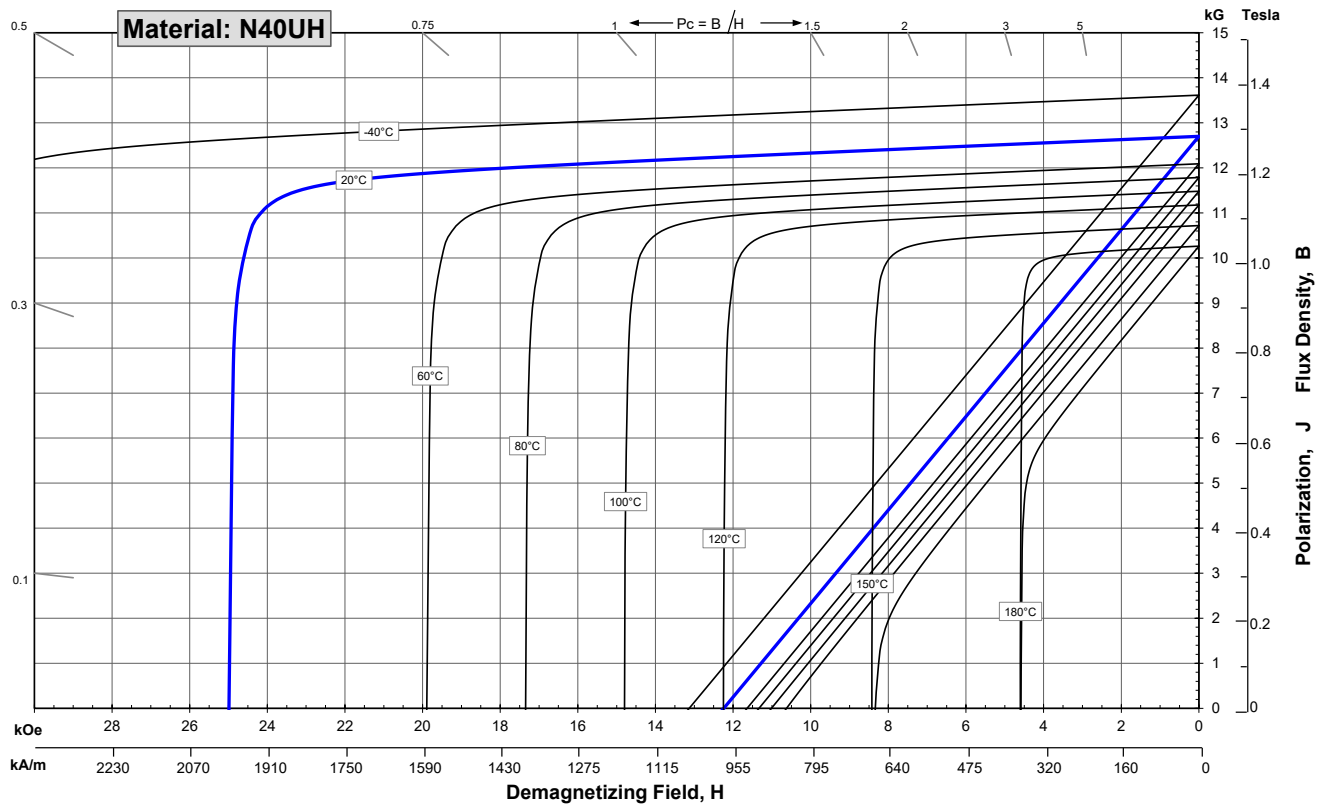
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Characteristic	Units	Magnetic Properties		
		min.	nominal	max.
<b>Br</b> , Residual Induction	Gauss	12,500	12,700	12,900
	mT	1250	1270	1290
<b>H<sub>cB</sub></b> , Coercivity	Oersteds	11,500	11,900	12,300
	kA/m	915	947	979
<b>H<sub>cJ</sub></b> , Intrinsic Coercivity	Oersteds	25,000		
	kA/m	1,990		
<b>BH<sub>max</sub></b> , Maximum Energy Product	MGOe	38	40	42
	kJ/m <sup>3</sup>	302	318	334

Characteristic	Units	Thermal Properties	
		C //	C ⊥
Reversible Temperature Coefficients <sup>(1)</sup>			
	of Induction, α(Br)	%/°C	-0.12
	of Coercivity, α(H <sub>cJ</sub> )	%/°C	-0.51
Coefficient of Thermal Expansion <sup>(2)</sup>	ΔL/L per °Cx10 <sup>-6</sup>	7	-1
Thermal Conductivity	kcal/mhr°C	5.3	5.8
Specific Heat <sup>(3)</sup>	cal/g°C	0.11	
Curie Temperature, T <sub>c</sub>	°C	310	
Flexural Strength	psi	41,300	
	MPa	285	
Density	g/cm <sup>3</sup>	7.6	
Hardness, Vickers	Hv	620	
Electrical Resistivity, ρ	μΩ • cm	150 // 130 ⊥	

Notes: (1) Coefficients measured between 20 and 180 °C  
 (2) Between 20 and 200 °C. Values are typical and can vary.  
 (3) Between 20 and 140 °C



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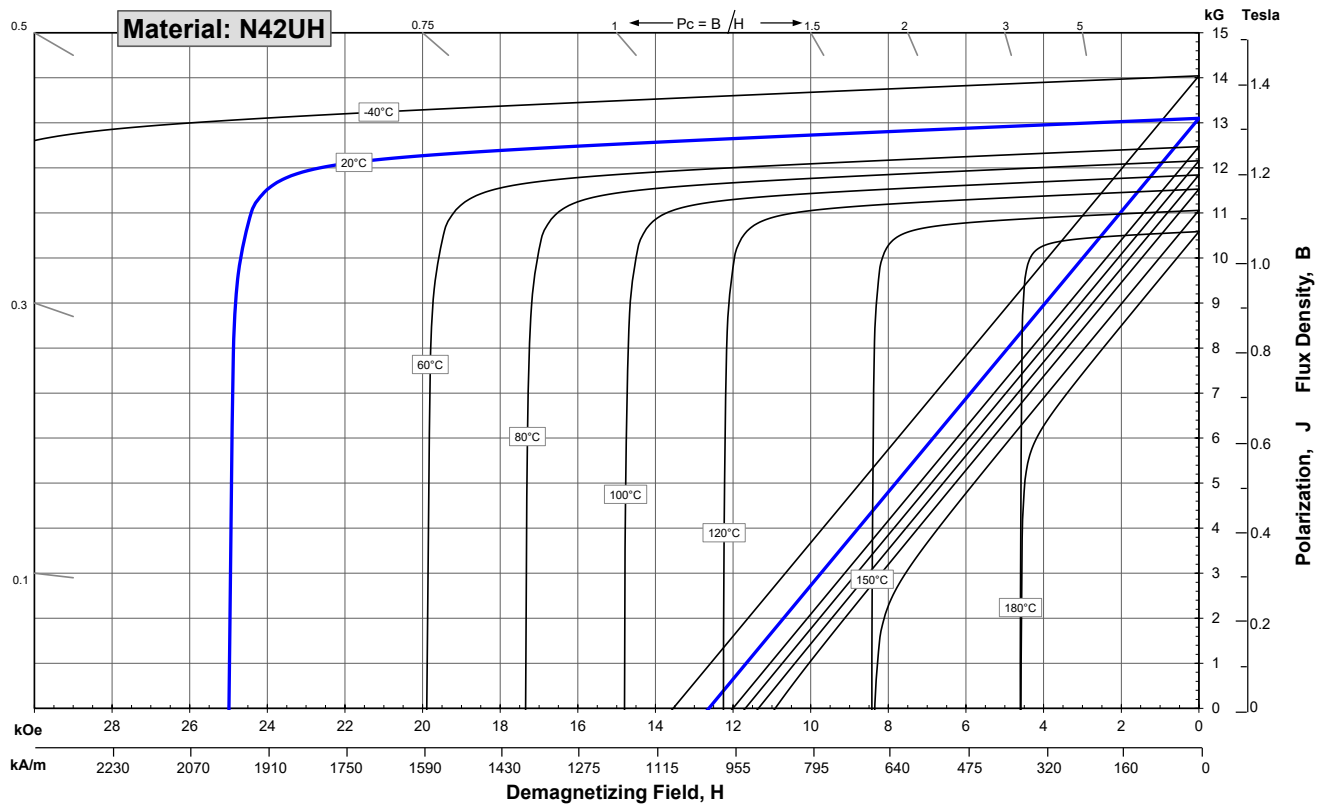
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Characteristic	Units	Magnetic Properties		
		min.	nominal	max.
<b>Br</b> , Residual Induction	Gauss	12,700	13,100	13,500
	mT	1270	1310	1350
<b>H<sub>cB</sub></b> , Coercivity	Oersteds	12,000	12,450	12,900
	kA/m	955	991	1027
<b>H<sub>cJ</sub></b> , Intrinsic Coercivity	Oersteds	25,000		
	kA/m	1,990		
<b>BH<sub>max</sub></b> , Maximum Energy Product	MGOe	39	42	44
	kJ/m <sup>3</sup>	310	330	350

Characteristic	Units	Thermal Properties	
		C //	C ⊥
Reversible Temperature Coefficients <sup>(1)</sup>			
	of Induction, α(Br)	%/°C	-0.12
	of Coercivity, α(H <sub>cJ</sub> )	%/°C	-0.51
Coefficient of Thermal Expansion <sup>(2)</sup>	ΔL/L per °Cx10 <sup>-6</sup>	7	-1
Thermal Conductivity	kcal/mhr°C	5.3	5.8
Specific Heat <sup>(3)</sup>	cal/g°C	0.11	
Curie Temperature, T <sub>c</sub>	°C	310	
Other Properties	Flexural Strength	psi	41,300
		MPa	285
	Density	g/cm <sup>3</sup>	7.6
	Hardness, Vickers	Hv	620
	Electrical Resistivity, ρ	μΩ • cm	150 // 130 ⊥

Notes: (1) Coefficients measured between 20 and 180 °C  
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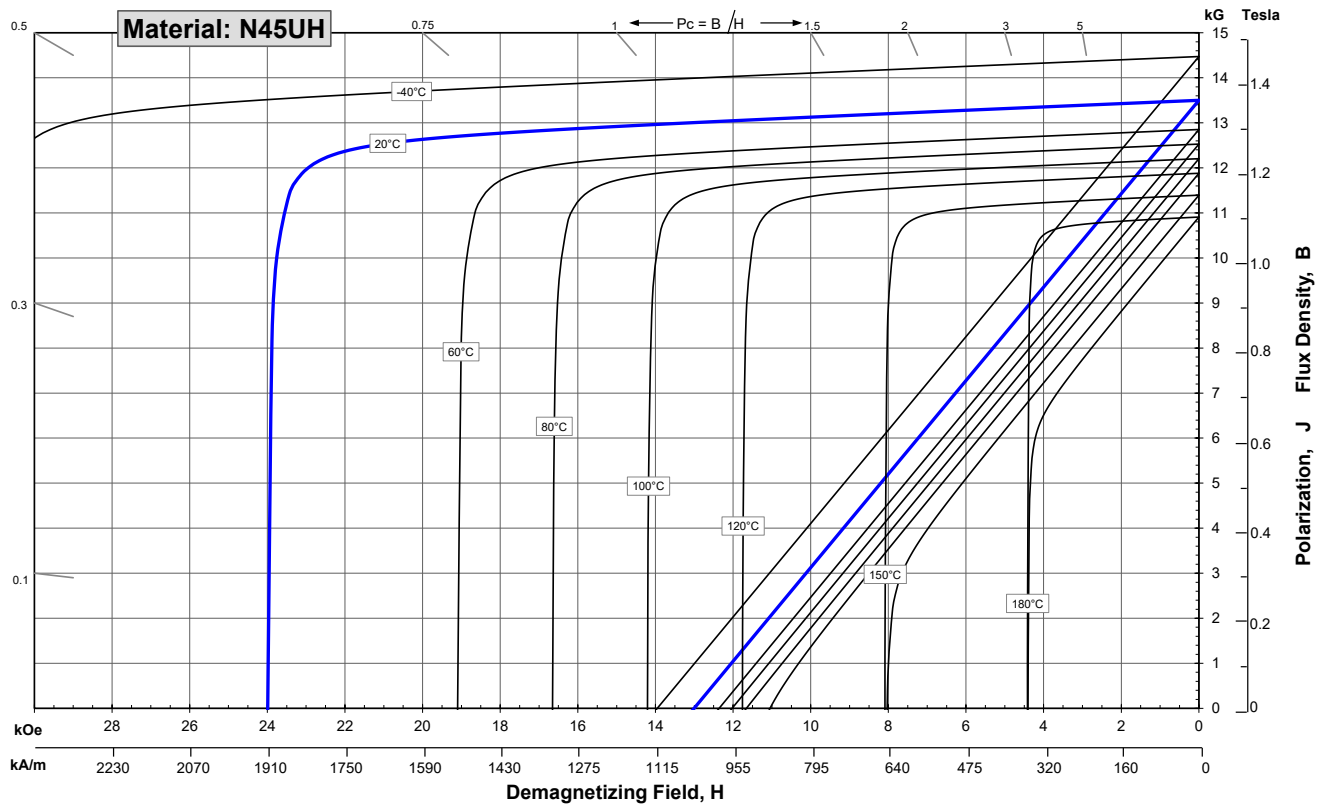
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Characteristic	Units	Magnetic Properties		
		min.	nominal	max.
<b>Br</b> , Residual Induction	Gauss	13,200	13,500	13,800
	mT	1320	1350	1380
<b>H<sub>cB</sub></b> , Coercivity	Oersteds	12,500	12,850	13,200
	kA/m	995	1023	1050
<b>H<sub>cJ</sub></b> , Intrinsic Coercivity	Oersteds	24,000		
	kA/m	1,910		
<b>BH<sub>max</sub></b> , Maximum Energy Product	MGOe	43	45	47
	kJ/m <sup>3</sup>	342	358	374

Characteristic	Units	Thermal Properties	
		C //	C ⊥
Reversible Temperature Coefficients <sup>(1)</sup>			
	of Induction, α(Br)	%/°C	-0.12
	of Coercivity, α(H <sub>cj</sub> )	%/°C	-0.51
Coefficient of Thermal Expansion <sup>(2)</sup>	ΔL/L per °Cx10 <sup>-6</sup>	7	-1
Thermal Conductivity	kcal/mhr°C	5.3	5.8
Specific Heat <sup>(3)</sup>	cal/g°C	0.11	
Curie Temperature, T <sub>c</sub>	°C	310	
Flexural Strength	psi	41,300	
	MPa	285	
Density	g/cm <sup>3</sup>	7.6	
Hardness, Vickers	Hv	620	
Electrical Resistivity, ρ	μΩ • cm	150 // 130 ⊥	

Notes: (1) Coefficients measured between 20 and 180 °C  
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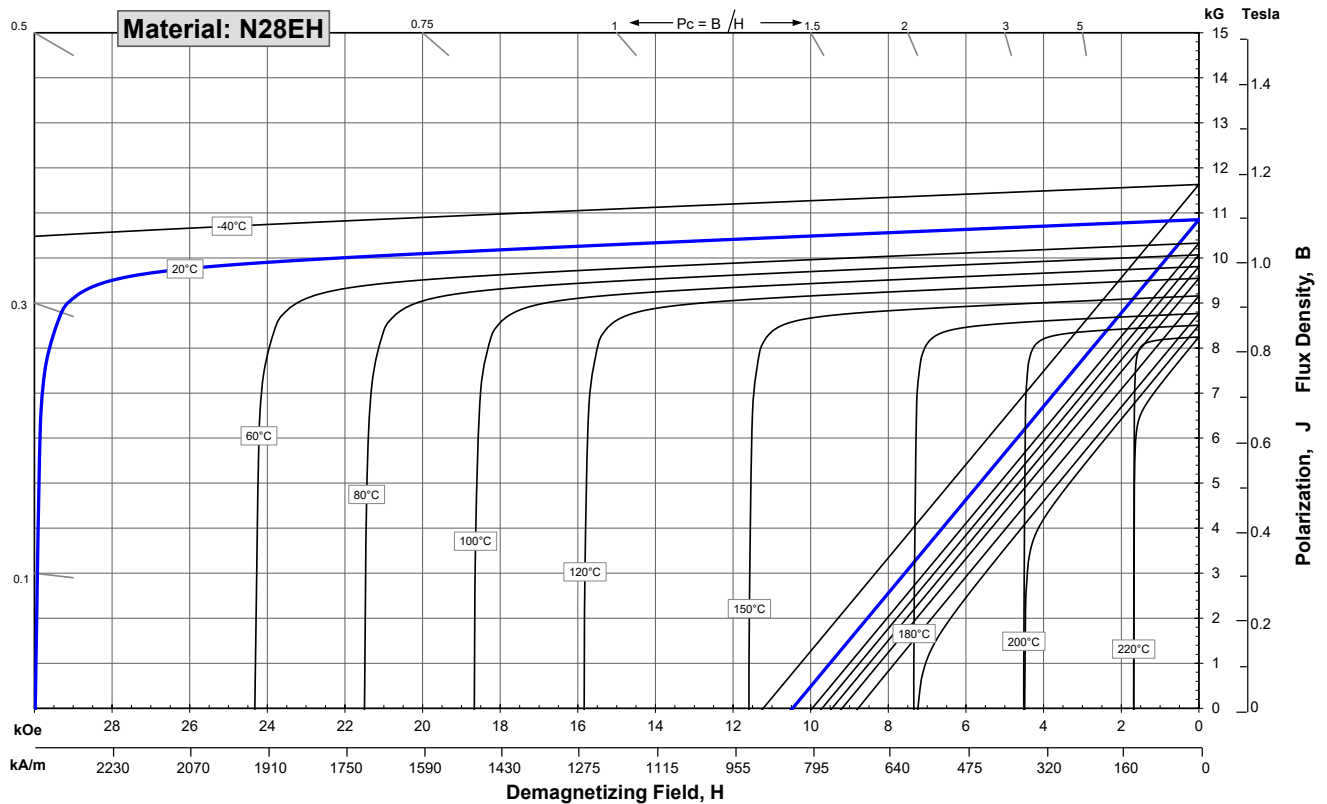
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Characteristic	Units	Magnetic Properties		
		min.	nominal	max.
<b>Br</b> , Residual Induction	Gauss	10,400	10,850	11,300
	mT	1040	1085	1130
<b>H<sub>cB</sub></b> , Coercivity	Oersteds	9,800	10,300	10,800
	kA/m	780	820	859
<b>H<sub>cJ</sub></b> , Intrinsic Coercivity	Oersteds	30,000		
	kA/m	2,388		
<b>BH<sub>max</sub></b> , Maximum Energy Product	MGOe	26	29	31
	kJ/m <sup>3</sup>	207	227	247

Characteristic	Units	Thermal Properties	
		C //	C ⊥
Reversible Temperature Coefficients <sup>(1)</sup>			
	of Induction, α(Br)	%/°C	-0.12
	of Coercivity, α(H <sub>cj</sub> )	%/°C	-0.47
Coefficient of Thermal Expansion <sup>(2)</sup>	ΔL/L per °Cx10 <sup>-6</sup>	7	-1
Thermal Conductivity	kcal/mhr°C	5.3	5.8
Specific Heat <sup>(3)</sup>	cal/g°C	0.11	
Curie Temperature, T <sub>c</sub>	°C	310	
Other Properties	Flexural Strength	psi	41,300
		MPa	285
	Density	g/cm <sup>3</sup>	7.6
	Hardness, Vickers	Hv	620
	Electrical Resistivity, ρ	μΩ • cm	150 // 130 ⊥

Notes:  
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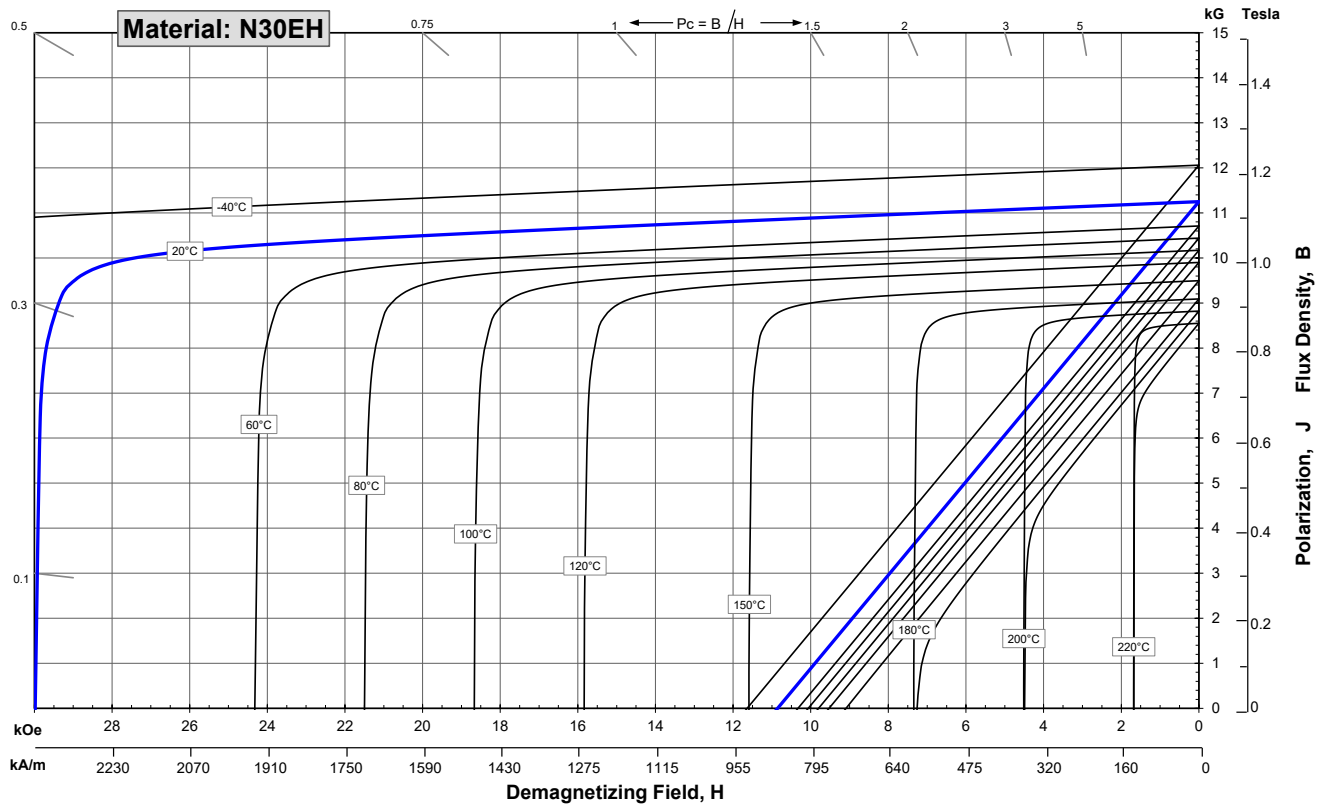
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Characteristic	Units	Magnetic Properties		
		min.	nominal	max.
<b>Br</b> , Residual Induction	Gauss	10,800	11,250	11,700
	mT	1080	1125	1170
<b>H<sub>cB</sub></b> , Coercivity	Oersteds	10,200	10,700	11,200
	kA/m	812	852	891
<b>H<sub>cJ</sub></b> , Intrinsic Coercivity	Oersteds	30,000		
	kA/m	2,388		
<b>BH<sub>max</sub></b> , Maximum Energy Product	MGOe	28	31	33
	kJ/m <sup>3</sup>	223	243	263

Characteristic	Units	Thermal Properties	
		C //	C ⊥
Reversible Temperature Coefficients <sup>(1)</sup>			
	of Induction, α(Br)	%/°C	-0.12
	of Coercivity, α(H <sub>cj</sub> )	%/°C	-0.47
Coefficient of Thermal Expansion <sup>(2)</sup>	ΔL/L per °C x 10 <sup>-6</sup>	7	-1
Thermal Conductivity	kcal/mhr°C	5.3	5.8
Specific Heat <sup>(3)</sup>	cal/g°C	0.11	
Curie Temperature, T <sub>c</sub>	°C	310	
Flexural Strength	psi	41,300	
	MPa	285	
Density	g/cm <sup>3</sup>	7.6	
Hardness, Vickers	Hv	620	
Electrical Resistivity, ρ	μΩ • cm	150 // 130 ⊥	

Notes:  
 (1) Coefficients measured between 20 and 200 °C  
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 (3) Between 20 and 140 °C



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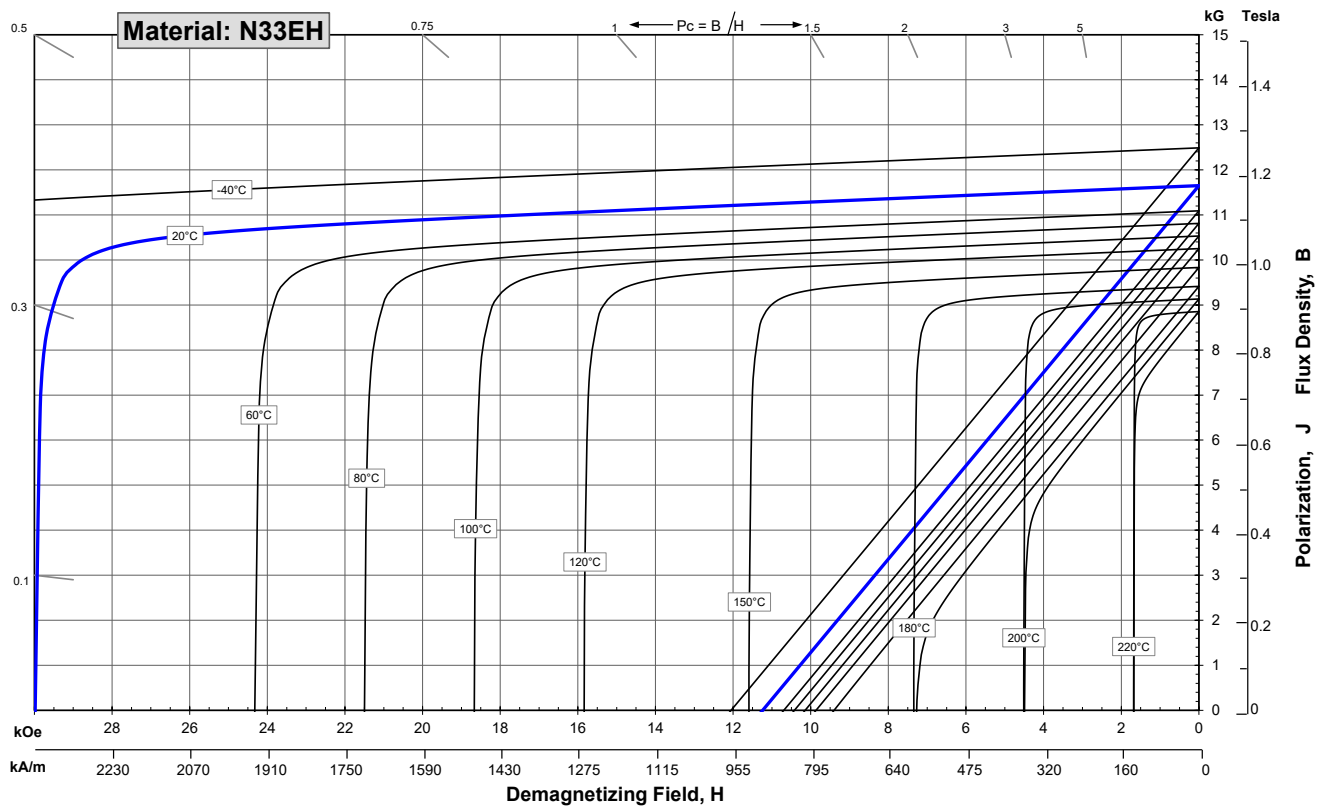
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Characteristic	Units	Magnetic Properties		
		min.	nominal	max.
<b>Br</b> , Residual Induction	Gauss	11,300	11,650	12,000
	mT	1130	1165	1200
<b>H<sub>cB</sub></b> , Coercivity	Oersteds	10,300	10,900	11,500
	kA/m	820	867	915
<b>H<sub>cJ</sub></b> , Intrinsic Coercivity	Oersteds	30,000		
	kA/m	2,388		
<b>BHmax</b> , Maximum Energy Product	MGOe	31	34	36
	kJ/m <sup>3</sup>	247	267	287

Characteristic	Units	Thermal Properties	
		C //	C ⊥
Reversible Temperature Coefficients <sup>(1)</sup>			
	of Induction, α(Br)	%/°C	-0.12
	of Coercivity, α(H <sub>cj</sub> )	%/°C	-0.47
Coefficient of Thermal Expansion <sup>(2)</sup>	ΔL/L per °Cx10 <sup>-6</sup>	7	-1
Thermal Conductivity	kcal/mhr°C	5.3	5.8
Specific Heat <sup>(3)</sup>	cal/g°C	0.11	
Curie Temperature, T <sub>c</sub>	°C	310	
Flexural Strength	psi	41,300	
	MPa	285	
Density	g/cm <sup>3</sup>	7.6	
Hardness, Vickers	Hv	620	
Electrical Resistivity, ρ	μΩ • cm	150 // 130 ⊥	

Notes: (1) Coefficients measured between 20 and 200 °C  
 (2) Between 20 and 200 °C. Values are typical and can vary.  
 (3) Between 20 and 140 °C



1 kA/m = 12.566 Oe    1 kOe = 79.577 kA/m

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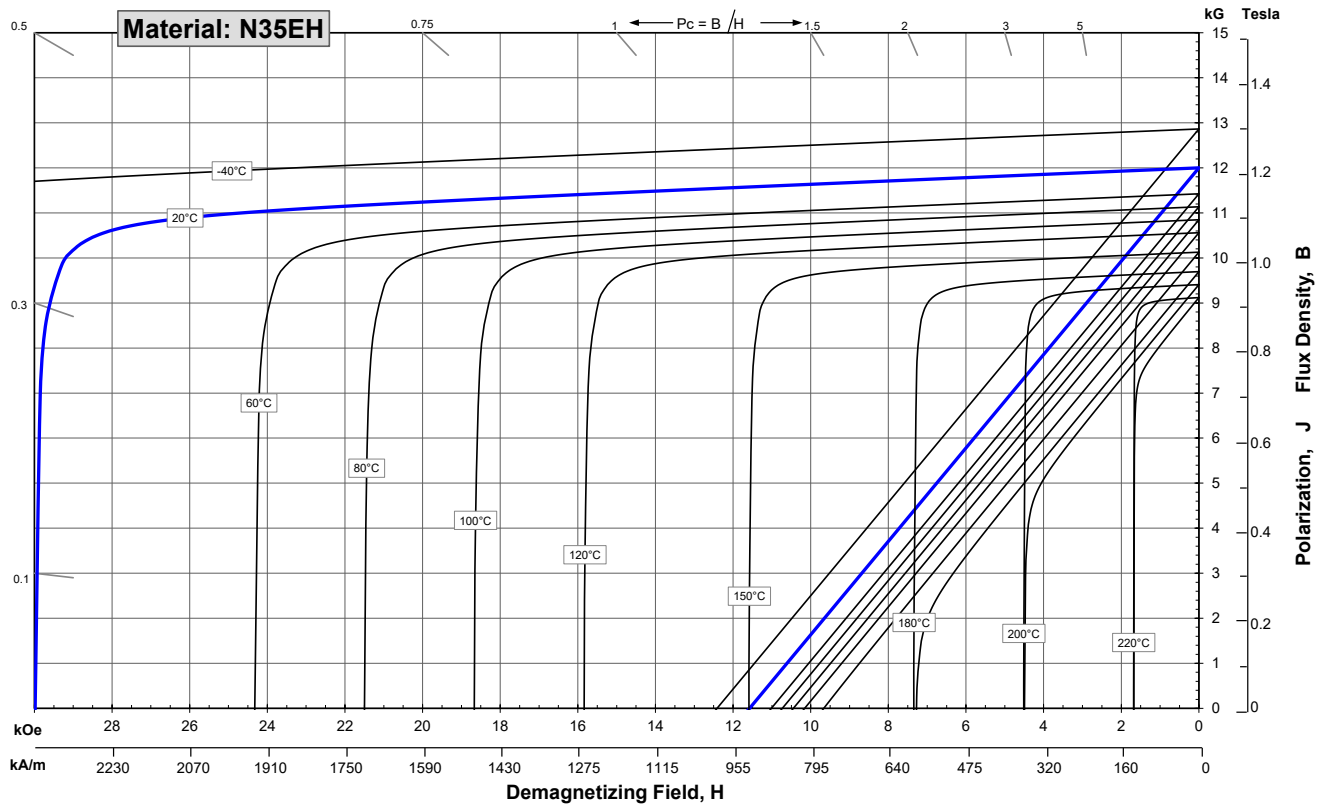
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Characteristic	Units	Magnetic Properties		
		min.	nominal	max.
<b>Br</b> , Residual Induction	Gauss	11,700	12,000	12,300
	mT	1170	1200	1230
<b>H<sub>cB</sub></b> , Coercivity	Oersteds	10,500	11,150	11,800
	kA/m	836	887	939
<b>H<sub>cJ</sub></b> , Intrinsic Coercivity	Oersteds	30,000		
	kA/m	2,388		
<b>BHmax</b> , Maximum Energy Product	MGOe	33	35	37
	kJ/m <sup>3</sup>	263	279	295

Characteristic	Units	Thermal Properties	
		C //	C ⊥
Reversible Temperature Coefficients <sup>(1)</sup>			
	of Induction, α(Br)	%/°C	-0.12
	of Coercivity, α(H <sub>cj</sub> )	%/°C	-0.47
Coefficient of Thermal Expansion <sup>(2)</sup>	ΔL/L per °Cx10 <sup>-6</sup>	7	-1
Thermal Conductivity	kcal/mhr°C	5.3	5.8
Specific Heat <sup>(3)</sup>	cal/g°C	0.11	
Curie Temperature, T <sub>c</sub>	°C	310	
Other Properties	Flexural Strength	psi	41,300
		MPa	285
	Density	g/cm <sup>3</sup>	7.6
	Hardness, Vickers	Hv	620
	Electrical Resistivity, ρ	μΩ • cm	150 // 130 ⊥

Notes: (1) Coefficients measured between 20 and 200 °C  
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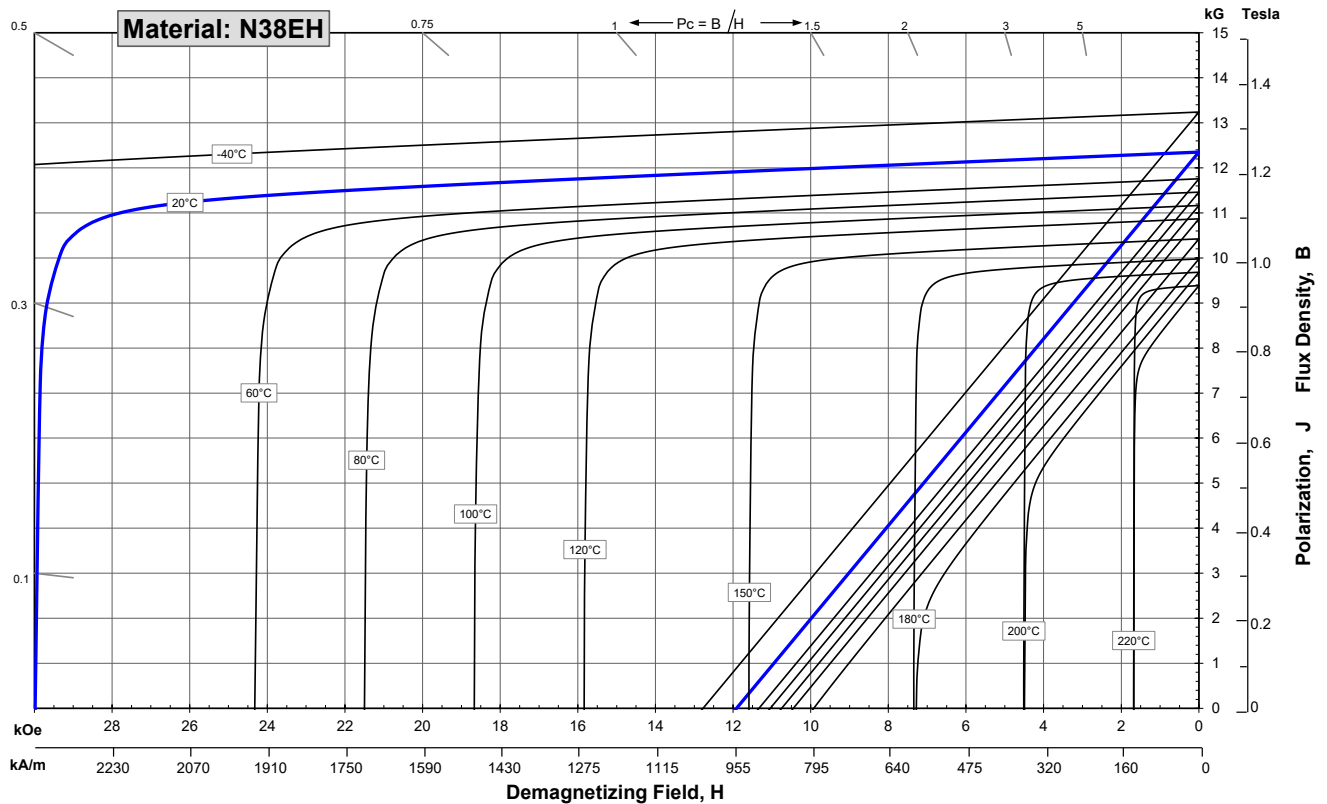
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Characteristic	Units	Magnetic Properties		
		min.	nominal	max.
<b>Br</b> , Residual Induction	Gauss	12,000	12,350	12,800
	mT	1200	1235	1280
<b>H<sub>cB</sub></b> , Coercivity	Oersteds	11,300	11,750	12,200
	kA/m	899	935	971
<b>H<sub>cJ</sub></b> , Intrinsic Coercivity	Oersteds	30,000		
	kA/m	2,388		
<b>BHmax</b> , Maximum Energy Product	MGOe	36	38	40
	kJ/m <sup>3</sup>	287	303	318

Characteristic	Units	Thermal Properties	
		C //	C ⊥
Reversible Temperature Coefficients <sup>(1)</sup>			
	of Induction, α(Br)	%/°C	-0.12
	of Coercivity, α(H <sub>cj</sub> )	%/°C	-0.47
Coefficient of Thermal Expansion <sup>(2)</sup>	ΔL/L per °Cx10 <sup>-6</sup>	7	-1
Thermal Conductivity	kcal/mhr°C	5.3	5.8
Specific Heat <sup>(3)</sup>	cal/g°C	0.11	
Curie Temperature, T <sub>c</sub>	°C	310	
Flexural Strength		psi	41,300
		MPa	285
Density	g/cm <sup>3</sup>	7.6	
Hardness, Vickers	Hv	620	
Electrical Resistivity, ρ	μΩ • cm	150 // 130 ⊥	

Notes: (1) Coefficients measured between 20 and 200 °C  
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 (3) Between 20 and 140 °C



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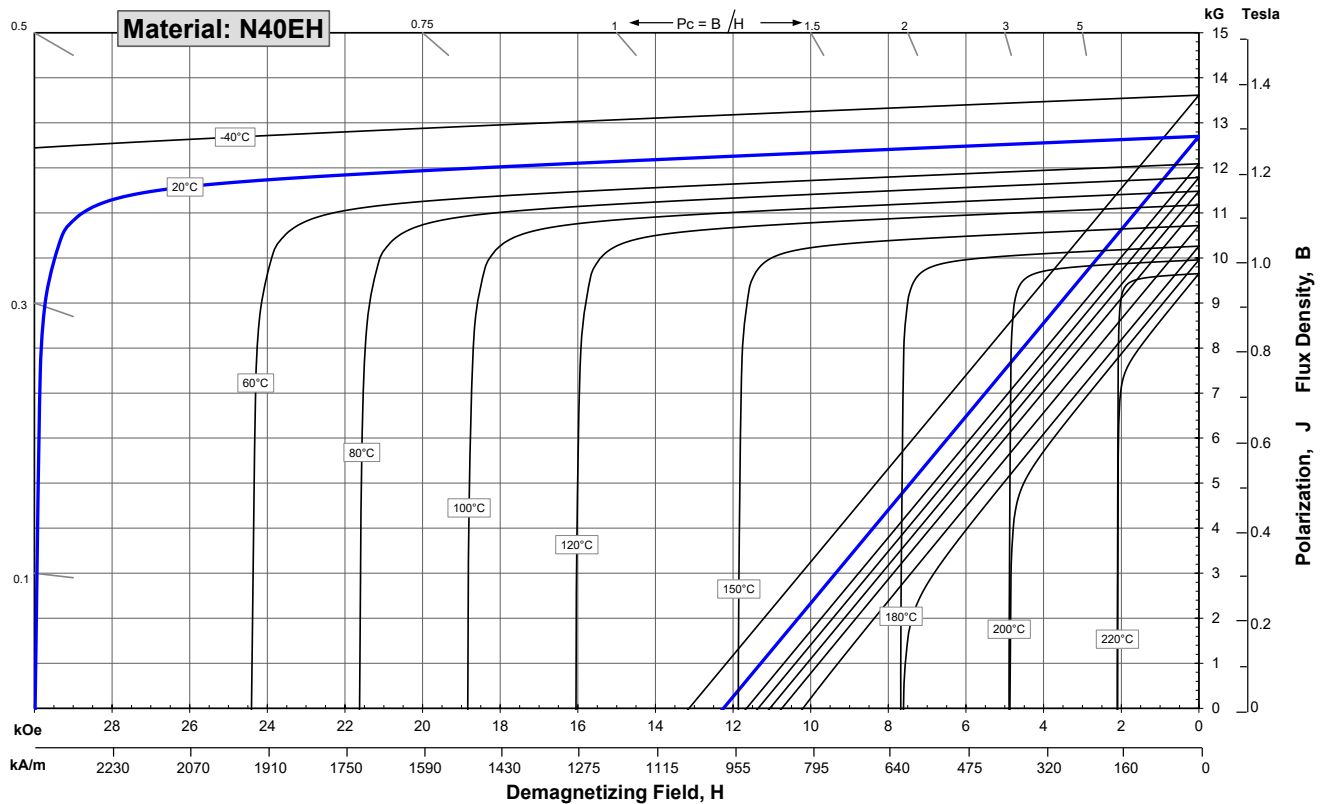
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Characteristic	Units	Magnetic Properties		
		min.	nominal	max.
<b>Br</b> , Residual Induction	Gauss	12,500	12,700	12,900
	mT	1250	1270	1290
<b>H<sub>cB</sub></b> , Coercivity	Oersteds	11,500	11,900	12,300
	kA/m	915	947	979
<b>H<sub>cJ</sub></b> , Intrinsic Coercivity	Oersteds	30,000		
	kA/m	2,388		
<b>BH<sub>max</sub></b> , Maximum Energy Product	MGOe	38	40	41
	kJ/m <sup>3</sup>	302	314	326

Characteristic	Units	Thermal Properties	
		C //	C ⊥
Reversible Temperature Coefficients <sup>(1)</sup>			
	of Induction, α(Br)	%/°C	-0.12
	of Coercivity, α(H <sub>cj</sub> )	%/°C	-0.47
Coefficient of Thermal Expansion <sup>(2)</sup>	ΔL/L per °Cx10 <sup>-6</sup>	7	-1
Thermal Conductivity	kcal/mhr°C	5.3	5.8
Specific Heat <sup>(3)</sup>	cal/g°C	0.11	
Curie Temperature, T <sub>c</sub>	°C	310	
Flexural Strength		psi	41,300
		MPa	285
Density	g/cm <sup>3</sup>	7.6	
Hardness, Vickers	Hv	620	
Electrical Resistivity, ρ	μΩ • cm	150 // 130 ⊥	

Notes:  
 (1) Coefficients measured between 20 and 200 °C  
 (2) Between 20 and 200 °C. Values are typical and can vary.  
 (3) Between 20 and 140 °C



1 kA/m = 12.566 Oe    1 kOe = 79.577 kA/m

**Notes** The material data and demagnetization curves shown above represent typical properties that may vary due to product shape and size.  
**Demagnetization curves show nominal Br and minimum H<sub>cj</sub>.**  
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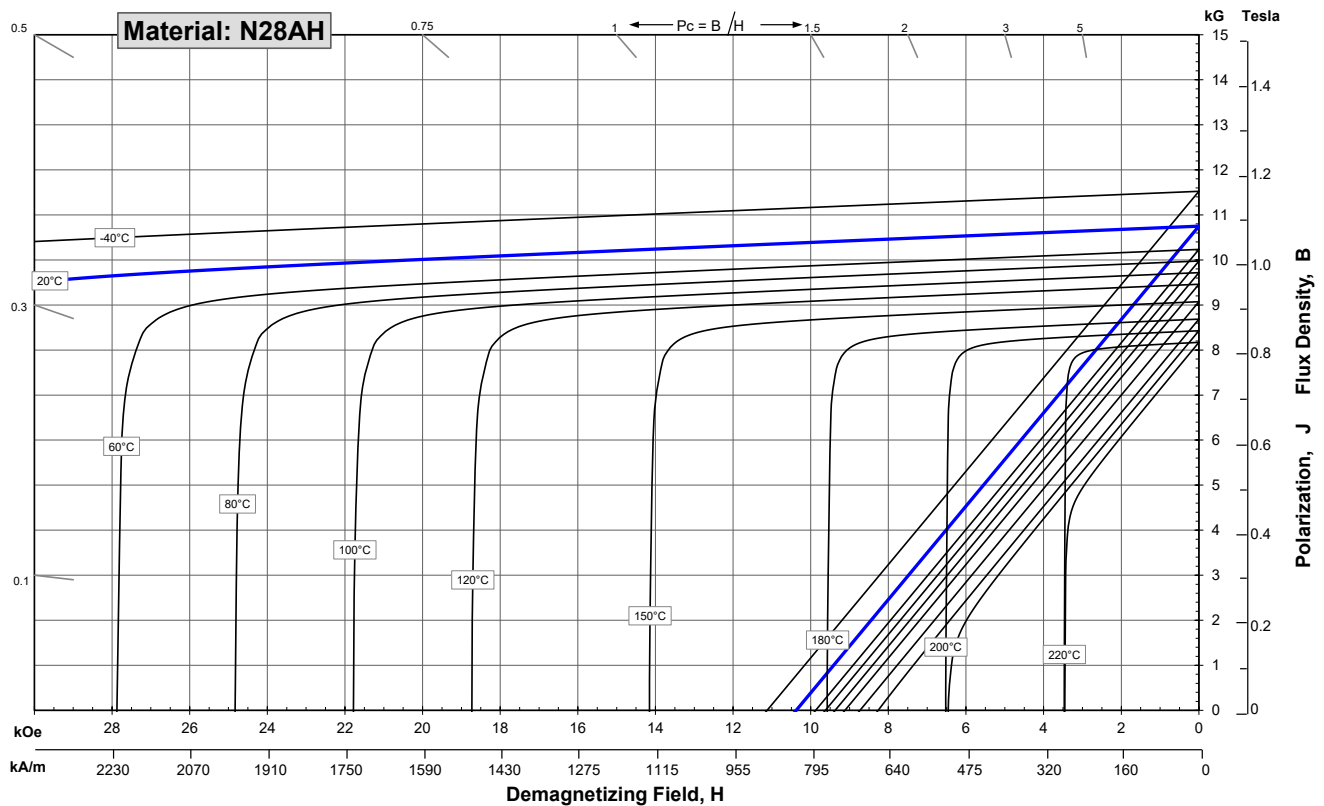
## Sintered Neodymium-Iron-Boron Magnets

These are also referred to as "Neo" or NdFeB magnets. They offer a combination of high magnetic output at moderate cost. Please contact Arnold for additional grade information and recommendations for protective coating. Assemblies using these magnets can also be provided.

Characteristic	Units	Magnetic Properties		
		min.	nominal	max.
<b>Br</b> , Residual Induction	Gauss	10,200	10,750	11,300
	mT	1020	1075	1130
<b>H<sub>cB</sub></b> , Coercivity	Oersteds	9,800	10,300	10,800
	kA/m	780	820	859
<b>H<sub>cJ</sub></b> , Intrinsic Coercivity	Oersteds	34,000		
	kA/m	2,706		
<b>BH<sub>max</sub></b> , Maximum Energy Product	MGOe	25	28	31
	kJ/m <sup>3</sup>	199	223	247

Characteristic	Units	Thermal Properties	
		C //	C ⊥
Reversible Temperature Coefficients <sup>(1)</sup>			
	of Induction, α(Br)	%/°C	-0.12
	of Coercivity, α(H <sub>cj</sub> )	%/°C	-0.45
Coefficient of Thermal Expansion <sup>(2)</sup>	ΔL/L per °Cx10 <sup>-6</sup>	7	-1
Thermal Conductivity	kcal/mhr°C	5.3	5.8
Specific Heat <sup>(3)</sup>	cal/g°C	0.11	
Curie Temperature, T <sub>c</sub>	°C	310	
Flexural Strength		psi	41,300
		MPa	285
Density	g/cm <sup>3</sup>	7.6	
Hardness, Vickers	Hv	620	
Electrical Resistivity, ρ	μΩ • cm	150 // 130 ⊥	

Notes:  
 (1) Coefficients measured between 20 and 220 °C  
 (2) Between 20 and 200 °C. Values are typical and can vary.  
 (3) Between 20 and 140 °C



**Notes** The material data and demagnetization curves shown above represent typical properties that may vary due to product shape and size. **Demagnetization curves show nominal Br and minimum H<sub>cj</sub>.** Magnets can be supplied thermally stabilized or magnetically calibrated to customer specifications. Additional grades are available. Please contact the factory for information.

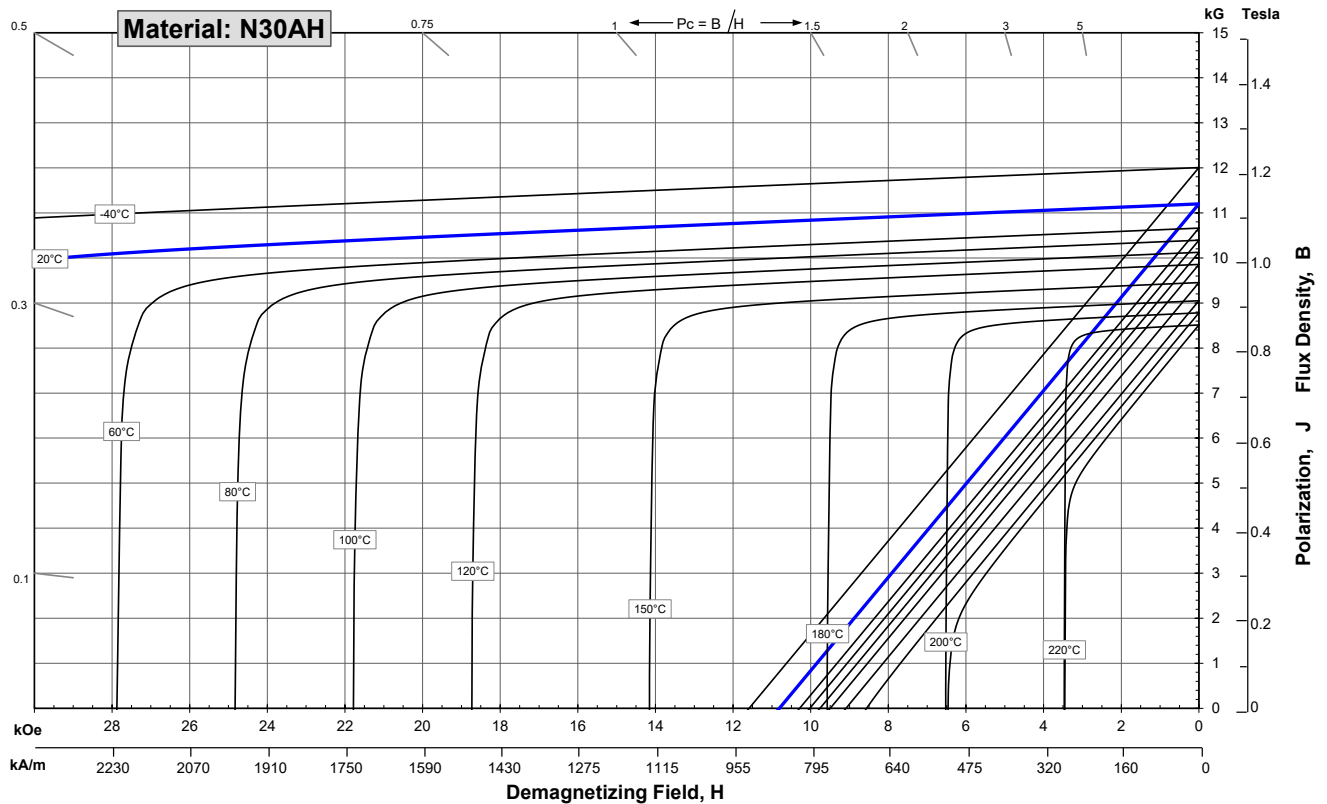
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Characteristic	Units	Magnetic Properties		
		min.	nominal	max.
<b>Br</b> , Residual Induction	Gauss	10,700	11,200	11,700
	mT	1070	1120	1170
<b>H<sub>cB</sub></b> , Coercivity	Oersteds	10,200	10,700	11,200
	kA/m	812	852	891
<b>H<sub>cJ</sub></b> , Intrinsic Coercivity	Oersteds	34,000		
	kA/m	2,706		
<b>BH<sub>max</sub></b> , Maximum Energy Product	MGOe	27	30	33
	kJ/m <sup>3</sup>	215	239	263

Characteristic	Units	Thermal Properties	
		C //	C ⊥
Reversible Temperature Coefficients <sup>(1)</sup>			
	of Induction, α(Br)	%/°C	-0.12
	of Coercivity, α(H <sub>cj</sub> )	%/°C	-0.45
Coefficient of Thermal Expansion <sup>(2)</sup>	ΔL/L per °Cx10 <sup>-6</sup>	7	-1
Thermal Conductivity	kcal/mhr°C	5.3	5.8
Specific Heat <sup>(3)</sup>	cal/g°C	0.11	
Curie Temperature, T <sub>c</sub>	°C	310	
Other Properties	Flexural Strength	psi	41,300
		MPa	285
	Density	g/cm <sup>3</sup>	7.6
	Hardness, Vickers	Hv	620
	Electrical Resistivity, ρ	μΩ • cm	150 // 130 ⊥

Notes:  
 (1) Coefficients measured between 20 and 220 °C  
 (2) Between 20 and 200 °C. Values are typical and can vary.  
 (3) Between 20 and 140 °C



1 kA/m = 12.566 Oe 1 kOe = 79.577 kA/m

**Notes** The material data and demagnetization curves shown above represent typical properties that may vary due to product shape and size. **Demagnetization curves show nominal Br and minimum H<sub>cj</sub>.** Magnets can be supplied thermally stabilized or magnetically calibrated to customer specifications. Additional grades are available. Please contact the factory for information.

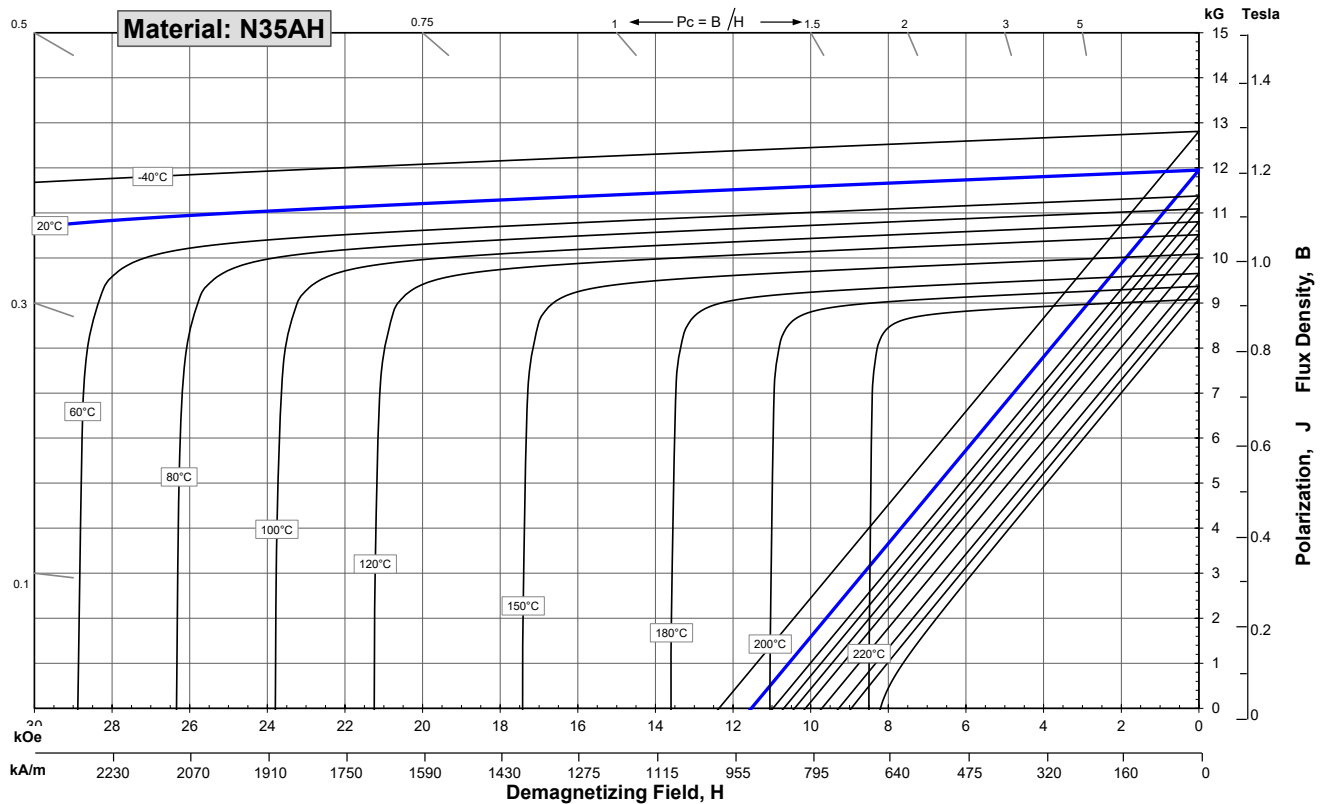
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Characteristic	Units	Magnetic Properties		
		min.	nominal	max.
<b>Br</b> , Residual Induction	Gauss	11,700	11,950	12,200
	mT	1170	1195	1220
<b>H<sub>cB</sub></b> , Coercivity	Oersteds	907	6,300	11,700
	kA/m	883	501	931
<b>H<sub>cJ</sub></b> , Intrinsic Coercivity	Oersteds	34,000		
	kA/m	931		
<b>BH<sub>max</sub></b> , Maximum Energy Product	MGOe	33	34	35
	kJ/m <sup>3</sup>	263	269	275

Characteristic	Units	Thermal Properties		
		C //	C ⊥	
Reversible Temperature Coefficients <sup>(1)</sup>				
	of Induction, α(Br)	%/°C	-0.12	
	of Coercivity, α(H <sub>cj</sub> )	%/°C	-0.38	
Coefficient of Thermal Expansion <sup>(2)</sup>	ΔL/L per °Cx10 <sup>-6</sup>	7	-1	
Thermal Conductivity	kcal/mhr°C	5.3	5.8	
Specific Heat <sup>(3)</sup>	cal/g°C	460		
Curie Temperature, T <sub>c</sub>	°C	310		
Other Properties	Flexural Strength	psi	41,300	
		MPa	285	
	Density	g/cm <sup>3</sup>	7.6	
	Hardness, Vickers	Hv	620	
	Electrical Resistivity, ρ	μΩ • cm	150 // 130 ⊥	

Notes:  
 (1) Coefficients measured between 20 and 220 °C  
 (2) Between 20 and 200 °C. Values are typical and can vary.  
 (3) Between 20 and 140 °C



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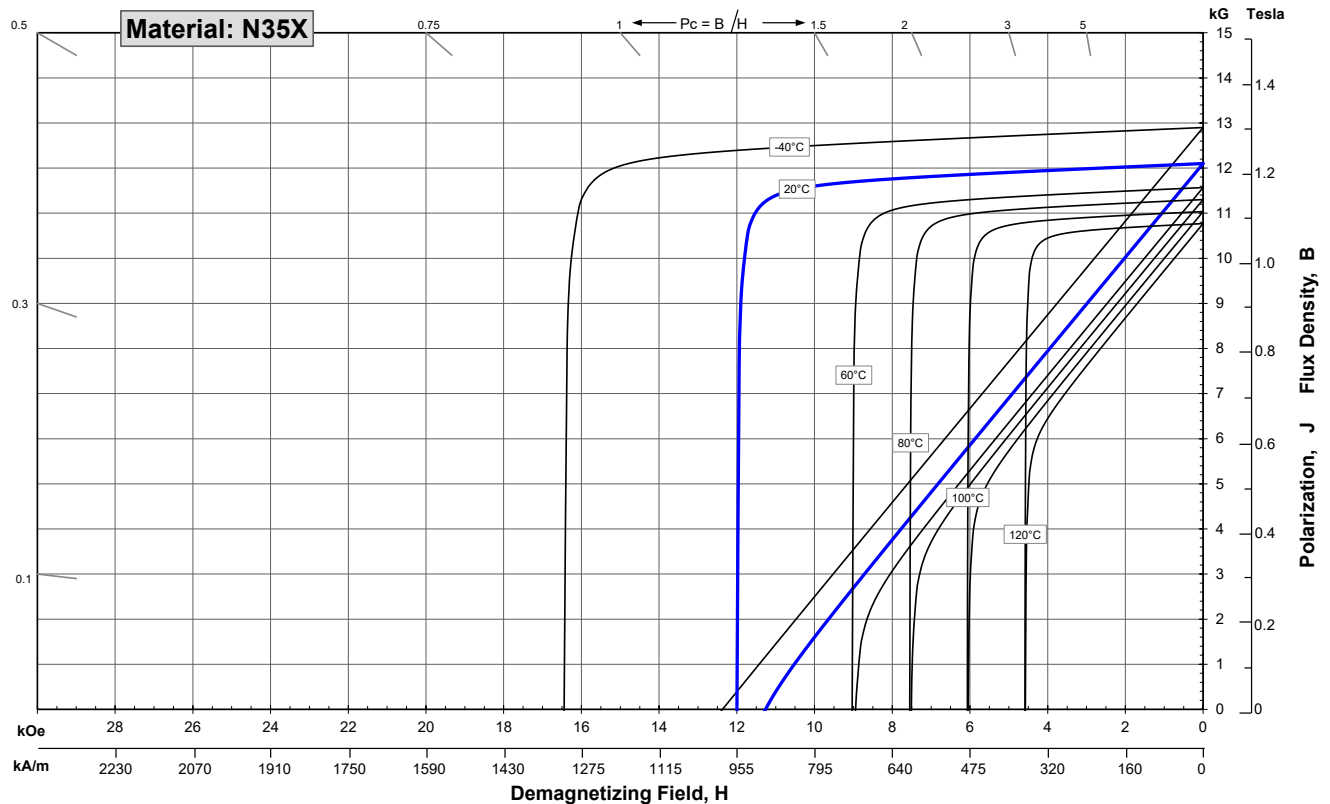
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Characteristic	Units	Magnetic Properties		
		min.	nominal	max.
<b>Br</b> , Residual Induction	Gauss	11,700	12,100	12,500
	mT	1170	1210	1250
<b>H<sub>cB</sub></b> , Coercivity	Oersteds	10,800	11,400	12,000
	kA/m	860	907	955
<b>H<sub>cJ</sub></b> , Intrinsic Coercivity	Oersteds	12,000		
	kA/m	955		
<b>BH<sub>max</sub></b> , Maximum Energy Product	MGOe	33	36	38
	kJ/m <sup>3</sup>	263	283	302

Characteristic	Units	Thermal Properties	
		C //	C ⊥
Reversible Temperature Coefficients <sup>(1)</sup>			
	of Induction, α(Br)	%/°C	-0.11
	of Coercivity, α(H <sub>cJ</sub> )	%/°C	-0.62
Coefficient of Thermal Expansion <sup>(2)</sup>	ΔL/L per °Cx10 <sup>-6</sup>	7	-1
Thermal Conductivity	kcal/mhr°C	5.3	5.8
Specific Heat <sup>(3)</sup>	cal/g°C	0.11	
Curie Temperature, T <sub>c</sub>	°C	330	
Flexural Strength	psi	41,300	
	MPa	285	
Density	g/cm <sup>3</sup>	7.6	
Hardness, Vickers	Hv	620	
Electrical Resistivity, ρ	μΩ • cm	150 // 130 ⊥	

Notes:  
 (1) Coefficients measured between 20 and 80 °C  
 (2) Between 20 and 200 °C. Values are typical and can vary.  
 (3) Between 20 and 140 °C



1 kA/m = 12.566 Oe    1 kOe = 79.577 kA/m

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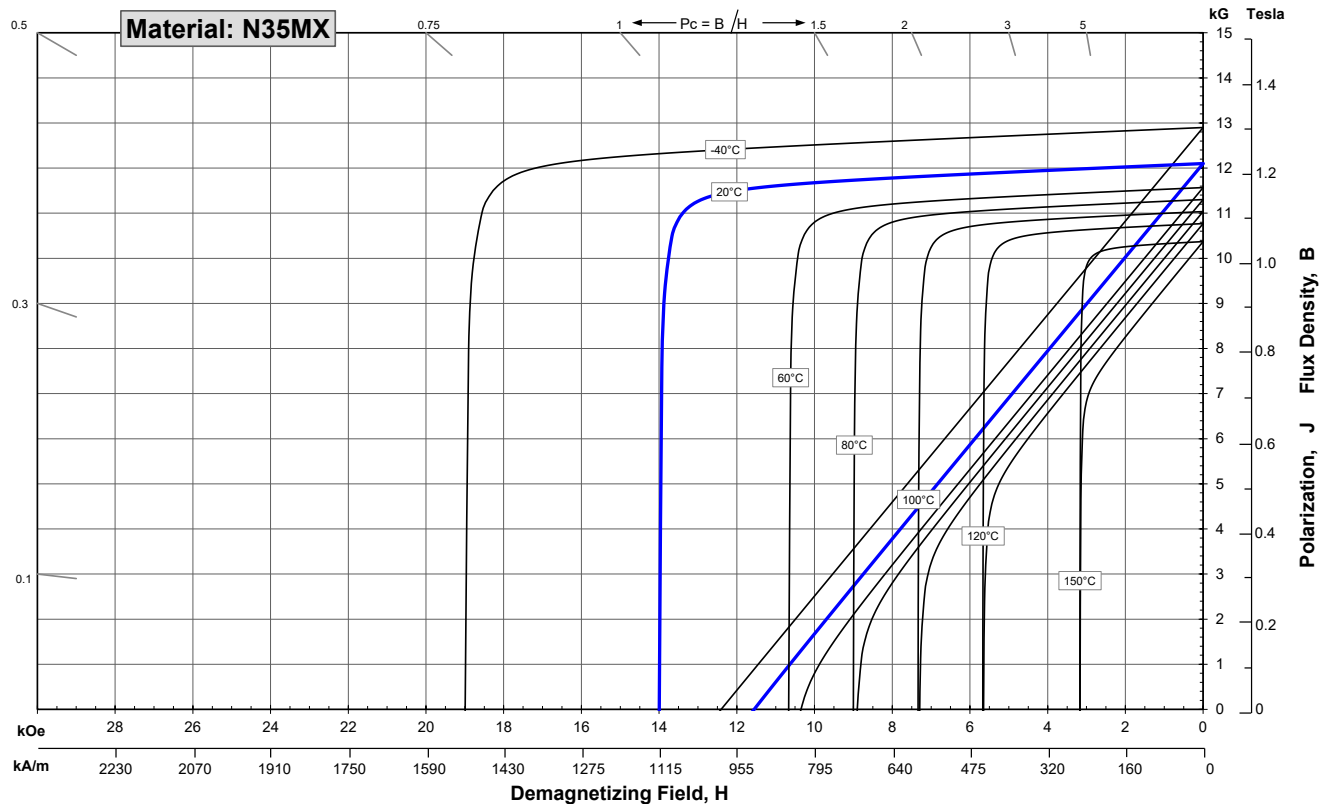
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Magnetic Properties	Characteristic	Units	min.	nominal	max.
	<b>Br</b> , Residual Induction		Gauss	11,700	12,100
		mT	1170	1210	1250
<b>H<sub>cB</sub></b> , Coercivity		Oersteds	10,900	11,450	12,000
		kA/m	868	911	955
<b>H<sub>cJ</sub></b> , Intrinsic Coercivity		Oersteds	14,000		
		kA/m	1,114		
<b>BH<sub>max</sub></b> , Maximum Energy Product		MGOe	33	36	38
		kJ/m <sup>3</sup>	263	283	302

Thermal Properties	Characteristic	Units	C //	C ⊥
	Reversible Temperature Coefficients <sup>(1)</sup>	of Induction, α(Br)	%/°C	
of Coercivity, α(H <sub>cj</sub> )		%/°C		-0.60
Coefficient of Thermal Expansion <sup>(2)</sup>		ΔL/L per °Cx10 <sup>-6</sup>	7	-1
Other Properties	Thermal Conductivity	kcal/mhr°C	5.3	5.8
	Specific Heat <sup>(3)</sup>	cal/g°C		0.11
	Curie Temperature, T <sub>c</sub>	°C		330
	Flexural Strength		psi	
		MPa		285
Density	g/cm <sup>3</sup>			7.6
Hardness, Vickers	Hv			620
Electrical Resistivity, ρ	μΩ • cm			150 // 130 ⊥

Notes: (1) Coefficients measured between 20 and 100 °C  
 (2) Between 20 and 200 °C. Values are typical and can vary.  
 (3) Between 20 and 140 °C



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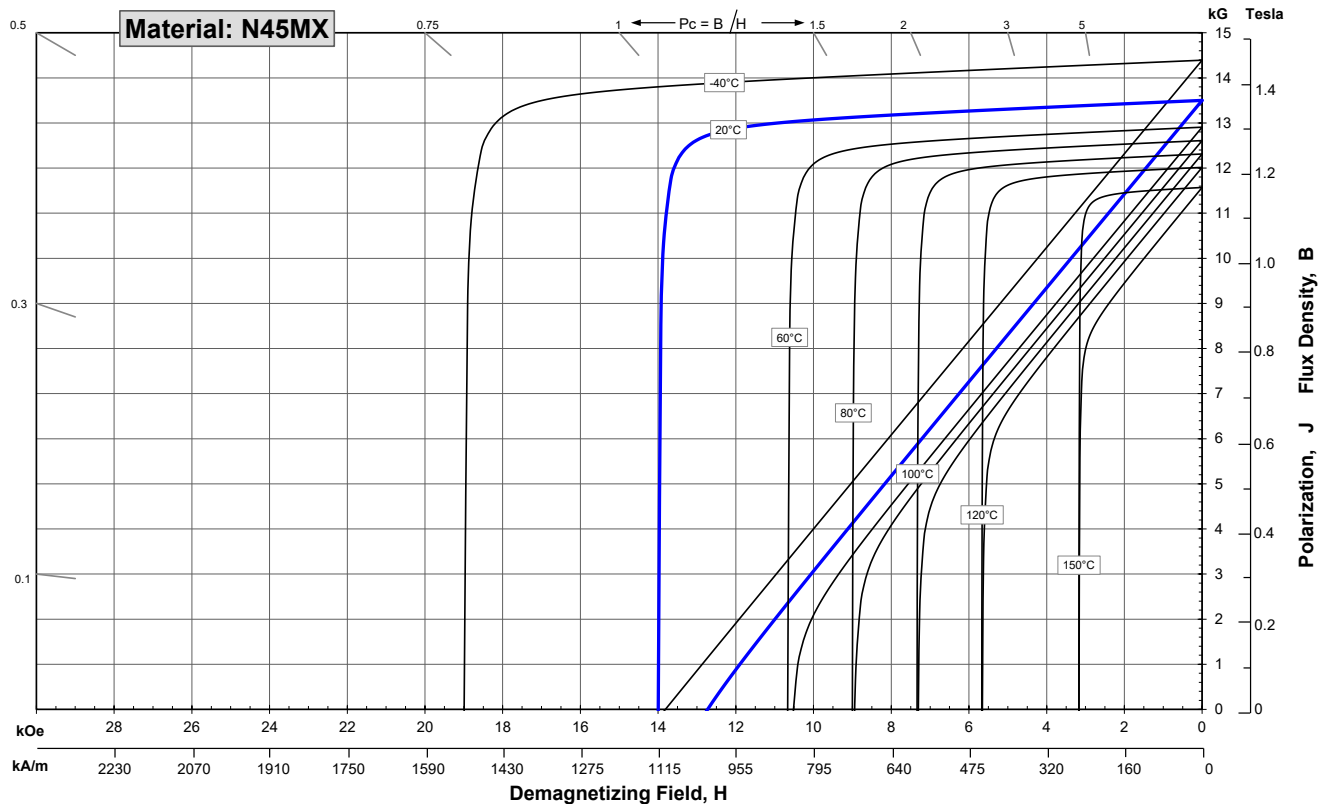
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Characteristic	Units	Magnetic Properties		
		min.	nominal	max.
<b>Br</b> , Residual Induction	Gauss	13,200	13,500	13,800
	mT	1320	1350	1380
<b>H<sub>cB</sub></b> , Coercivity	Oersteds	12,200	12,700	13,200
	kA/m	971	1011	1050
<b>H<sub>cJ</sub></b> , Intrinsic Coercivity	Oersteds	14,000		
	kA/m	1,114		
<b>BH<sub>max</sub></b> , Maximum Energy Product	MGOe	42	45	47
	kJ/m <sup>3</sup>	334	354	374

Characteristic	Units	Thermal Properties	
		C //	C ⊥
Reversible Temperature Coefficients <sup>(1)</sup>			
	of Induction, α(Br)	%/°C	-0.11
	of Coercivity, α(H <sub>cj</sub> )	%/°C	-0.60
Coefficient of Thermal Expansion <sup>(2)</sup>	ΔL/L per °C x 10 <sup>-6</sup>	7	-1
Thermal Conductivity	kcal/mhr°C	5.3	5.8
Specific Heat <sup>(3)</sup>	cal/g°C	0.11	
Curie Temperature, T <sub>c</sub>	°C	330	
Flexural Strength		psi	41,300
		MPa	285
Density	g/cm <sup>3</sup>	7.6	
Hardness, Vickers	Hv	620	
Electrical Resistivity, ρ	μΩ • cm	150 // 130 ⊥	

Notes: (1) Coefficients measured between 20 and 100 °C  
 (2) Between 20 and 200 °C. Values are typical and can vary.  
 (3) Between 20 and 140 °C



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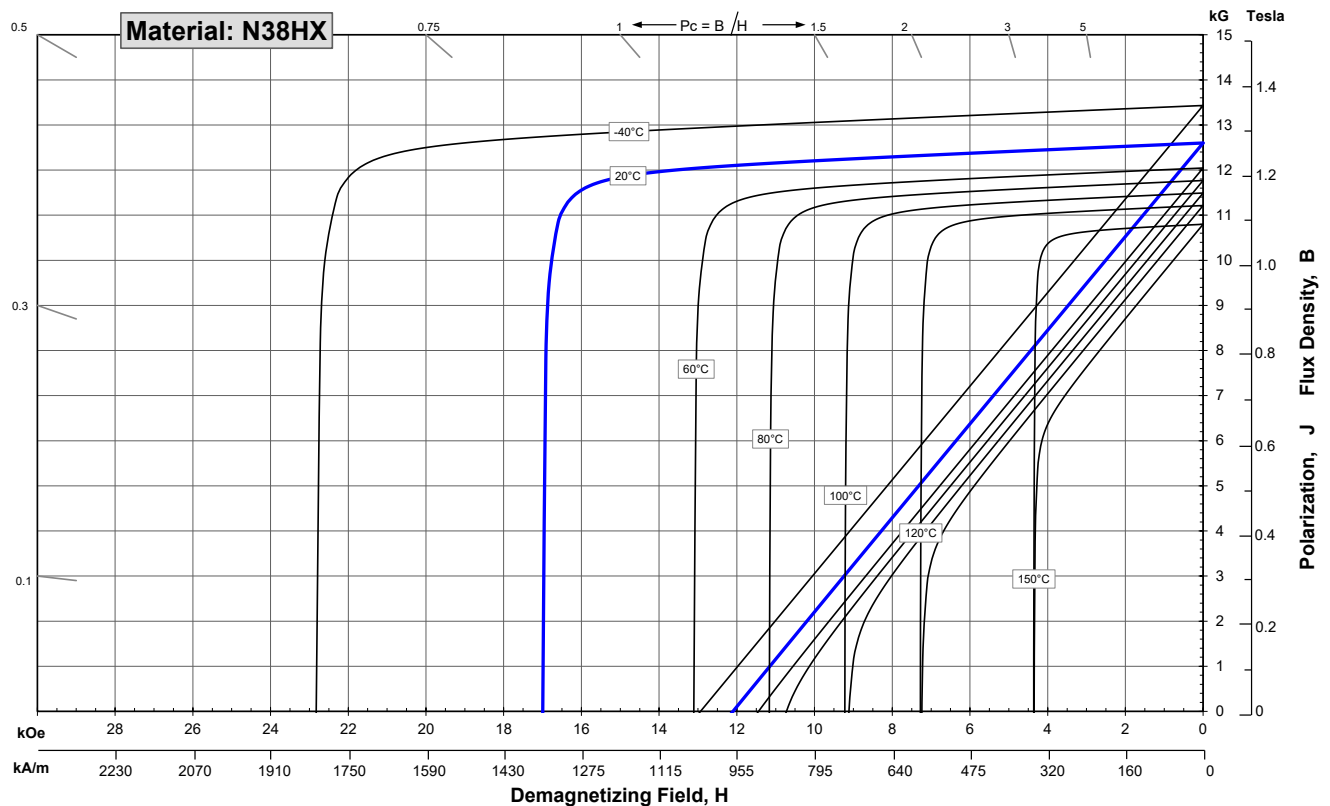
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Characteristic	Units	Magnetic Properties		
		min.	nominal	max.
<b>Br</b> , Residual Induction	Gauss	12,200	12,600	13,000
	mT	1220	1260	1300
<b>H<sub>cB</sub></b> , Coercivity	Oersteds	11,300	11,850	12,400
	kA/m	899	943	987
<b>H<sub>cJ</sub></b> , Intrinsic Coercivity	Oersteds	17,000		
	kA/m	1,353		
<b>BHmax</b> , Maximum Energy Product	MGOe	36	39	41
	kJ/m <sup>3</sup>	287	307	326

Characteristic	Units	Thermal Properties		
		C //	C ⊥	
Reversible Temperature Coefficients <sup>(1)</sup>				
	of Induction, α(Br)	%/°C	-0.11	
	of Coercivity, α(H <sub>cJ</sub> )	%/°C	-0.57	
Coefficient of Thermal Expansion <sup>(2)</sup>	ΔL/L per °Cx10 <sup>-6</sup>	7	-1	
Thermal Conductivity	kcal/mhr°C	5.3	5.8	
Specific Heat <sup>(3)</sup>	cal/g°C	0.11		
Curie Temperature, T <sub>c</sub>	°C	330		
Other Properties	Flexural Strength	psi	41,300	
		MPa	285	
	Density	g/cm <sup>3</sup>	7.6	
	Hardness, Vickers	Hv	620	
	Electrical Resistivity, ρ	μΩ • cm	150 // 130 ⊥	

Notes: (1) Coefficients measured between 20 and 120 °C  
 (2) Between 20 and 200 °C. Values are typical and can vary.  
 (3) Between 20 and 140 °C



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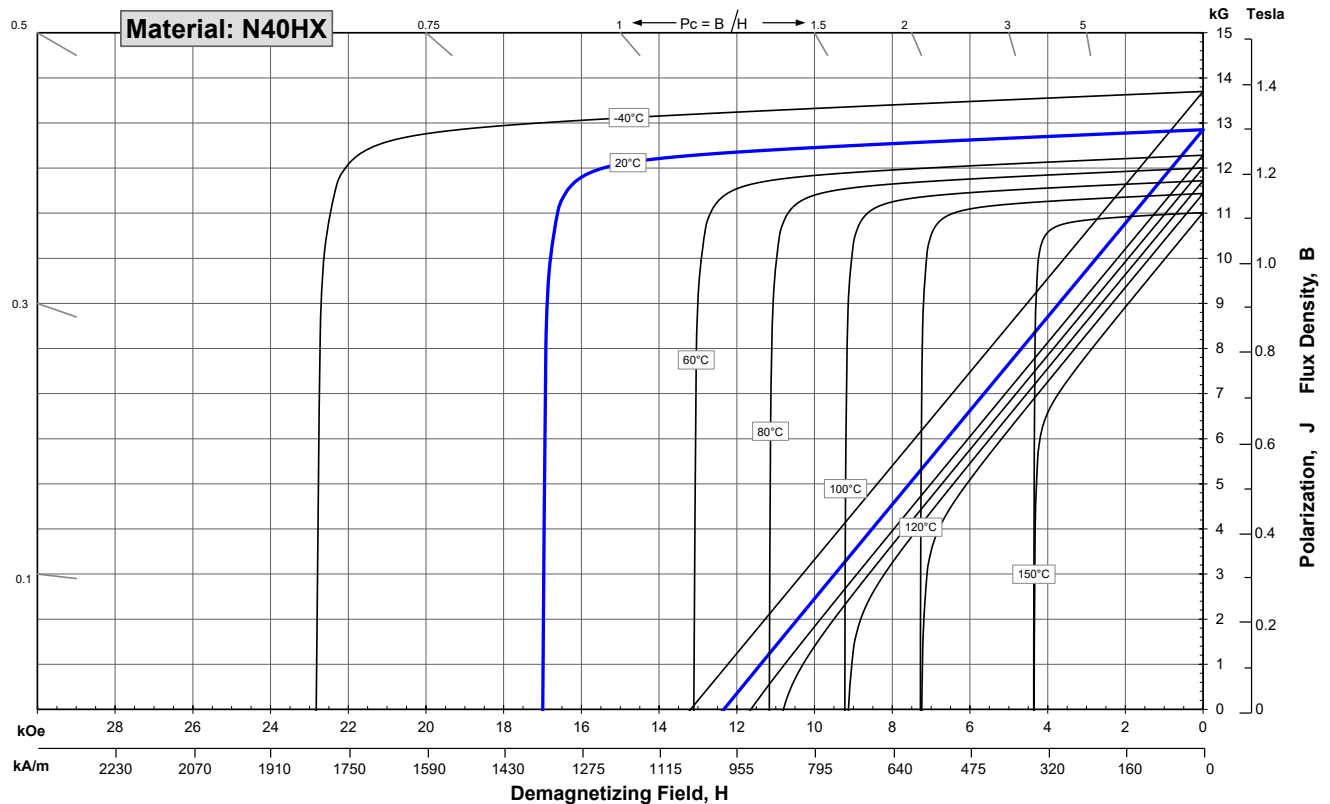
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Characteristic	Units	Magnetic Properties		
		min.	nominal	max.
<b>Br</b> , Residual Induction	Gauss	12,500	12,850	13,200
	mT	1250	1285	1320
<b>H<sub>cB</sub></b> , Coercivity	Oersteds	11,600	12,100	12,600
	kA/m	923	963	1003
<b>H<sub>cJ</sub></b> , Intrinsic Coercivity	Oersteds	17,000		
	kA/m	1,353		
<b>BHmax</b> , Maximum Energy Product	MGOe	38	41	43
	kJ/m <sup>3</sup>	302	322	342

Characteristic	Units	Thermal Properties		
		C //	C ⊥	
Reversible Temperature Coefficients <sup>(1)</sup>				
	of Induction, α(Br)	%/°C	-0.11	
	of Coercivity, α(H <sub>cj</sub> )	%/°C	-0.57	
Coefficient of Thermal Expansion <sup>(2)</sup>	ΔL/L per °Cx10 <sup>-6</sup>	7	-1	
Thermal Conductivity	kcal/mhr°C	5.3	5.8	
Specific Heat <sup>(3)</sup>	cal/g°C	0.11		
Curie Temperature, T <sub>c</sub>	°C	330		
Other Properties	Flexural Strength	psi	41,300	
		MPa	285	
	Density	g/cm <sup>3</sup>	7.6	
	Hardness, Vickers	Hv	620	
	Electrical Resistivity, ρ	μΩ • cm	150 // 130 ⊥	

Notes: (1) Coefficients measured between 20 and 120 °C  
 (2) Between 20 and 200 °C. Values are typical and can vary.  
 (3) Between 20 and 140 °C



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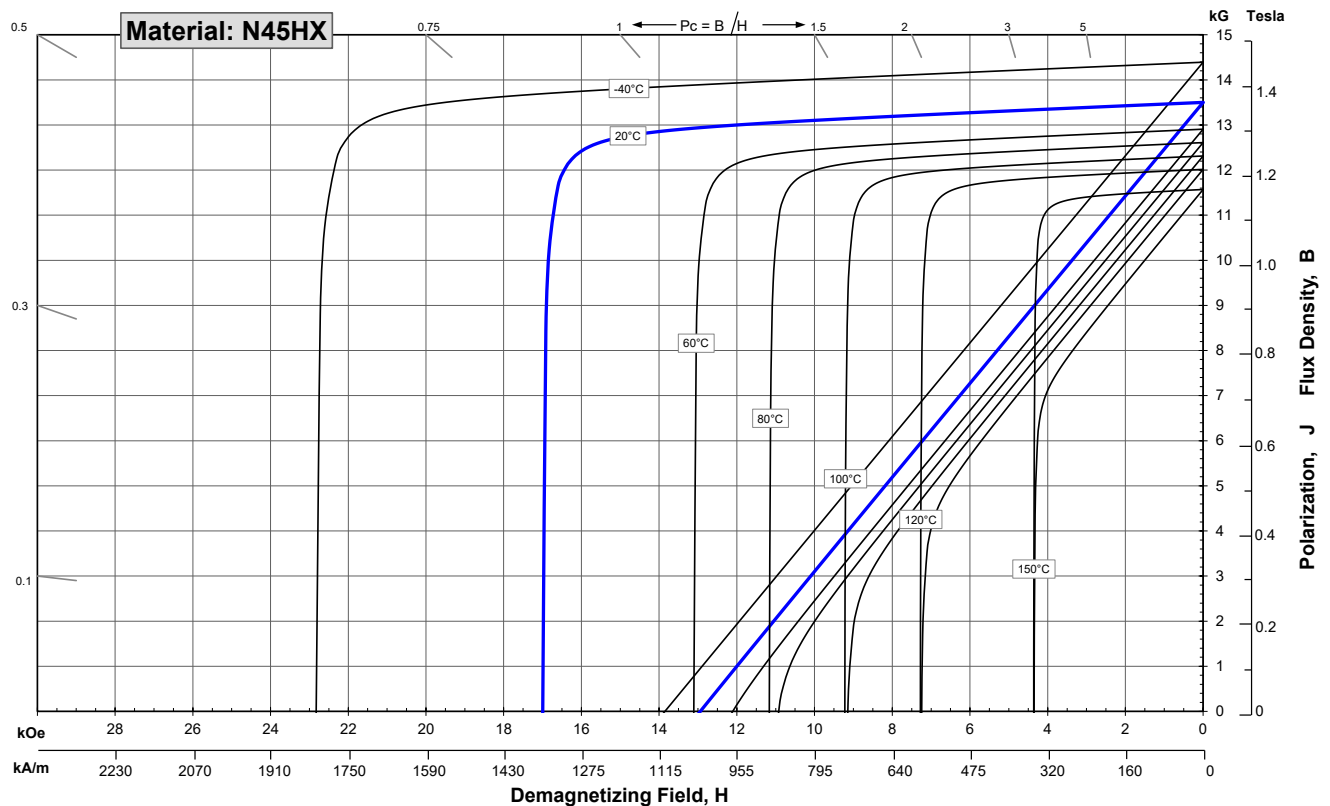
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Characteristic	Units	Magnetic Properties		
		min.	nominal	max.
<b>Br</b> , Residual Induction	Gauss	13,200	13,500	13,800
	mT	1320	1350	1380
<b>H<sub>cB</sub></b> , Coercivity	Oersteds	12,200	12,700	13,200
	kA/m	971	1011	1050
<b>H<sub>cJ</sub></b> , Intrinsic Coercivity	Oersteds	17,000		
	kA/m	1,353		
<b>BH<sub>max</sub></b> , Maximum Energy Product	MGOe	42	45	47
	kJ/m <sup>3</sup>	334	354	374

Characteristic	Units	Thermal Properties		
		C //	C ⊥	
Reversible Temperature Coefficients <sup>(1)</sup>				
	of Induction, α(Br)	%/°C	-0.11	
	of Coercivity, α(H <sub>cj</sub> )	%/°C	-0.57	
Coefficient of Thermal Expansion <sup>(2)</sup>	ΔL/L per °Cx10 <sup>-6</sup>	7	-1	
Thermal Conductivity	kcal/mhr°C	5.3	5.8	
Specific Heat <sup>(3)</sup>	cal/g°C	0.11		
Curie Temperature, T <sub>c</sub>	°C	330		
Other Properties	Flexural Strength	psi	41,300	
		MPa	285	
	Density	g/cm <sup>3</sup>	7.6	
	Hardness, Vickers	Hv	620	
	Electrical Resistivity, ρ	μΩ • cm	150 // 130 ⊥	

Notes: (1) Coefficients measured between 20 and 120 °C  
 (2) Between 20 and 200 °C. Values are typical and can vary.  
 (3) Between 20 and 140 °C



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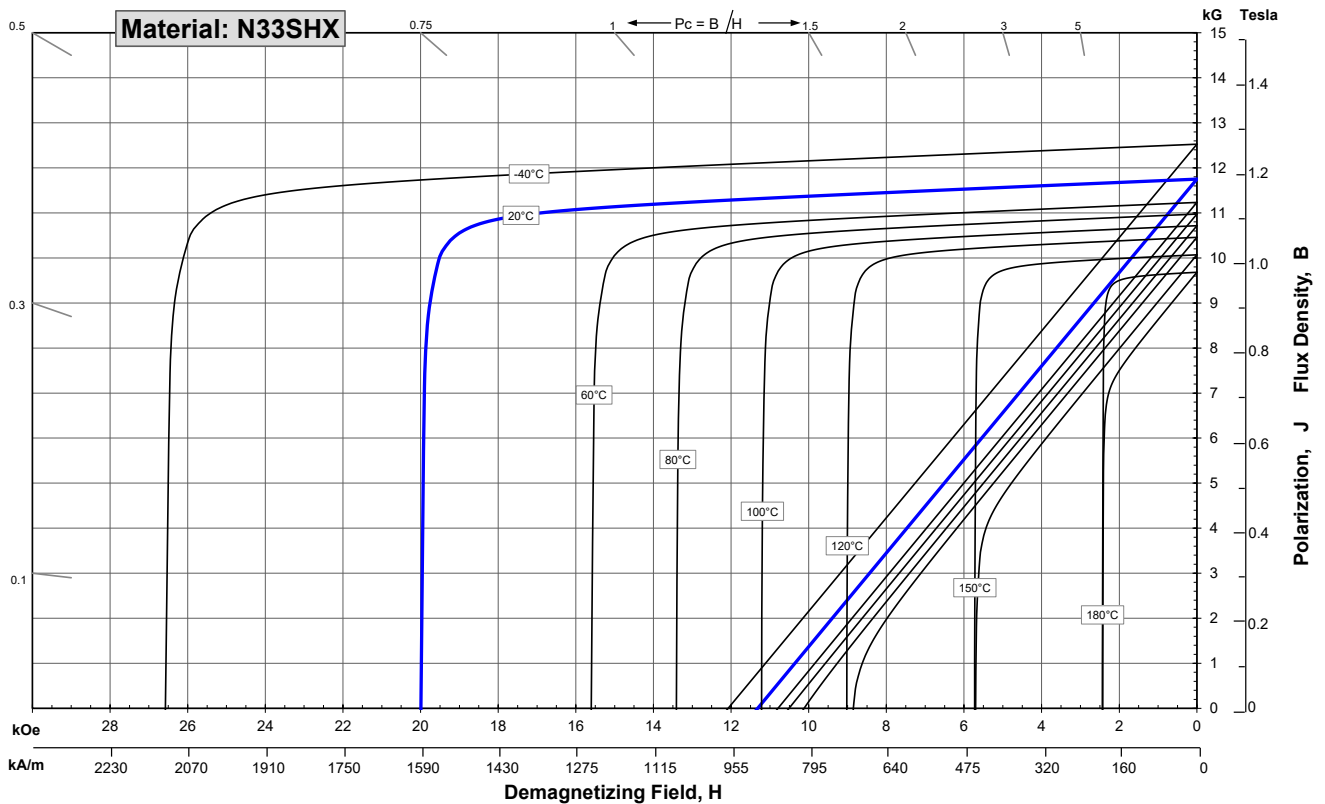
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Characteristic	Units	Magnetic Properties		
		min.	nominal	max.
<b>Br</b> , Residual Induction	Gauss	11,300	11,750	12,200
	mT	1130	1175	1220
<b>H<sub>cB</sub></b> , Coercivity	Oersteds	10,600	11,150	11,700
	kA/m	844	887	931
<b>H<sub>cJ</sub></b> , Intrinsic Coercivity	Oersteds	20,000		
	kA/m	1,592		
<b>BH<sub>max</sub></b> , Maximum Energy Product	MGOe	31	34	36
	kJ/m <sup>3</sup>	247	267	287

Characteristic	Units	Thermal Properties	
		C //	C ⊥
Reversible Temperature Coefficients <sup>(1)</sup>			
	of Induction, α(Br)	%/°C	-0.11
	of Coercivity, α(H <sub>cj</sub> )	%/°C	-0.55
Coefficient of Thermal Expansion <sup>(2)</sup>	ΔL/L per °Cx10 <sup>-6</sup>	7	-1
Thermal Conductivity	kcal/mhr°C	5.3	5.8
Specific Heat <sup>(3)</sup>	cal/g°C	0.11	
Curie Temperature, T <sub>c</sub>	°C	330	
Flexural Strength	psi	41,300	
	MPa	285	
Density	g/cm <sup>3</sup>	7.6	
Hardness, Vickers	Hv	620	
Electrical Resistivity, ρ	μΩ • cm	150 // 130 ⊥	

Notes: (1) Coefficients measured between 20 and 150 °C  
 (2) Between 20 and 200 °C. Values are typical and can vary.  
 (3) Between 20 and 140 °C



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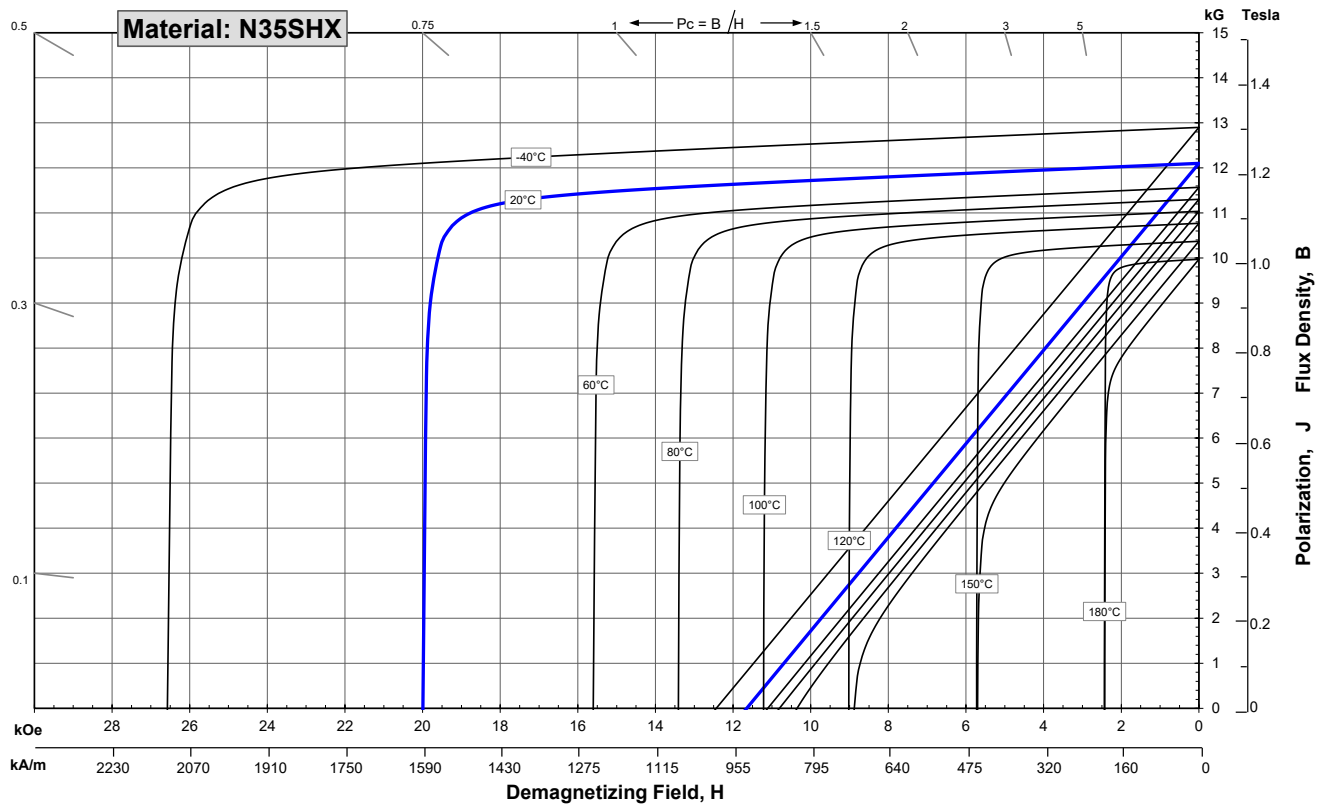
## Sintered Neodymium-Iron-Boron Magnets

These are also referred to as "Neo" or NdFeB magnets. They offer a combination of high magnetic output at moderate cost. Please contact Arnold for additional grade information and recommendations for protective coating. Assemblies using these magnets can also be provided.

Characteristic	Units	Magnetic Properties		
		min.	nominal	max.
<b>Br</b> , Residual Induction	Gauss	11,700	12,100	12,500
	mT	1170	1210	1250
<b>H<sub>cB</sub></b> , Coercivity	Oersteds	11,000	11,500	12,000
	kA/m	876	915	955
<b>H<sub>cJ</sub></b> , Intrinsic Coercivity	Oersteds	20,000		
	kA/m	1,592		
<b>BH<sub>max</sub></b> , Maximum Energy Product	MGOe	33	36	38
	kJ/m <sup>3</sup>	263	283	302

Characteristic	Units	Thermal Properties	
		C //	C ⊥
Reversible Temperature Coefficients <sup>(1)</sup>			
	of Induction, α(Br)	%/°C	-0.11
	of Coercivity, α(H <sub>cj</sub> )	%/°C	-0.55
Coefficient of Thermal Expansion <sup>(2)</sup>	ΔL/L per °Cx10 <sup>-6</sup>	7	-1
Thermal Conductivity	kcal/mhr°C	5.3	5.8
Specific Heat <sup>(3)</sup>	cal/g°C	0.11	
Curie Temperature, T <sub>c</sub>	°C	330	
Flexural Strength	psi	41,300	
	MPa	285	
Density	g/cm <sup>3</sup>	7.6	
Hardness, Vickers	Hv	620	
Electrical Resistivity, ρ	μΩ • cm	150 // 130 ⊥	

Notes: (1) Coefficients measured between 20 and 150 °C  
 (2) Between 20 and 200 °C. Values are typical and can vary.  
 (3) Between 20 and 140 °C



1 kA/m = 12.566 Oe 1 kOe = 79.577 kA/m

**Notes** The material data and demagnetization curves shown above represent typical properties that may vary due to product shape and size.

**Demagnetization curves show nominal Br and minimum H<sub>cj</sub>.**

Magnets can be supplied thermally stabilized or magnetically calibrated to customer specifications.

Additional grades are available. Please contact the factory for information.

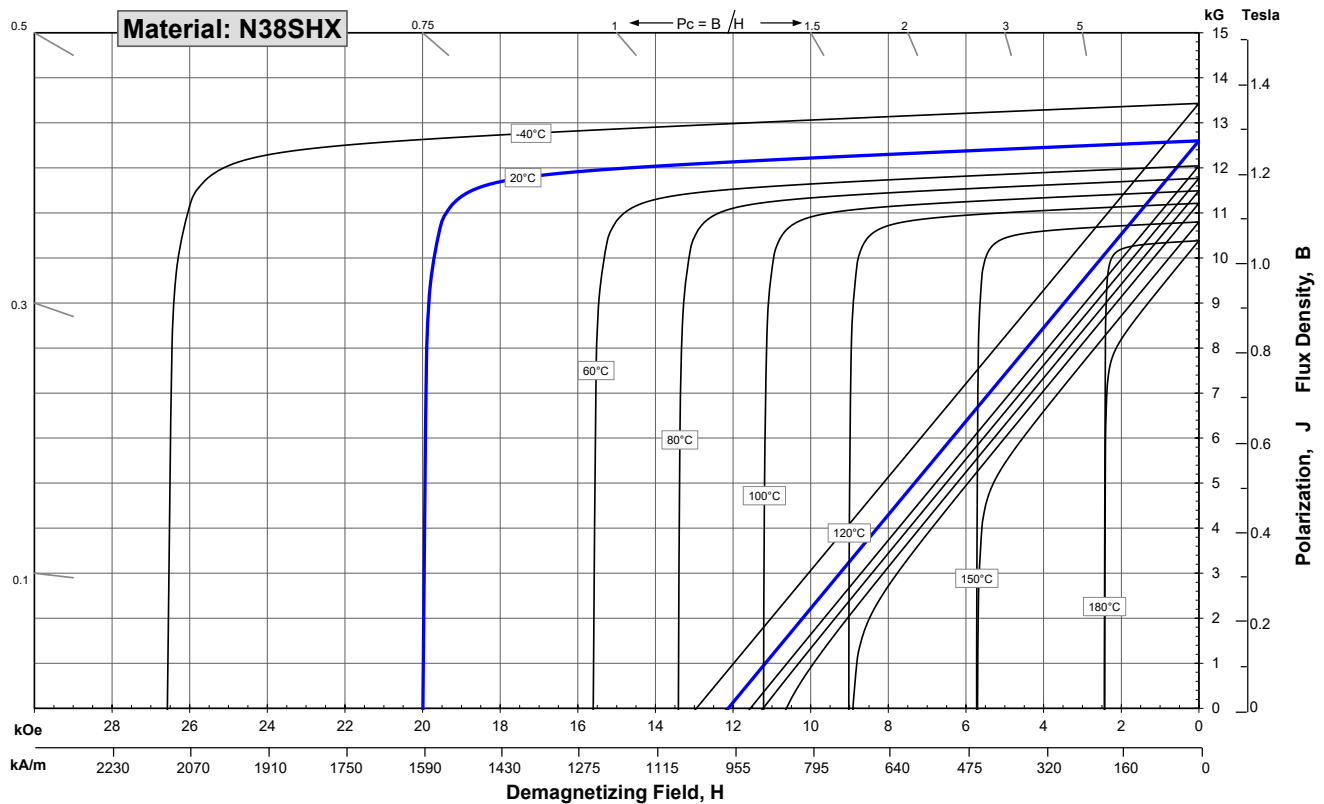
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Characteristic	Units	Magnetic Properties		
		min.	nominal	max.
<b>Br</b> , Residual Induction	Gauss	12,200	12,600	13,000
	mT	1220	1260	1300
<b>H<sub>cB</sub></b> , Coercivity	Oersteds	11,400	11,900	12,400
	kA/m	907	947	987
<b>H<sub>cJ</sub></b> , Intrinsic Coercivity	Oersteds	20,000		
	kA/m	1,592		
<b>BHmax</b> , Maximum Energy Product	MGOe	36	39	41
	kJ/m <sup>3</sup>	287	307	326

Characteristic	Units	Thermal Properties	
		C //	C ⊥
Reversible Temperature Coefficients <sup>(1)</sup>			
	of Induction, α(Br)	%/°C	-0.11
	of Coercivity, α(H <sub>cj</sub> )	%/°C	-0.55
Coefficient of Thermal Expansion <sup>(2)</sup>	ΔL/L per °Cx10 <sup>-6</sup>	7	-1
Thermal Conductivity	kcal/mhr°C	5.3	5.8
Specific Heat <sup>(3)</sup>	cal/g°C	0.11	
Curie Temperature, T <sub>c</sub>	°C	330	
Flexural Strength	psi	41,300	
	MPa	285	
Density	g/cm <sup>3</sup>	7.6	
Hardness, Vickers	Hv	620	
Electrical Resistivity, ρ	μΩ • cm	150 // 130 ⊥	

Notes: (1) Coefficients measured between 20 and 150 °C  
 (2) Between 20 and 200 °C. Values are typical and can vary.  
 (3) Between 20 and 140 °C



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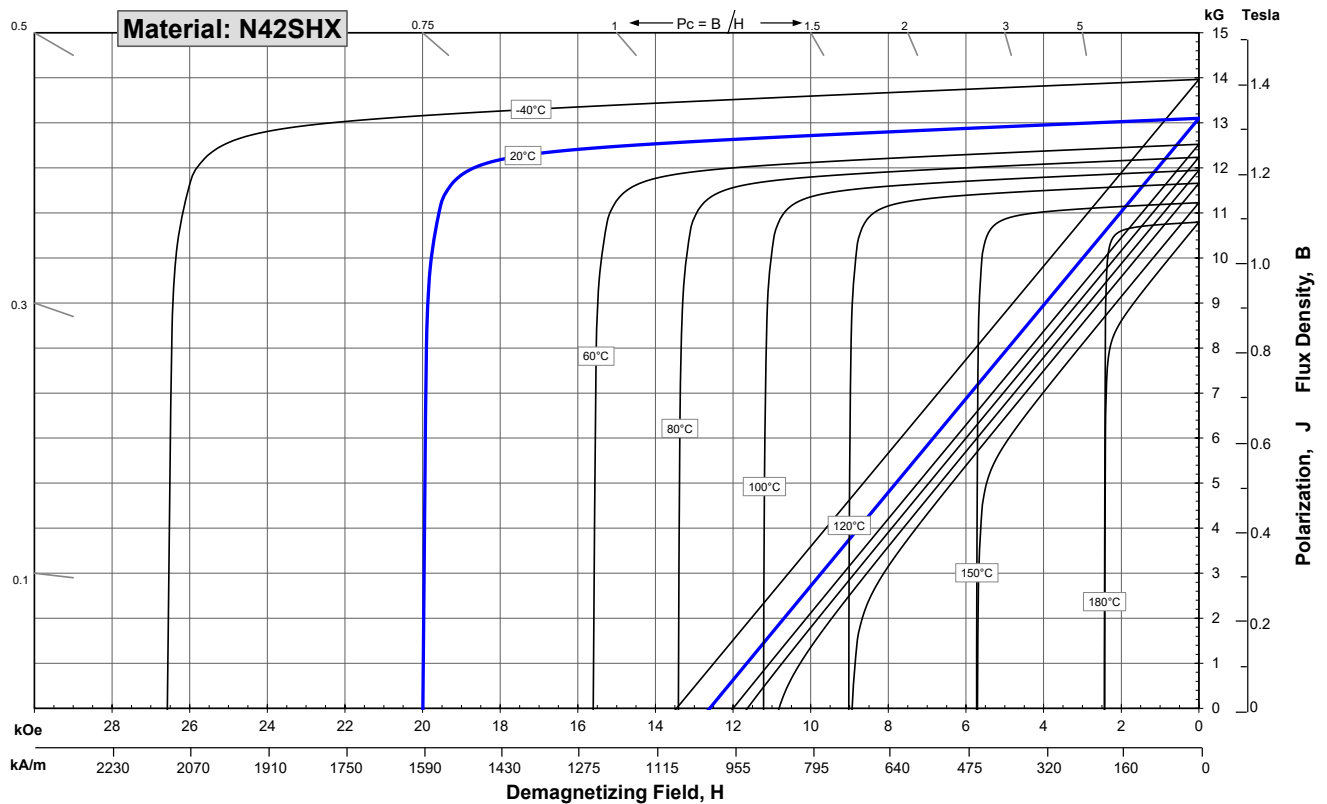
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Characteristic	Units	Magnetic Properties		
		min.	nominal	max.
<b>Br</b> , Residual Induction	Gauss	12,800	13,100	13,400
	mT	1280	1310	1340
<b>H<sub>cB</sub></b> , Coercivity	Oersteds	12,000	12,400	12,800
	kA/m	955	987	1019
<b>H<sub>cJ</sub></b> , Intrinsic Coercivity	Oersteds	20,000		
	kA/m	1,592		
<b>BHmax</b> , Maximum Energy Product	MGOe	39	42	44
	kJ/m <sup>3</sup>	310	330	350

Characteristic	Units	Thermal Properties	
		C //	C ⊥
Reversible Temperature Coefficients <sup>(1)</sup>			
	of Induction, α(Br)	%/°C	-0.11
	of Coercivity, α(H <sub>cj</sub> )	%/°C	-0.55
Coefficient of Thermal Expansion <sup>(2)</sup>	ΔL/L per °Cx10 <sup>-6</sup>	7	-1
Thermal Conductivity	kcal/mhr°C	5.3	5.8
Specific Heat <sup>(3)</sup>	cal/g°C	0.11	
Curie Temperature, T <sub>c</sub>	°C	330	
Flexural Strength	psi	41,300	
	MPa	285	
Density	g/cm <sup>3</sup>	7.6	
Hardness, Vickers	Hv	620	
Electrical Resistivity, ρ	μΩ • cm	150 // 130 ⊥	

Notes: (1) Coefficients measured between 20 and 150 °C  
 (2) Between 20 and 200 °C. Values are typical and can vary.  
 (3) Between 20 and 140 °C



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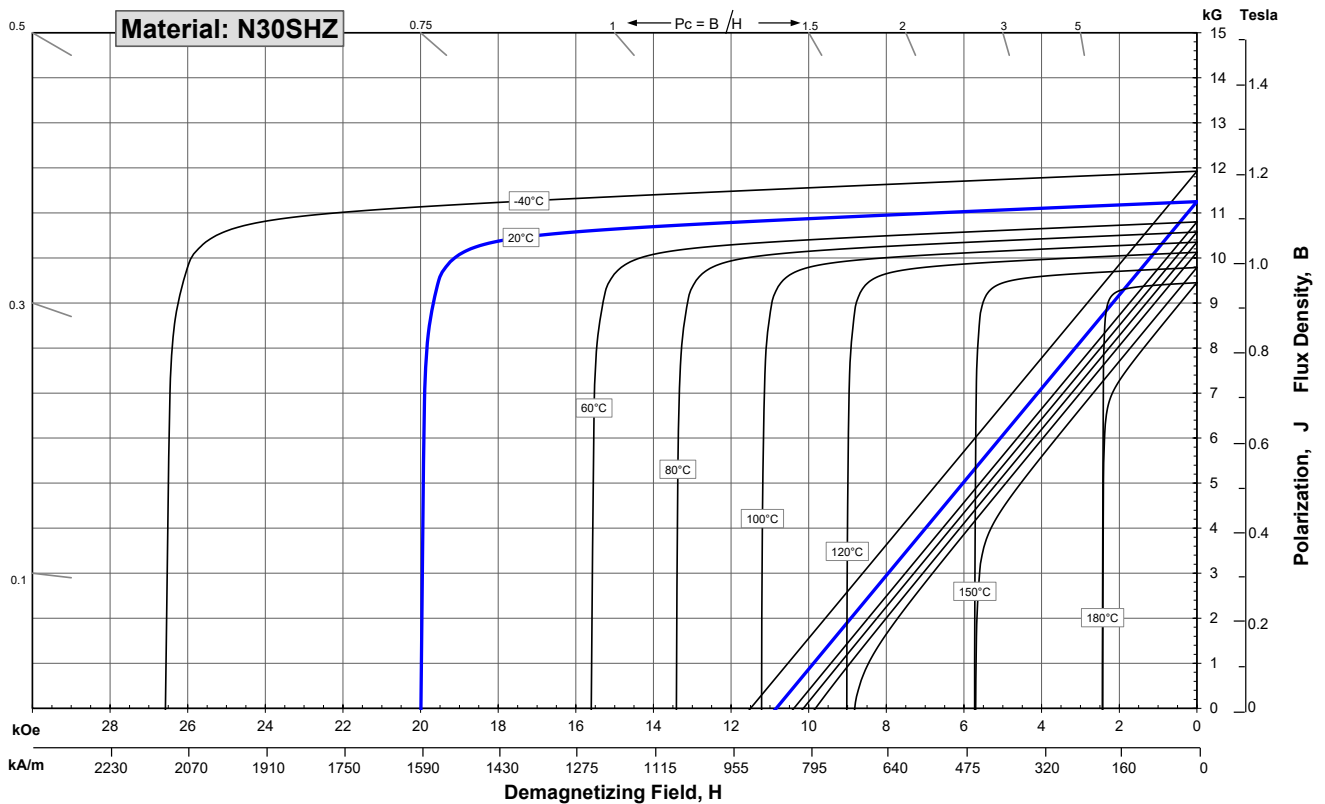
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Characteristic	Units	Magnetic Properties		
		min.	nominal	max.
<b>Br</b> , Residual Induction	Gauss	10,800	11,250	11,700
	mT	1080	1125	1170
<b>H<sub>cB</sub></b> , Coercivity	Oersteds	10,100	10,650	11,200
	kA/m	804	848	891
<b>H<sub>cJ</sub></b> , Intrinsic Coercivity	Oersteds	20,000		
	kA/m	1,592		
<b>BH<sub>max</sub></b> , Maximum Energy Product	MGOe	28	31	33
	kJ/m <sup>3</sup>	223	243	263

Characteristic	Units	Thermal Properties	
		C //	C ⊥
Reversible Temperature Coefficients <sup>(1)</sup>			
	of Induction, α(Br)	%/°C	-0.1
	of Coercivity, α(H <sub>cj</sub> )	%/°C	-0.55
Coefficient of Thermal Expansion <sup>(2)</sup>	ΔL/L per °Cx10 <sup>-6</sup>	7	-1
Thermal Conductivity	kcal/mhr°C	5.3	5.8
Specific Heat <sup>(3)</sup>	cal/g°C	0.11	
Curie Temperature, T <sub>c</sub>	°C	350	
Flexural Strength	psi	41,300	
	MPa	285	
Density	g/cm <sup>3</sup>	7.6	
Hardness, Vickers	Hv	620	
Electrical Resistivity, ρ	μΩ • cm	150 // 130 ⊥	

Notes: (1) Coefficients measured between 20 and 150 °C  
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 (3) Between 20 and 140 °C



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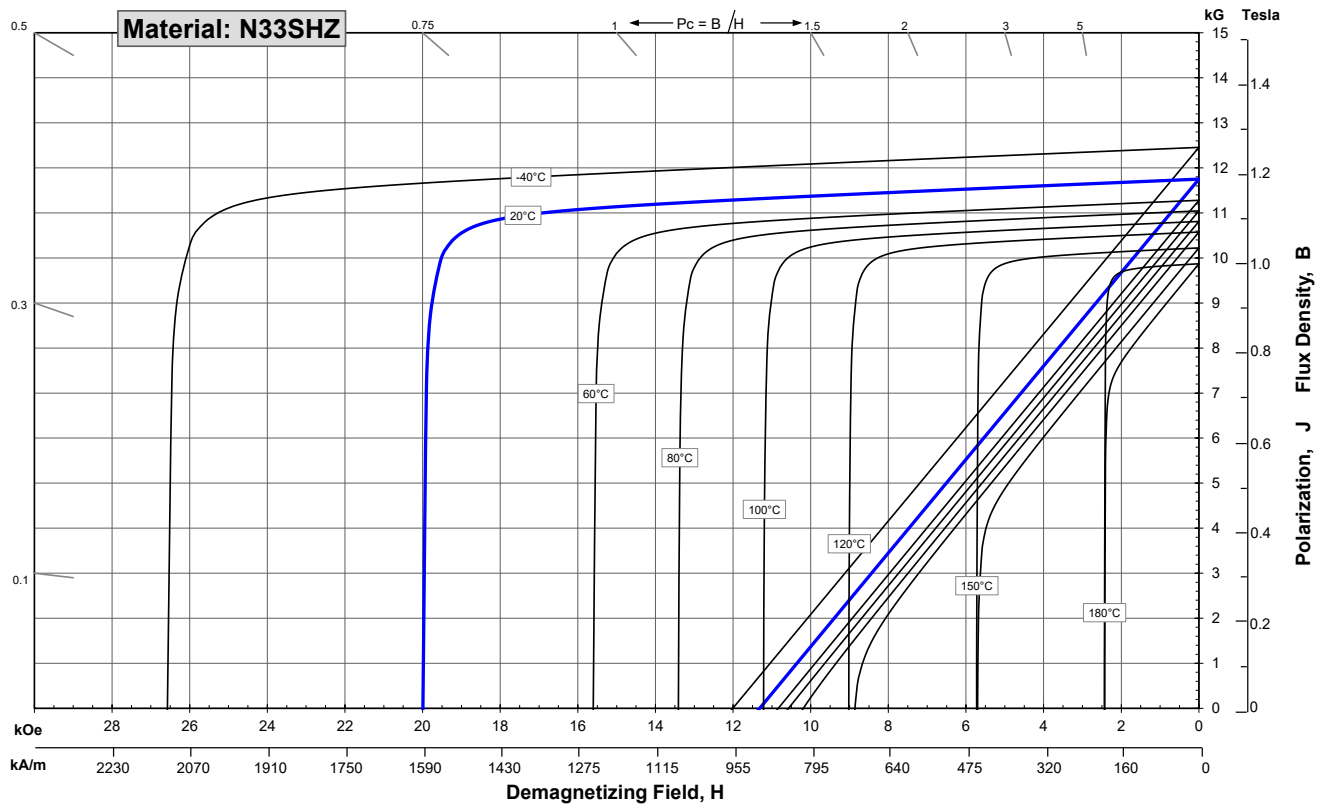
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Characteristic	Units	Magnetic Properties		
		min.	nominal	max.
<b>Br</b> , Residual Induction	Gauss	11,300	11,750	12,200
	mT	1130	1175	1220
<b>H<sub>cB</sub></b> , Coercivity	Oersteds	10,600	11,150	11,700
	kA/m	844	887	931
<b>H<sub>cJ</sub></b> , Intrinsic Coercivity	Oersteds	20,000		
	kA/m	1,592		
<b>BH<sub>max</sub></b> , Maximum Energy Product	MGOe	31	34	36
	kJ/m <sup>3</sup>	247	267	287

Characteristic	Units	Thermal Properties	
		C //	C ⊥
Reversible Temperature Coefficients <sup>(1)</sup>			
	of Induction, α(Br)	%/°C	-0.1
	of Coercivity, α(H <sub>cj</sub> )	%/°C	-0.55
Coefficient of Thermal Expansion <sup>(2)</sup>	ΔL/L per °Cx10 <sup>-6</sup>	7	-1
Thermal Conductivity	kcal/mhr°C	5.3	5.8
Specific Heat <sup>(3)</sup>	cal/g°C	0.11	
Curie Temperature, T <sub>c</sub>	°C	350	
Flexural Strength	psi	41,300	
	MPa	285	
Density	g/cm <sup>3</sup>	7.6	
Hardness, Vickers	Hv	620	
Electrical Resistivity, ρ	μΩ • cm	150 // 130 ⊥	

Notes: (1) Coefficients measured between 20 and 150 °C  
 (2) Between 20 and 200 °C. Values are typical and can vary.  
 (3) Between 20 and 140 °C



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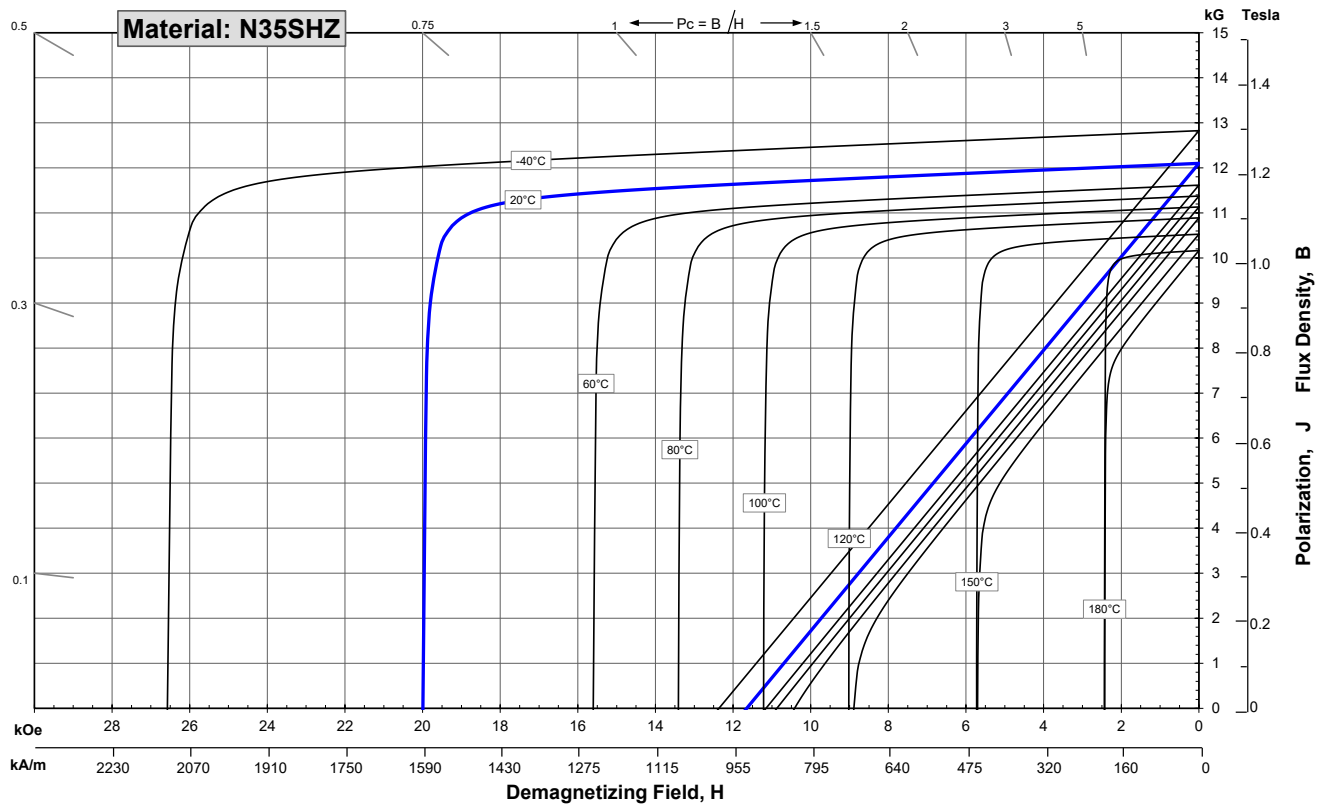
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Characteristic	Units	Magnetic Properties		
		min.	nominal	max.
<b>Br</b> , Residual Induction	Gauss	11,700	12,100	12,500
	mT	1170	1210	1250
<b>H<sub>cB</sub></b> , Coercivity	Oersteds	11,000	11,500	12,000
	kA/m	876	915	955
<b>H<sub>cJ</sub></b> , Intrinsic Coercivity	Oersteds	20,000		
	kA/m	1,592		
<b>BH<sub>max</sub></b> , Maximum Energy Product	MGOe	33	36	38
	kJ/m <sup>3</sup>	263	283	302

Characteristic	Units	Thermal Properties	
		C //	C ⊥
Reversible Temperature Coefficients <sup>(1)</sup>			
	of Induction, α(Br)	%/°C	-0.1
	of Coercivity, α(H <sub>cj</sub> )	%/°C	-0.55
Coefficient of Thermal Expansion <sup>(2)</sup>	ΔL/L per °Cx10 <sup>-6</sup>	7	-1
Thermal Conductivity	kcal/mhr°C	5.3	5.8
Specific Heat <sup>(3)</sup>	cal/g°C	0.11	
Curie Temperature, T <sub>c</sub>	°C	350	
Flexural Strength	psi	41,300	
	MPa	285	
Density	g/cm <sup>3</sup>	7.6	
Hardness, Vickers	Hv	620	
Electrical Resistivity, ρ	μΩ • cm	150 // 130 ⊥	

Notes: (1) Coefficients measured between 20 and 150 °C  
 (2) Between 20 and 200 °C. Values are typical and can vary.  
 (3) Between 20 and 140 °C



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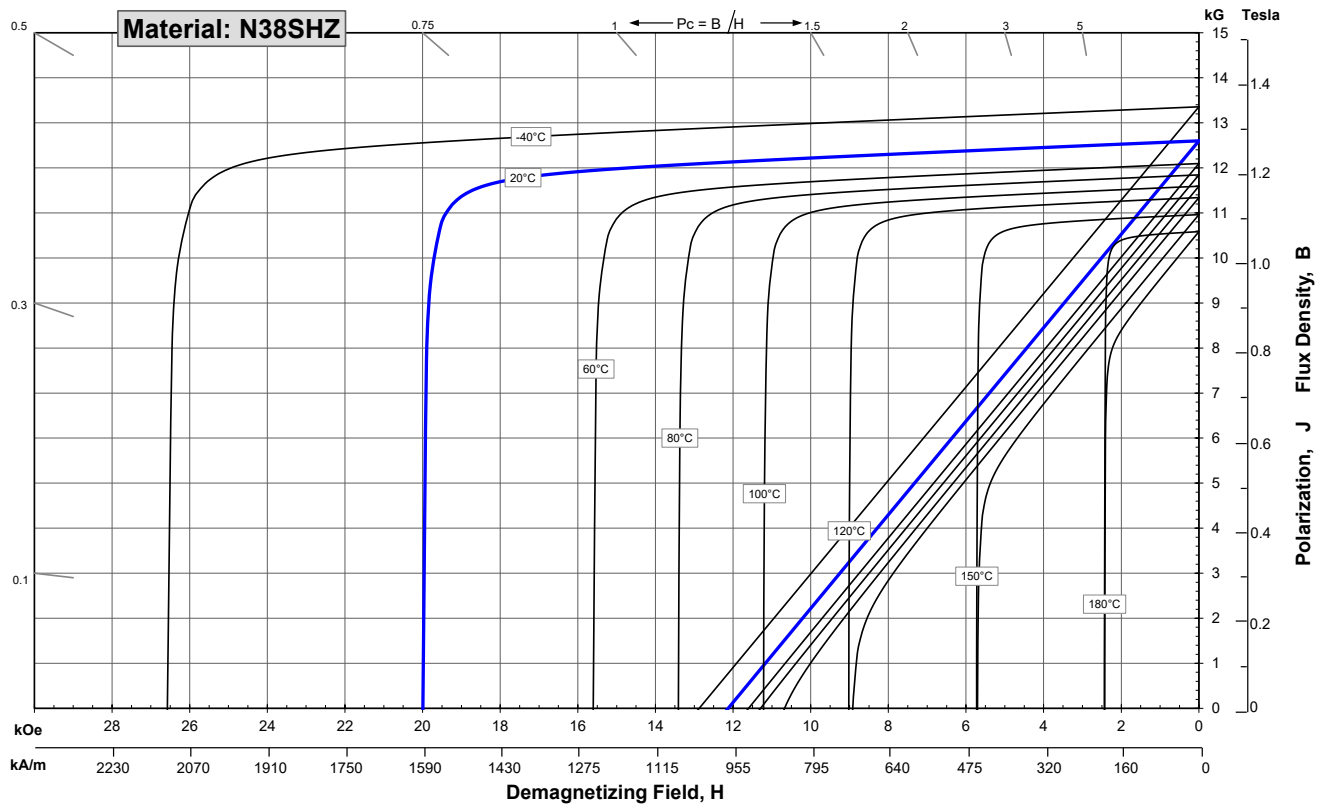
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Characteristic	Units	Magnetic Properties		
		min.	nominal	max.
<b>Br</b> , Residual Induction	Gauss	12,200	12,600	13,000
	mT	1220	1260	1300
<b>H<sub>cB</sub></b> , Coercivity	Oersteds	11,400	11,900	12,400
	kA/m	907	947	987
<b>H<sub>cJ</sub></b> , Intrinsic Coercivity	Oersteds	20,000		
	kA/m	1,592		
<b>BH<sub>max</sub></b> , Maximum Energy Product	MGOe	36	39	41
	kJ/m <sup>3</sup>	287	307	326

Characteristic	Units	Thermal Properties	
		C //	C ⊥
Reversible Temperature Coefficients <sup>(1)</sup>			
	of Induction, α(Br)	%/°C	-0.1
	of Coercivity, α(H <sub>cj</sub> )	%/°C	-0.55
Coefficient of Thermal Expansion <sup>(2)</sup>	ΔL/L per °Cx10 <sup>-6</sup>	7	-1
Thermal Conductivity	kcal/mhr°C	5.3	5.8
Specific Heat <sup>(3)</sup>	cal/g°C	0.11	
Curie Temperature, T <sub>c</sub>	°C	350	
Flexural Strength		psi	41,300
		MPa	285
Density	g/cm <sup>3</sup>	7.6	
Hardness, Vickers	Hv	620	
Electrical Resistivity, ρ	μΩ • cm	150 // 130 ⊥	

Notes: (1) Coefficients measured between 20 and 150 °C  
(2) Between 20 and 200 °C. Values are typical and can vary.  
(3) Between 20 and 140 °C



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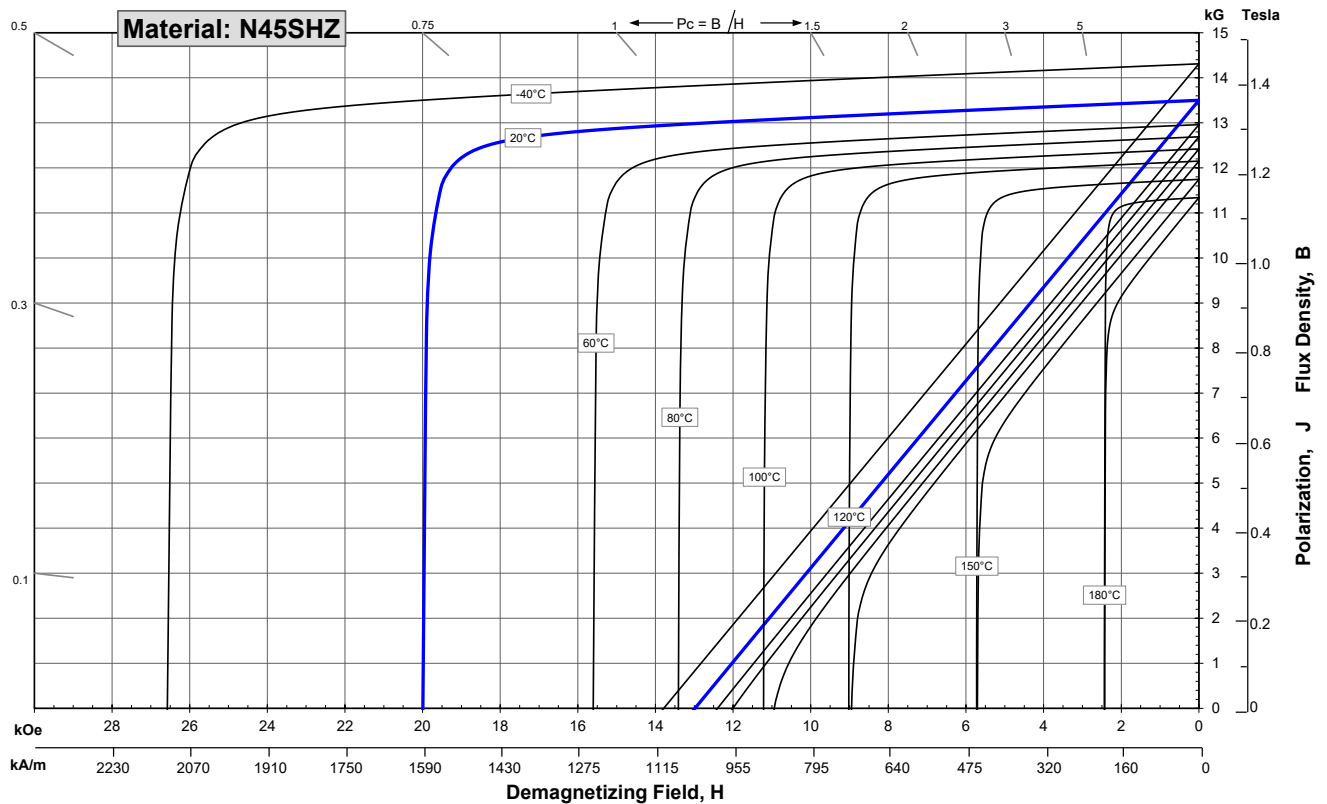
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Characteristic	Units	Magnetic Properties		
		min.	nominal	max.
<b>Br</b> , Residual Induction	Gauss	13,200	13,500	13,800
	mT	1320	1350	1380
<b>H<sub>cB</sub></b> , Coercivity	Oersteds	12,300	12,750	13,200
	kA/m	979	1015	1050
<b>H<sub>cJ</sub></b> , Intrinsic Coercivity	Oersteds	20,000		
	kA/m	1,592		
<b>BH<sub>max</sub></b> , Maximum Energy Product	MGOe	43	45	46
	kJ/m <sup>3</sup>	342	354	366

Characteristic	Units	Thermal Properties	
		C //	C ⊥
Reversible Temperature Coefficients <sup>(1)</sup>			
	of Induction, α(Br)	%/°C	-0.1
	of Coercivity, α(H <sub>cj</sub> )	%/°C	-0.55
Coefficient of Thermal Expansion <sup>(2)</sup>	ΔL/L per °Cx10 <sup>-6</sup>	7	-1
Thermal Conductivity	kcal/mhr°C	5.3	5.8
Specific Heat <sup>(3)</sup>	cal/g°C	0.11	
Curie Temperature, T <sub>c</sub>	°C	350	
Flexural Strength	psi	41,300	
	MPa	285	
Density	g/cm <sup>3</sup>	7.6	
Hardness, Vickers	Hv	620	
Electrical Resistivity, ρ	μΩ • cm	150 // 130 ⊥	

Notes: (1) Coefficients measured between 20 and 150 °C  
 (2) Between 20 and 200 °C. Values are typical and can vary.  
 (3) Between 20 and 140 °C



1 kA/m = 12.566 Oe    1 kOe = 79.577 kA/m

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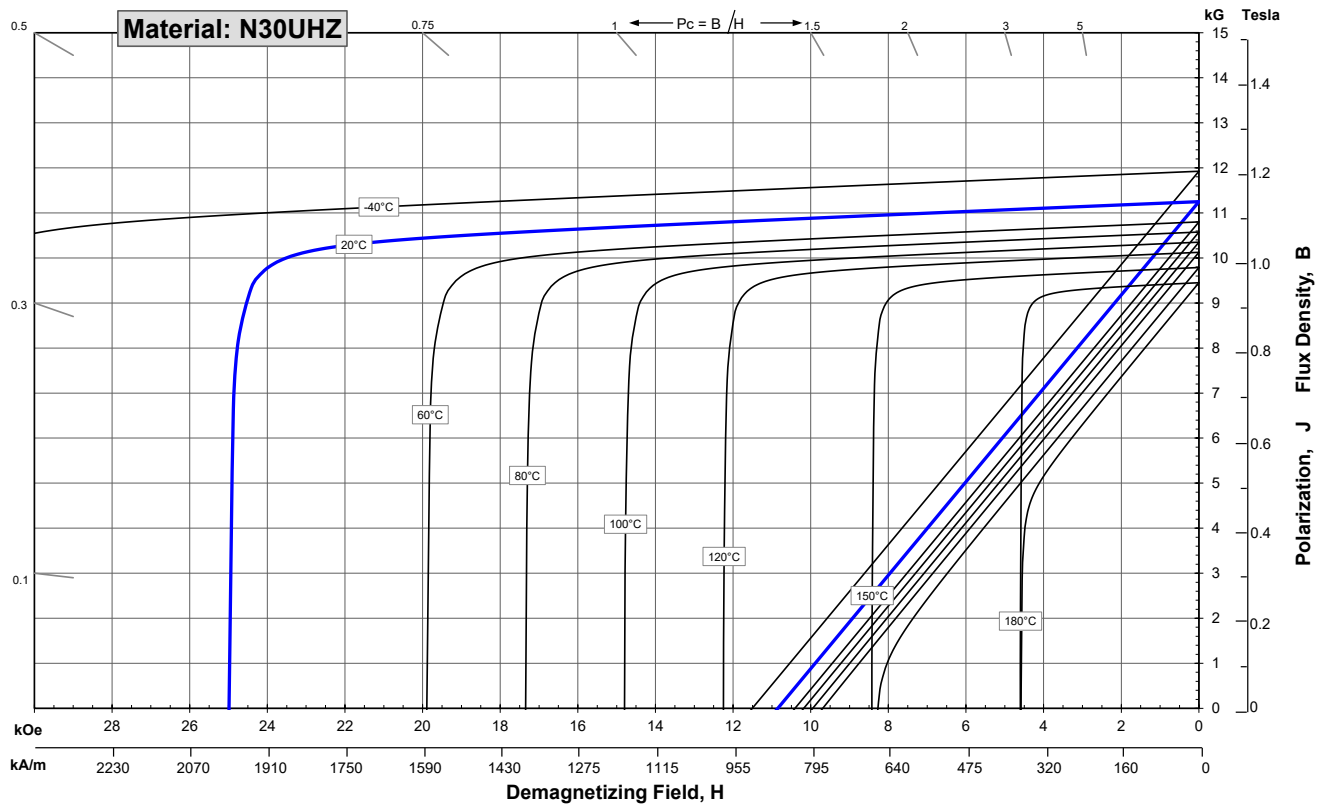
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Characteristic	Units	Magnetic Properties		
		min.	nominal	max.
<b>Br</b> , Residual Induction	Gauss	10,800	11,250	11,700
	mT	1080	1125	1170
<b>H<sub>cB</sub></b> , Coercivity	Oersteds	10,200	10,700	11,200
	kA/m	812	852	891
<b>H<sub>cJ</sub></b> , Intrinsic Coercivity	Oersteds	25,000		
	kA/m	1,990		
<b>BHmax</b> , Maximum Energy Product	MGOe	28	31	33
	kJ/m <sup>3</sup>	223	243	263

Characteristic	Units	Thermal Properties	
		C //	C ⊥
Reversible Temperature Coefficients <sup>(1)</sup>			
	of Induction, α(Br)	%/°C	-0.1
	of Coercivity, α(H <sub>cj</sub> )	%/°C	-0.51
Coefficient of Thermal Expansion <sup>(2)</sup>	ΔL/L per °Cx10 <sup>-6</sup>	7	-1
Thermal Conductivity	kcal/mhr°C	5.3	5.8
Specific Heat <sup>(3)</sup>	cal/g°C	0.11	
Curie Temperature, T <sub>c</sub>	°C	350	
Flexural Strength	psi	41,300	
	MPa	285	
Density	g/cm <sup>3</sup>	7.6	
Hardness, Vickers	Hv	620	
Electrical Resistivity, ρ	μΩ • cm	150 // 130 ⊥	

Notes:  
 (1) Coefficients measured between 20 and 180 °C  
 (2) Between 20 and 200 °C. Values are typical and can vary.  
 (3) Between 20 and 140 °C



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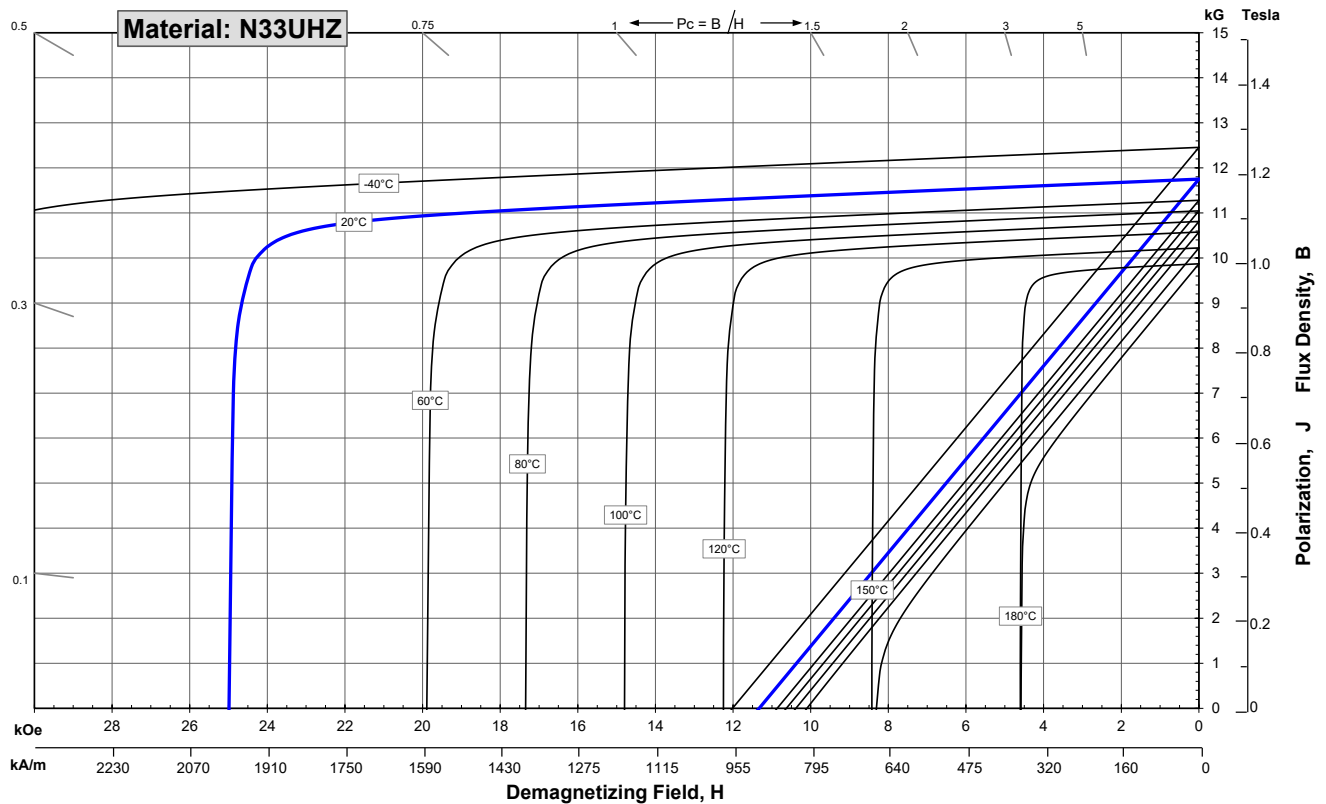
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Characteristic	Units	Magnetic Properties		
		min.	nominal	max.
<b>Br</b> , Residual Induction	Gauss	11,300	11,750	12,200
	mT	1130	1175	1220
<b>H<sub>cB</sub></b> , Coercivity	Oersteds	10,700	11,200	11,700
	kA/m	852	891	931
<b>H<sub>cJ</sub></b> , Intrinsic Coercivity	Oersteds	25,000		
	kA/m	1,990		
<b>BH<sub>max</sub></b> , Maximum Energy Product	MGOe	31	34	36
	kJ/m <sup>3</sup>	247	267	287

Characteristic	Units	Thermal Properties	
		C //	C ⊥
Reversible Temperature Coefficients <sup>(1)</sup>			
	of Induction, α(Br)	%/°C	-0.1
	of Coercivity, α(H <sub>cj</sub> )	%/°C	-0.51
Coefficient of Thermal Expansion <sup>(2)</sup>	ΔL/L per °Cx10 <sup>-6</sup>	7	-1
Thermal Conductivity	kcal/mhr°C	5.3	5.8
Specific Heat <sup>(3)</sup>	cal/g°C	0.11	
Curie Temperature, T <sub>c</sub>	°C	350	
Flexural Strength	psi	41,300	
	MPa	285	
Density	g/cm <sup>3</sup>	7.6	
Hardness, Vickers	Hv	620	
Electrical Resistivity, ρ	μΩ • cm	150 // 130 ⊥	

Notes: (1) Coefficients measured between 20 and 180 °C  
 (2) Between 20 and 200 °C. Values are typical and can vary.  
 (3) Between 20 and 140 °C



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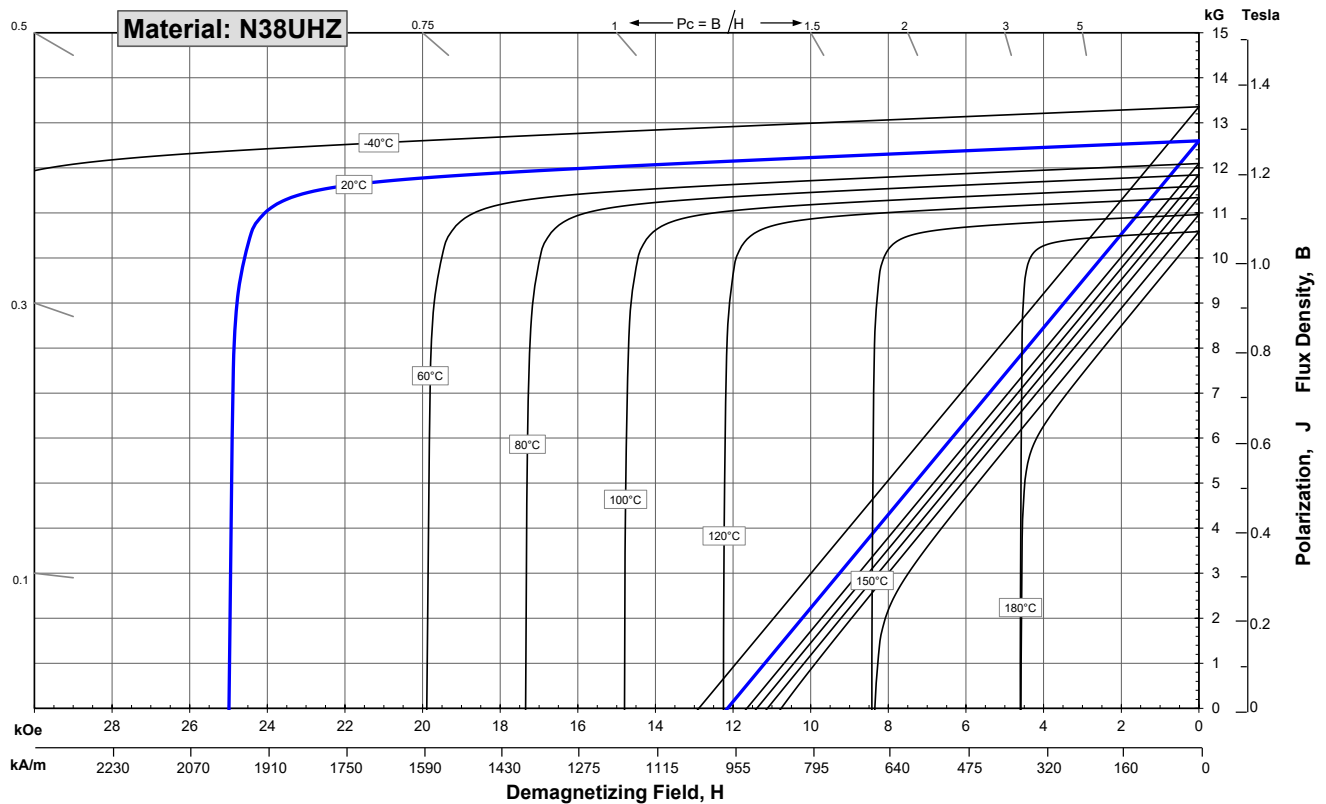
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Characteristic	Units	Magnetic Properties		
		min.	nominal	max.
<b>Br</b> , Residual Induction	Gauss	12,200	12,600	13,000
	mT	1220	1260	1300
<b>H<sub>cB</sub></b> , Coercivity	Oersteds	11,000	11,700	12,400
	kA/m	876	931	987
<b>H<sub>cJ</sub></b> , Intrinsic Coercivity	Oersteds	25,000		
	kA/m	1,990		
<b>BH<sub>max</sub></b> , Maximum Energy Product	MGOe	36	39	41
	kJ/m <sup>3</sup>	287	307	326

Characteristic	Units	Thermal Properties	
		C //	C ⊥
Reversible Temperature Coefficients <sup>(1)</sup>			
	of Induction, α(Br)	%/°C	-0.1
	of Coercivity, α(H <sub>cj</sub> )	%/°C	-0.51
Coefficient of Thermal Expansion <sup>(2)</sup>	ΔL/L per °Cx10 <sup>-6</sup>	7	-1
Thermal Conductivity	kcal/mhr°C	5.3	5.8
Specific Heat <sup>(3)</sup>	cal/g°C	0.11	
Curie Temperature, T <sub>c</sub>	°C	350	
Flexural Strength		psi	41,300
		MPa	285
Density	g/cm <sup>3</sup>	7.6	
Hardness, Vickers	Hv	620	
Electrical Resistivity, ρ	μΩ • cm	150 // 130 ⊥	

Notes:  
 (1) Coefficients measured between 20 and 180 °C  
 (2) Between 20 and 200 °C. Values are typical and can vary.  
 (3) Between 20 and 140 °C



1 kA/m = 12.566 Oe    1 kOe = 79.577 kA/m

**Notes** The material data and demagnetization curves shown above represent typical properties that may vary due to product shape and size. **Demagnetization curves show nominal Br and minimum H<sub>cj</sub>.** Magnets can be supplied thermally stabilized or magnetically calibrated to customer specifications. Additional grades are available. Please contact the factory for information.

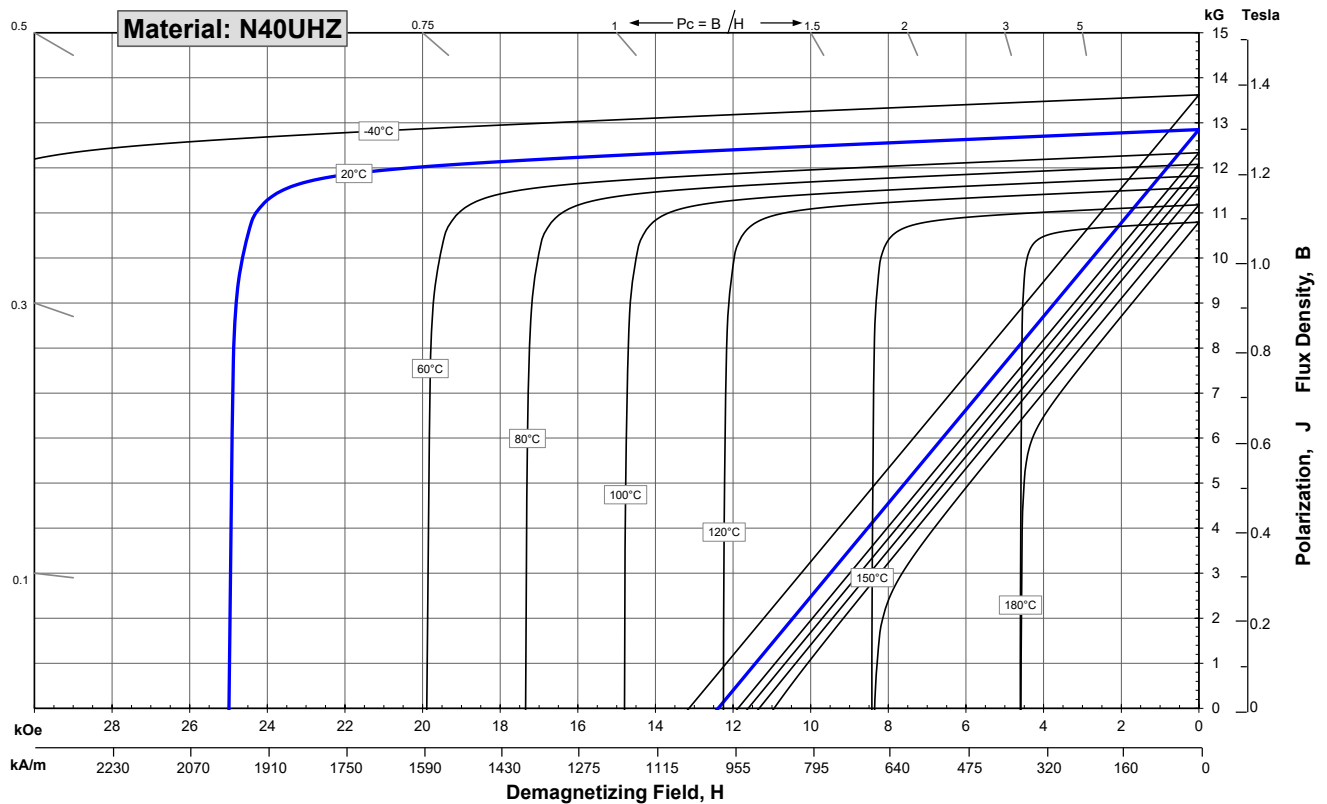
## Sintered Neodymium-Iron-Boron Magnets

These are also referred to as "Neo" or NdFeB magnets. They offer a combination of high magnetic output at moderate cost. Please contact Arnold for additional grade information and recommendations for protective coating. Assemblies using these magnets can also be provided.

Characteristic	Units	Magnetic Properties		
		min.	nominal	max.
<b>Br</b> , Residual Induction	Gauss	12,500	12,850	13,200
	mT	1250	1285	1320
<b>H<sub>cB</sub></b> , Coercivity	Oersteds	11,500	12,050	12,600
	kA/m	915	959	1003
<b>H<sub>cJ</sub></b> , Intrinsic Coercivity	Oersteds	25,000		
	kA/m	1,990		
<b>BHmax</b> , Maximum Energy Product	MGOe	38	40	42
	kJ/m <sup>3</sup>	302	318	334

Characteristic	Units	Thermal Properties	
		C //	C ⊥
Reversible Temperature Coefficients <sup>(1)</sup>			
	of Induction, α(Br)	%/°C	-0.1
	of Coercivity, α(H <sub>cj</sub> )	%/°C	-0.51
Coefficient of Thermal Expansion <sup>(2)</sup>	ΔL/L per °Cx10 <sup>-6</sup>	7	-1
Thermal Conductivity	kcal/mhr°C	5.3	5.8
Specific Heat <sup>(3)</sup>	cal/g°C	0.11	
Curie Temperature, T <sub>c</sub>	°C	350	
Other Properties	Flexural Strength	psi	41,300
		MPa	285
	Density	g/cm <sup>3</sup>	7.6
	Hardness, Vickers	Hv	620
	Electrical Resistivity, ρ	μΩ • cm	150 // 130 ⊥

Notes: (1) Coefficients measured between 20 and 180 °C  
 (2) Between 20 and 200 °C. Values are typical and can vary.  
 (3) Between 20 and 140 °C



1 kA/m = 12.566 Oe    1 kOe = 79.577 kA/m

**Notes** The material data and demagnetization curves shown above represent typical properties that may vary due to product shape and size. **Demagnetization curves show nominal Br and minimum Hci.** Magnets can be supplied thermally stabilized or magnetically calibrated to customer specifications. Additional grades are available. Please contact the factory for information.



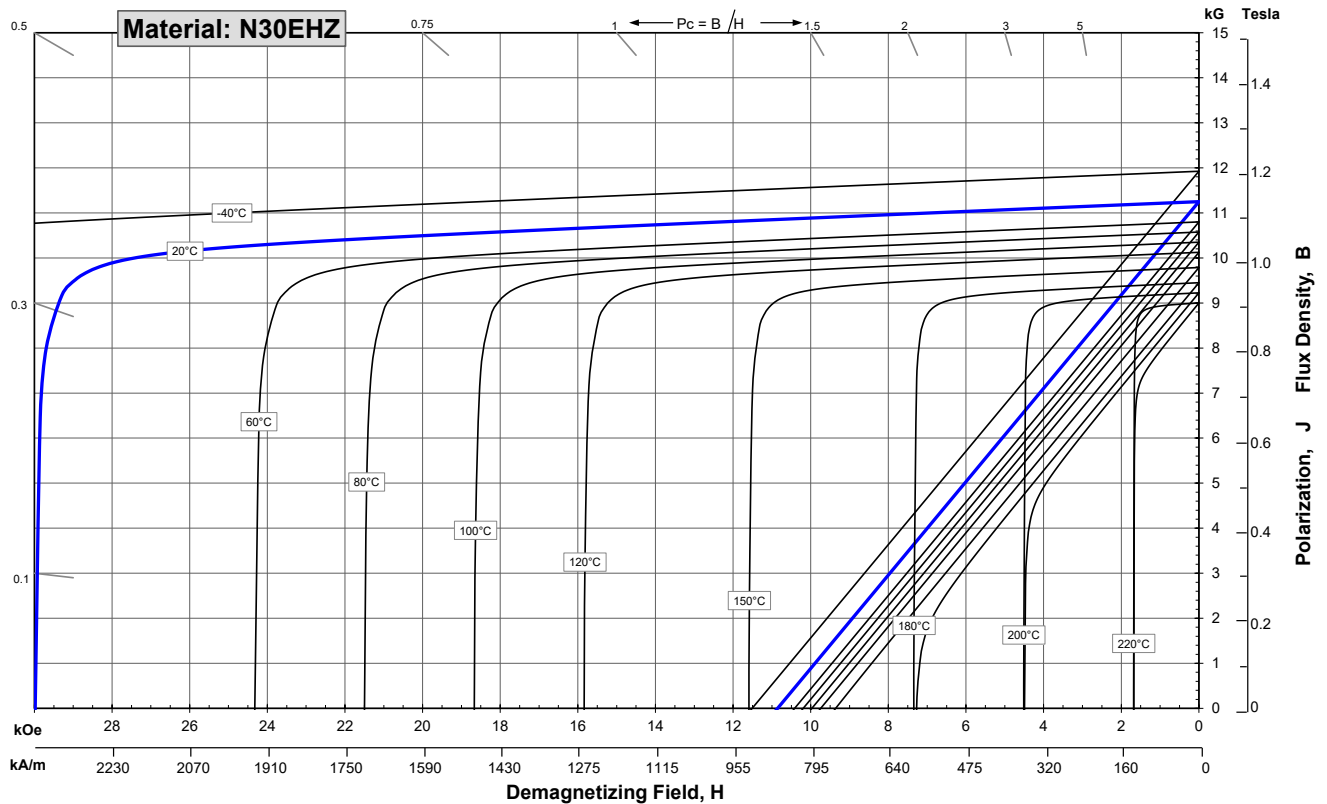
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Characteristic	Units	Magnetic Properties		
		min.	nominal	max.
<b>Br</b> , Residual Induction	Gauss	10,800	11,250	11,700
	mT	1080	1125	1170
<b>H<sub>cB</sub></b> , Coercivity	Oersteds	10,200	10,700	11,200
	kA/m	812	852	891
<b>H<sub>cJ</sub></b> , Intrinsic Coercivity	Oersteds	30,000		
	kA/m	2,388		
<b>BH<sub>max</sub></b> , Maximum Energy Product	MGOe	28	31	33
	kJ/m <sup>3</sup>	223	243	263

Characteristic	Units	Thermal Properties	
		C //	C ⊥
Reversible Temperature Coefficients <sup>(1)</sup>			
	of Induction, α(Br)	%/°C	-0.1
	of Coercivity, α(H <sub>cj</sub> )	%/°C	-0.47
Coefficient of Thermal Expansion <sup>(2)</sup>	ΔL/L per °Cx10 <sup>-6</sup>	7	-1
Thermal Conductivity	kcal/mhr°C	5.3	5.8
Specific Heat <sup>(3)</sup>	cal/g°C	0.11	
Curie Temperature, T <sub>c</sub>	°C	350	
Flexural Strength		psi	41,300
		MPa	285
Density	g/cm <sup>3</sup>	7.6	
Hardness, Vickers	Hv	620	
Electrical Resistivity, ρ	μΩ • cm	150 // 130 ⊥	

Notes: (1) Coefficients measured between 20 and 200 °C  
 (2) Between 20 and 200 °C. Values are typical and can vary.  
 (3) Between 20 and 140 °C



1 kA/m = 12.566 Oe    1 kOe = 79.577 kA/m

**Notes** The material data and demagnetization curves shown above represent typical properties that may vary due to product shape and size. **Demagnetization curves show nominal Br and minimum H<sub>cj</sub>.** Magnets can be supplied thermally stabilized or magnetically calibrated to customer specifications. Additional grades are available. Please contact the factory for information.

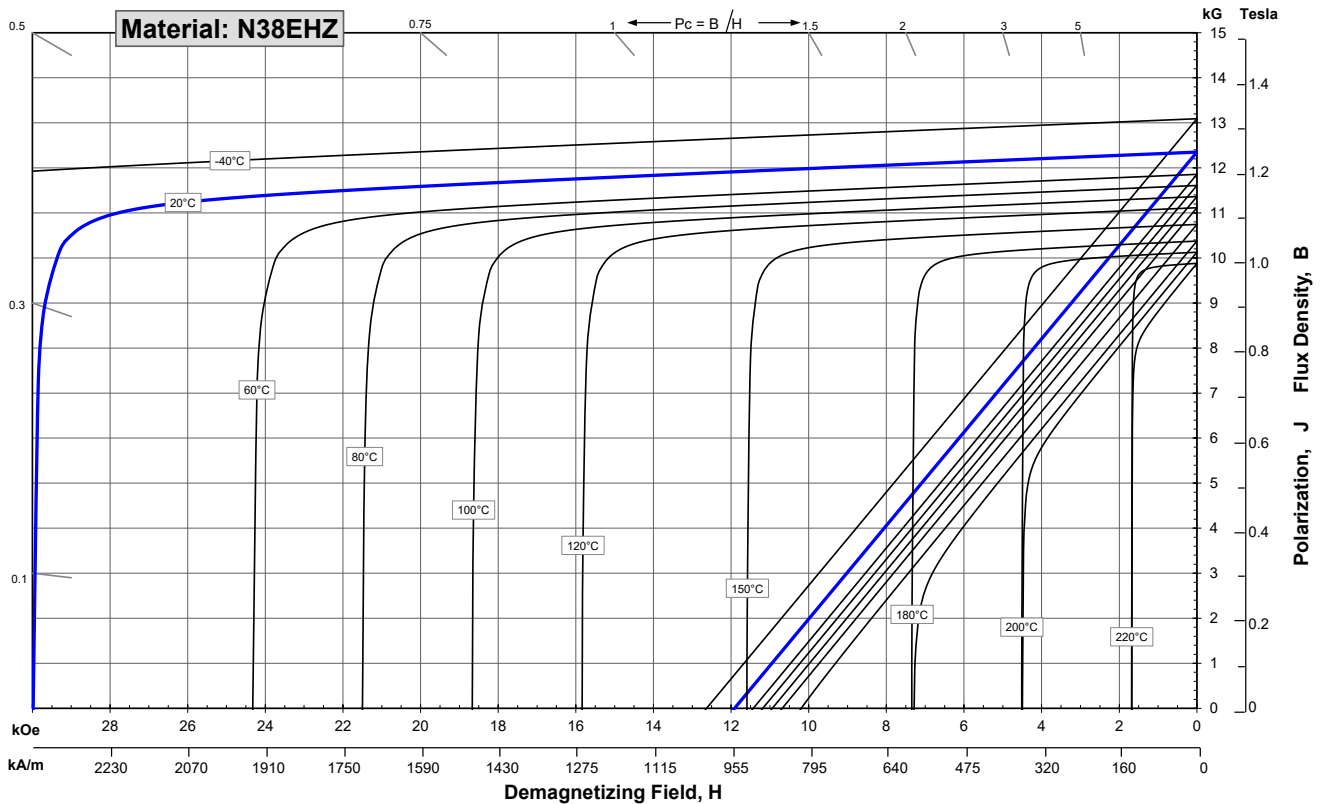
## Sintered Neodymium-Iron-Boron Magnets

These are also referred to as "Neo" or NdFeB magnets. They offer a combination of high magnetic output at moderate cost. Please contact Arnold for additional grade information and recommendations for protective coating. Assemblies using these magnets can also be provided.

Characteristic	Units	Magnetic Properties		
		min.	nominal	max.
<b>Br</b> , Residual Induction	Gauss	12,000	12,350	12,800
	mT	1200	1235	1280
<b>H<sub>cB</sub></b> , Coercivity	Oersteds	11,300	11,750	12,200
	kA/m	899	935	971
<b>H<sub>cJ</sub></b> , Intrinsic Coercivity	Oersteds	30,000		
	kA/m	2,388		
<b>BHmax</b> , Maximum Energy Product	MGOe	36	38	40
	kJ/m <sup>3</sup>	287	303	318

Characteristic	Units	Thermal Properties	
		C //	C ⊥
Reversible Temperature Coefficients <sup>(1)</sup>			
	of Induction, α(Br)	%/°C	-0.1
	of Coercivity, α(H <sub>cj</sub> )	%/°C	-0.47
Coefficient of Thermal Expansion <sup>(2)</sup>	ΔL/L per °Cx10 <sup>-6</sup>	7	-1
Thermal Conductivity	kcal/mhr°C	5.3	5.8
Specific Heat <sup>(3)</sup>	cal/g°C	0.11	
Curie Temperature, T <sub>c</sub>	°C	350	
Flexural Strength	psi	41,300	
	MPa	285	
Density	g/cm <sup>3</sup>	7.6	
Hardness, Vickers	Hv	620	
Electrical Resistivity, ρ	μΩ • cm	150 // 130 ⊥	

Notes: (1) Coefficients measured between 20 and 200 °C  
 (2) Between 20 and 200 °C. Values are typical and can vary.  
 (3) Between 20 and 140 °C



1 kA/m = 12.566 Oe 1 kOe = 79.577 kA/m

**Notes** The material data and demagnetization curves shown above represent typical properties that may vary due to product shape and size. **Demagnetization curves show nominal Br and minimum H<sub>cj</sub>.** Magnets can be supplied thermally stabilized or magnetically calibrated to customer specifications. Additional grades are available. Please contact the factory for information.

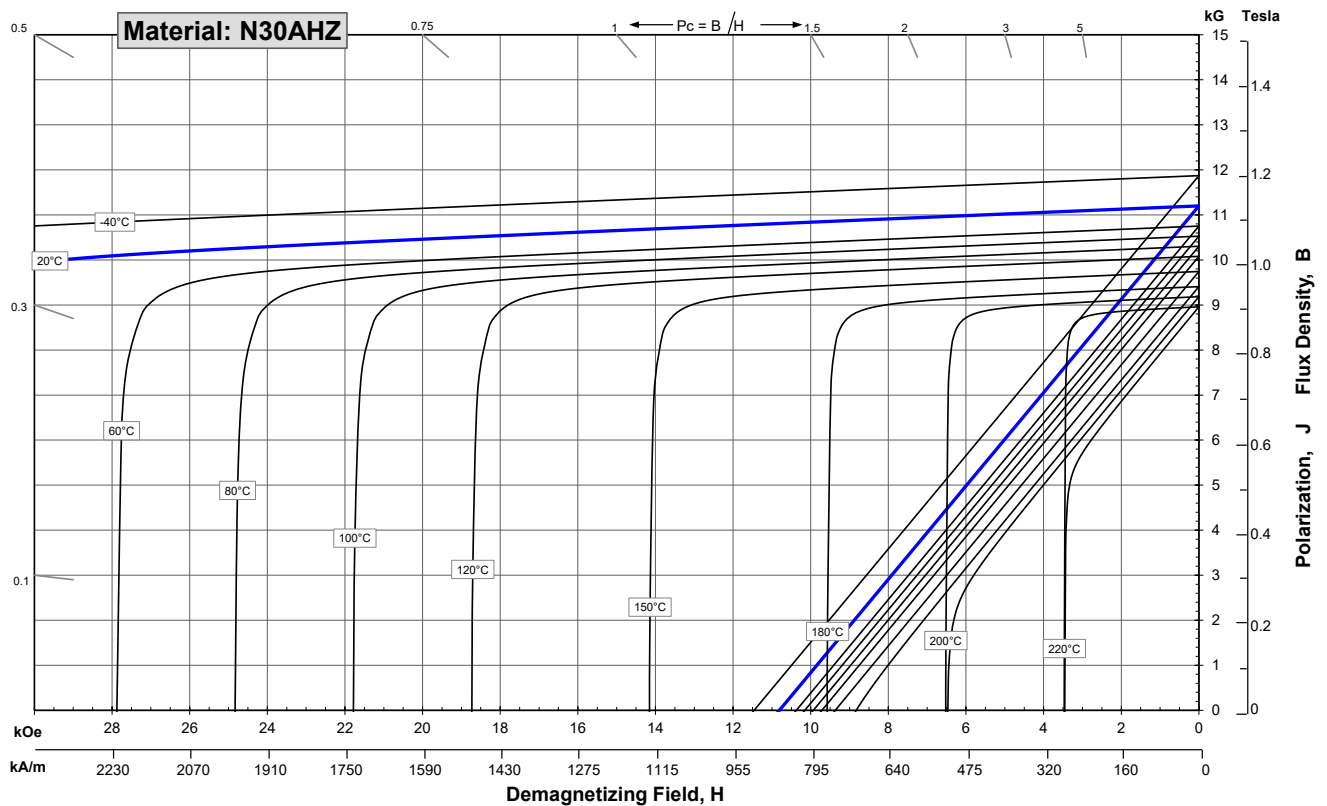
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Characteristic	Units	Magnetic Properties		
		min.	nominal	max.
<b>Br</b> , Residual Induction	Gauss	10,700	11,200	11,700
	mT	1070	1120	1170
<b>H<sub>cB</sub></b> , Coercivity	Oersteds	10,200	10,700	11,200
	kA/m	812	852	891
<b>H<sub>cJ</sub></b> , Intrinsic Coercivity	Oersteds	34,000		
	kA/m	2,706		
<b>BHmax</b> , Maximum Energy Product	MGOe	27	30	33
	kJ/m <sup>3</sup>	215	239	263

Characteristic	Units	Thermal Properties	
		C //	C ⊥
Reversible Temperature Coefficients <sup>(1)</sup>			
	of Induction, α(Br)	%/°C	-0.1
	of Coercivity, α(H <sub>cj</sub> )	%/°C	-0.45
Coefficient of Thermal Expansion <sup>(2)</sup>	ΔL/L per °Cx10 <sup>-6</sup>	7	-1
Thermal Conductivity	kcal/mhr°C	5.3	5.8
Specific Heat <sup>(3)</sup>	cal/g°C	0.11	
Curie Temperature, T <sub>c</sub>	°C	350	
Flexural Strength	psi	41,300	
	MPa	285	
Density	g/cm <sup>3</sup>	7.6	
Hardness, Vickers	Hv	620	
Electrical Resistivity, ρ	μΩ • cm	150 // 130 ⊥	

Notes:  
 (1) Coefficients measured between 20 and 220 °C  
 (2) Between 20 and 200 °C. Values are typical and can vary.  
 (3) Between 20 and 140 °C



1 kA/m = 12.566 Oe    1 kOe = 79.577 kA/m

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