

## Neodymium-Iron-Boron Magnet Grades Summary Product List & Reference Guide

Grain Boundary Diffused Grades

| Properties    | $B_r$   |               | $H_{cB}$         |             | $H_{cJ}$        |             | $(BH)_{max}$    |                              | Temp. Coef.     |                       | $T_w$                    |
|---------------|---------|---------------|------------------|-------------|-----------------|-------------|-----------------|------------------------------|-----------------|-----------------------|--------------------------|
|               | Grade** | Typical<br>mT | Typical<br>gauss | min<br>kA/m | min<br>oersteds | min<br>kA/m | min<br>oersteds | Typical<br>kJ/m <sup>3</sup> | Typical<br>MGOe | $\alpha(B_r)$<br>%/°C | $\alpha(H_{cJ})$<br>%/°C |
| <b>G45SH</b>  | 1350    | 13500         | 979              | 12300       | 1592            | 20000       | 354             | 44                           | -0.12           | -0.549                | 150                      |
| <b>G48SH</b>  | 1390    | 13900         | 1011             | 12700       | 1592            | 20000       | 374             | 47                           | -0.12           | -0.549                | 150                      |
| <b>G50SH</b>  | 1425    | 14250         | 836              | 10500       | 1592            | 20000       | 390             | 49                           | -0.12           | -0.549                | 150                      |
| <b>G52SH</b>  | 1440    | 14400         | 1067             | 13400       | 1592            | 20000       | 402             | 51                           | -0.12           | -0.549                | 150                      |
| <b>G55SH</b>  | 1460    | 14600         | 1083             | 13600       | 1512            | 19000       | 418             | 53                           | -0.12           | -0.549                | 150                      |
| <b>GB48SH</b> | 1390    | 13900         | 1011             | 12700       | 1751            | 22000       | 374             | 47                           | -0.12           | -0.549                | 150                      |
| <b>GB50SH</b> | 1425    | 14250         | 836              | 10500       | 1751            | 22000       | 390             | 49                           | -0.12           | -0.549                | 150                      |
| <b>GB52SH</b> | 1440    | 14400         | 1067             | 13400       | 1751            | 22000       | 402             | 51                           | -0.12           | -0.549                | 150                      |
| <b>GB55SH</b> | 1460    | 14600         | 1083             | 13600       | 1672            | 21000       | 418             | 53                           | -0.12           | -0.549                | 150                      |
| <b>G38UH</b>  | 1260    | 12600         | 876              | 11000       | 1990            | 25000       | 307             | 39                           | -0.12           | -0.465                | 180                      |
| <b>G40UH</b>  | 1285    | 12850         | 915              | 11500       | 1990            | 25000       | 318             | 40                           | -0.12           | -0.465                | 180                      |
| <b>G42UH</b>  | 1310    | 13100         | 955              | 12000       | 1990            | 25000       | 330             | 41                           | -0.12           | -0.465                | 180                      |
| <b>G45UH</b>  | 1350    | 13500         | 979              | 12300       | 1990            | 25000       | 354             | 44                           | -0.12           | -0.465                | 180                      |
| <b>G48UH</b>  | 1390    | 13900         | 1011             | 12700       | 1990            | 25000       | 374             | 47                           | -0.12           | -0.465                | 180                      |
| <b>G50UH</b>  | 1410    | 14100         | 1051             | 13200       | 1990            | 25000       | 386             | 49                           | -0.12           | -0.465                | 180                      |
| <b>G52UH</b>  | 1430    | 14300         | 1067             | 13400       | 1990            | 25000       | 394             | 50                           | -0.12           | -0.465                | 180                      |
| <b>G42UH</b>  | 1310    | 13100         | 955              | 12000       | 2149            | 27000       | 330             | 41                           | -0.12           | -0.465                | 180                      |
| <b>GB45UH</b> | 1350    | 13500         | 979              | 12300       | 2149            | 27000       | 354             | 44                           | -0.12           | -0.465                | 180                      |
| <b>G48UH</b>  | 1390    | 13900         | 1011             | 12700       | 2419            | 27000       | 374             | 47                           | -0.12           | -0.465                | 180                      |
| <b>GB50UH</b> | 1410    | 14100         | 1051             | 13200       | 2449            | 27000       | 386             | 48.506                       | -0.12           | -0.465                | 180                      |
| <b>G30EH</b>  | 1125    | 11250         | 812              | 10200       | 2388            | 30000       | 243             | 30.536                       | -0.12           | -0.472                | 200                      |
| <b>G33EH</b>  | 1165    | 11650         | 820              | 10300       | 2388            | 30000       | 267             | 33.552                       | -0.12           | -0.472                | 200                      |
| <b>G35EH</b>  | 1200    | 12000         | 836              | 10500       | 2388            | 30000       | 279             | 35.06                        | -0.12           | -0.472                | 200                      |
| <b>G38EH</b>  | 1260    | 12600         | 876              | 11000       | 2388            | 30000       | 306.5           | 38.516                       | -0.12           | -0.472                | 200                      |

| Properties    | B <sub>r</sub> |                  | H <sub>cB</sub> |                 | H <sub>cJ</sub> |                 | (BH) <sub>max</sub>          |                 | Temp. Coef.                |                             | T <sub>w</sub> |
|---------------|----------------|------------------|-----------------|-----------------|-----------------|-----------------|------------------------------|-----------------|----------------------------|-----------------------------|----------------|
|               | Typical<br>mT  | Typical<br>gauss | min<br>kA/m     | min<br>oersteds | min<br>kA/m     | min<br>oersteds | Typical<br>kJ/m <sup>3</sup> | Typical<br>MGOe | α(B <sub>r</sub> )<br>%/°C | α(H <sub>cJ</sub> )<br>%/°C | max<br>°C      |
| <b>N30UHZ</b> | 1125           | 11250            | 812             | 10200           | 1990            | 25000           | 243                          | 31              | -0.10                      | -0.510                      | 180            |
| <b>N33UHZ</b> | 1175           | 11750            | 852             | 10700           | 1990            | 25000           | 267                          | 34              | -0.10                      | -0.510                      | 180            |
| <b>N38UHZ</b> | 1260           | 12600            | 876             | 11000           | 1990            | 25000           | 307                          | 39              | -0.10                      | -0.510                      | 180            |
| <b>N40UHZ</b> | 1285           | 12850            | 915             | 11500           | 1990            | 25000           | 318                          | 40              | -0.10                      | -0.510                      | 180            |
| <b>N30EHZ</b> | 1125           | 11250            | 812             | 10200           | 2388            | 30000           | 0                            | 0               | -0.10                      | -0.472                      | 200            |
| <b>N38EHZ</b> | 1235           | 12350            | 899             | 11300           | 2388            | 30000           | 0                            | 0               | -0.10                      | -0.472                      | 200            |
| <b>N30AHZ</b> | 1120           | 11200            | 812             | 10200           | 2706            | 34000           | 0                            | 0               | -0.10                      | -0.449                      | 220            |

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

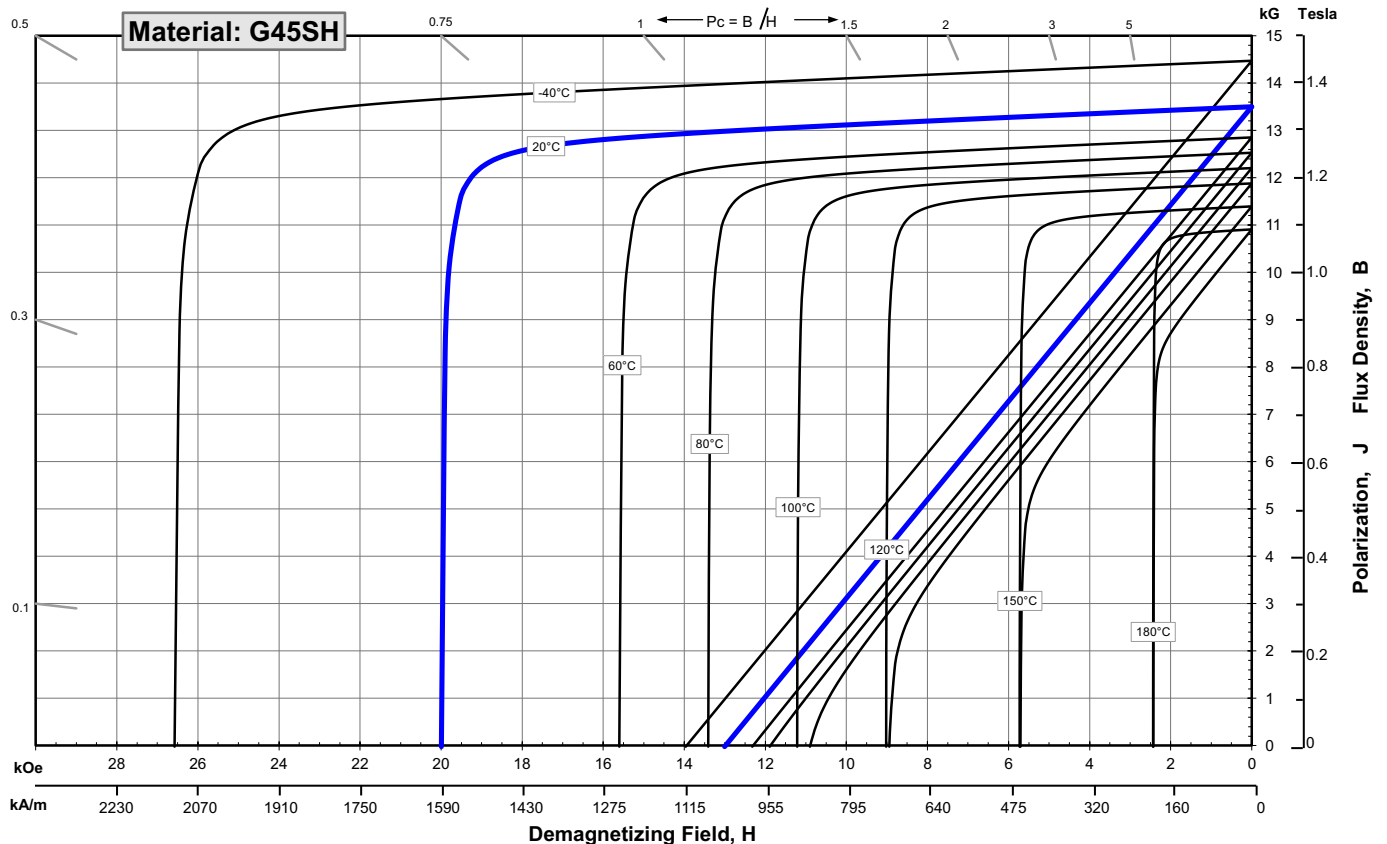
## Sintered Neodymium-Iron-Boron Magnets

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.

| Magnetic Properties                              | Characteristic                 | Units  | 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     |        |

| Thermal Properties                              | Characteristic                    | Units  | C //         | C ^    |
|---|-----------------------------------|--|--------------|--------|
|   | Thermal Properties                | 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>                       | 7.5          | -0.1   |
| Thermal Conductivity                            |                                   | kcal/mhr°C   | 5.3          | 5.8    |
| Other Properties                                | 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, r                       | nW • cm                           |  | 150 // 130 ⊥ |        |

Notes: (1) Coefficients measured between 20 and 150 °C  
 (2) Between 20 and 200 °C  
 (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.

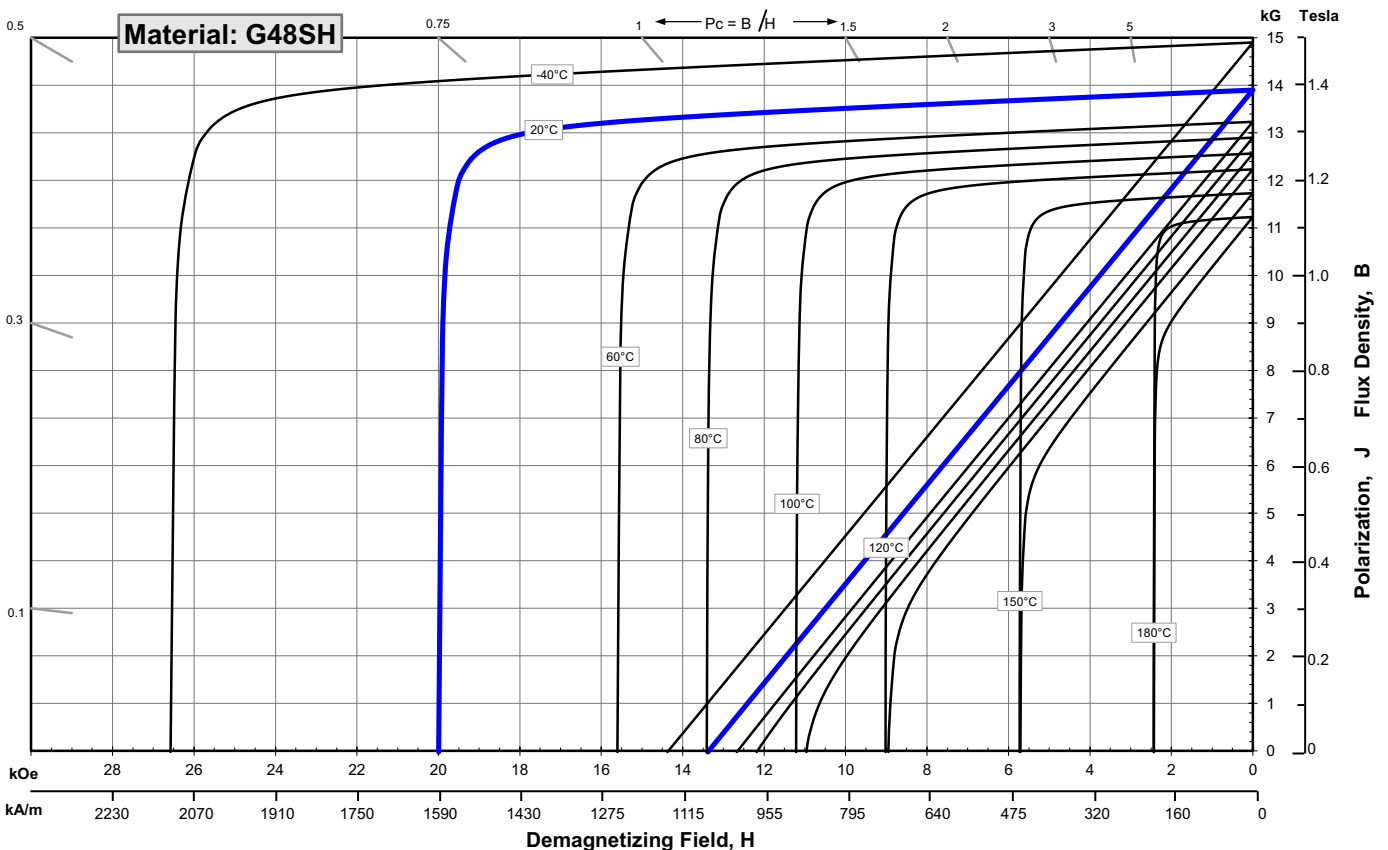
## Sintered Neodymium-Iron-Boron Magnets

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             | 13,600              | 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          | 20,000              |         |        |
|  | kA/m              | 1,592               |         |        |
| <b>BH<sub>max</sub></b> , Maximum Energy Product | MGOe              | 45                  | 47      | 49     |
|  | kJ/m <sup>3</sup> | 358                 | 374     | 390    |

| Characteristic                                     | Units                        | C // C ^ |              |
|--|------------------------------|----------|--------------|
|  |                              | C //     | C ^          |
| <b>Thermal Properties</b>                          |                              |          |              |
| 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> | 7.5      | -0.1         |
| 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          |
| <b>Other Properties</b>                            |                              |          |              |
| Flexural Strength                                  | psi                          |          | 41,300       |
|  | MPa                          |          | 285          |
| Density  | g/cm <sup>3</sup>            |          | 7.6          |
| Hardness, Vickers                                  | Hv                           |          | 620          |
| Electrical Resistivity, r                          | nW • cm                      |          | 150 // 130 ⊥ |

Notes: (1) Coefficients measured between 20 and 150 °C  
 (2) Between 20 and 200 °C  
 (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.

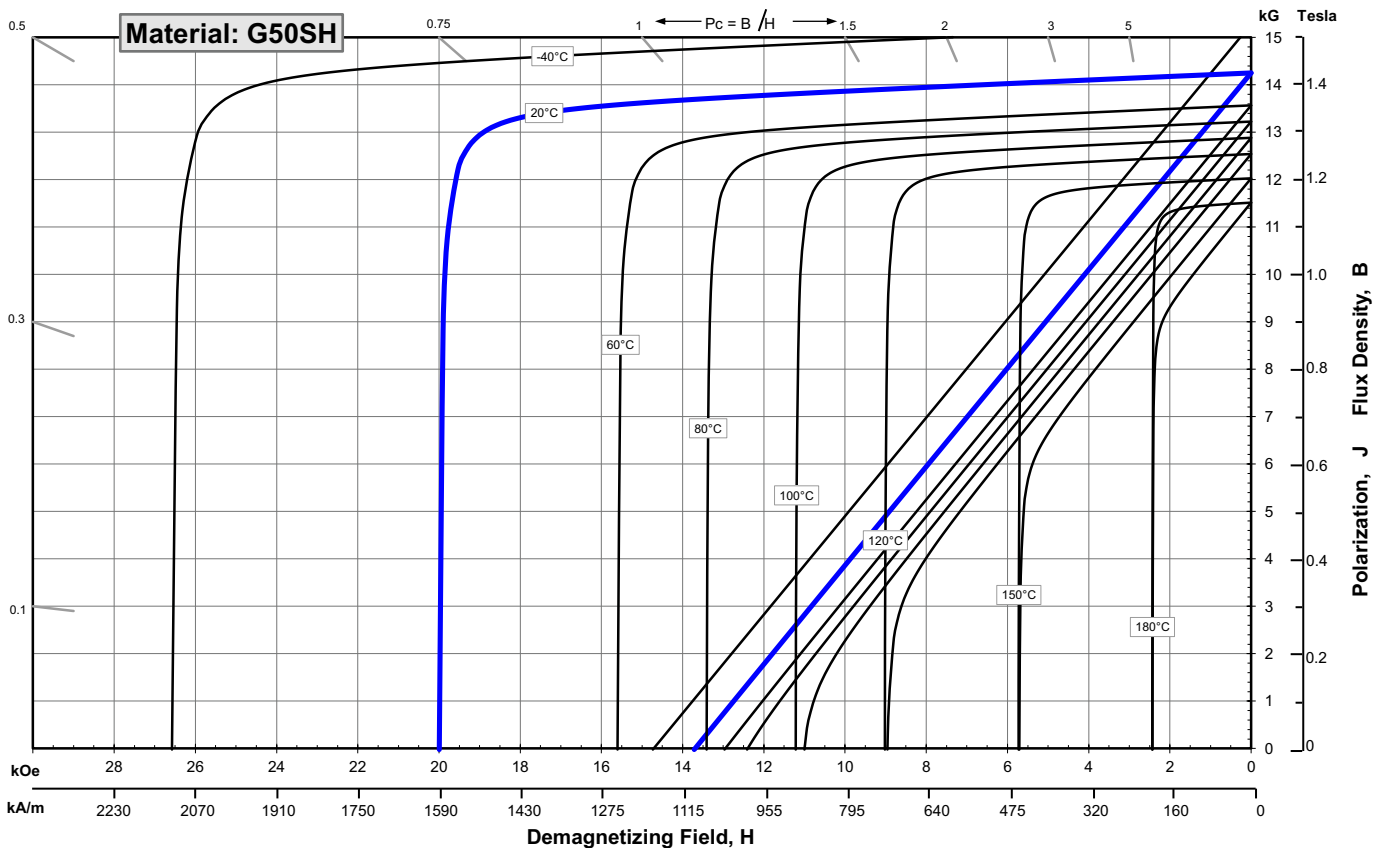
## Sintered Neodymium-Iron-Boron Magnets

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             | 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          | 20,000              |         |        |
|  | kA/m              | 1,592               |         |        |
| <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                           |                    | -0.55 |
| Coefficient of Thermal Expansion <sup>(2)</sup>    | ΔL/L per °C x 10 <sup>-6</sup> | 7.5                | -0.1  |
| 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, r                          | nW • cm                        | 150 // 130 ⊥       |       |

Notes: (1) Coefficients measured between 20 and 150 °C  
 (2) Between 20 and 200 °C  
 (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.

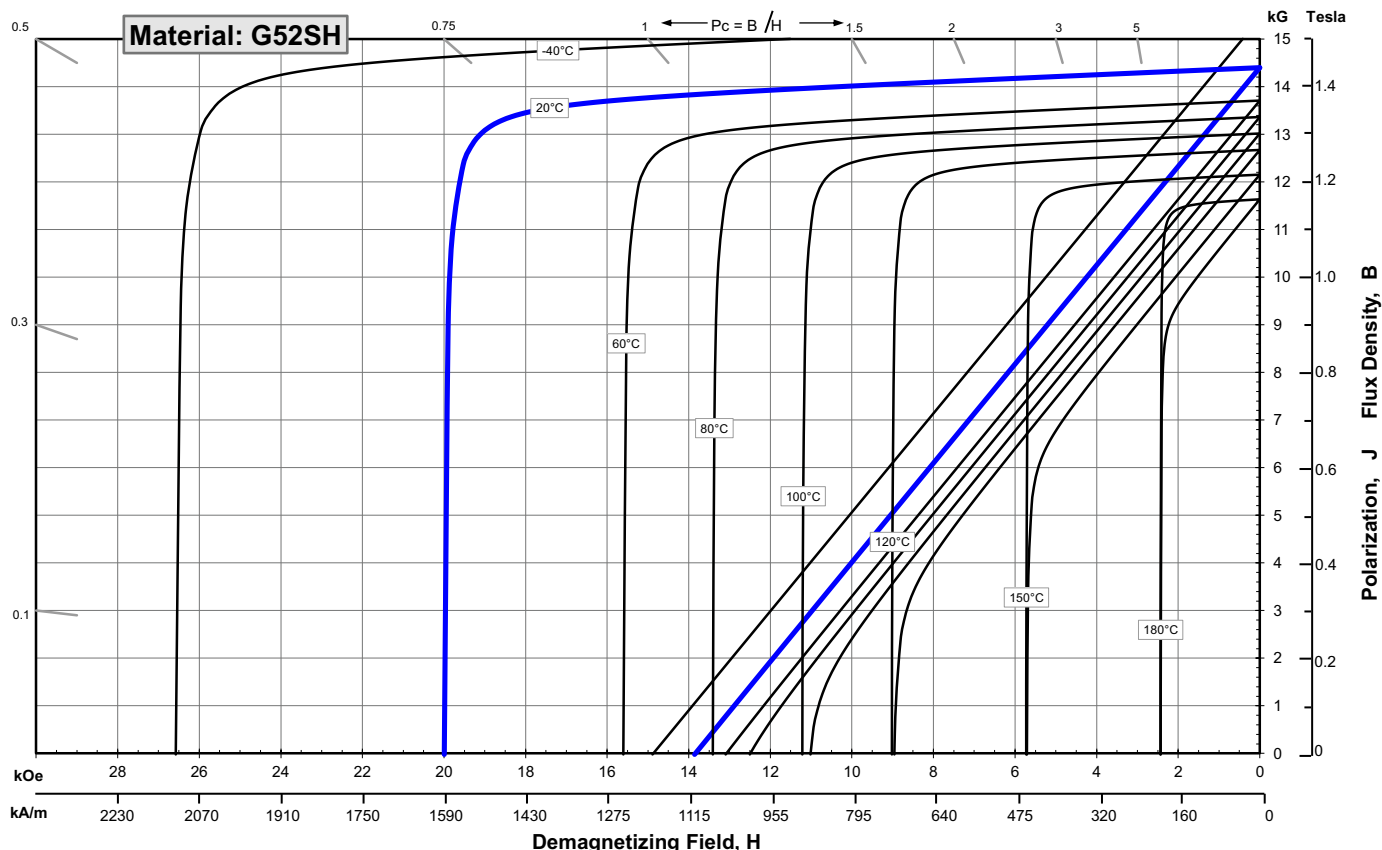
## Sintered Neodymium-Iron-Boron Magnets

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             | 14,200              | 14,400  | 14,600 |
|  | mT                | 1420                | 1440    | 1460   |
| <b>H<sub>cB</sub></b> , Coercivity               | Oersteds          | 13,400              | 13,700  | 14,000 |
|  | kA/m              | 1067                | 1090    | 1114   |
| <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              | 48                  | 51      | 53     |
|  | kJ/m <sup>3</sup> | 382                 | 402     | 422    |

| Characteristic                                     | Units                        | C // C ^     |      |
|--|------------------------------|--------------|------|
|  |                              | C //         | C ^  |
| <b>Thermal Properties</b>                          |                              |              |      |
| 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×10 <sup>-6</sup> | 7.5          | -0.1 |
| Thermal Conductivity                               | kcal/mh°C                    | 5.3          | 5.8  |
| Specific Heat <sup>(3)</sup>                       | cal/g°C                      | 0.11         |      |
| Curie Temperature, T <sub>c</sub>                  | °C                           | 310          |      |
| <b>Other Properties</b>                            |                              |              |      |
| Flexural Strength                                  | psi                          | 41,300       |      |
|  | MPa                          | 285          |      |
| Density  | g/cm <sup>3</sup>            | 7.6          |      |
| Hardness, Vickers                                  | Hv                           | 620          |      |
| Electrical Resistivity, r                          | mW·cm                        | 150 // 130 ⊥ |      |

Notes: (1) Coefficients measured between 20 and 150 °C  
 (2) Between 20 and 200 °C (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.

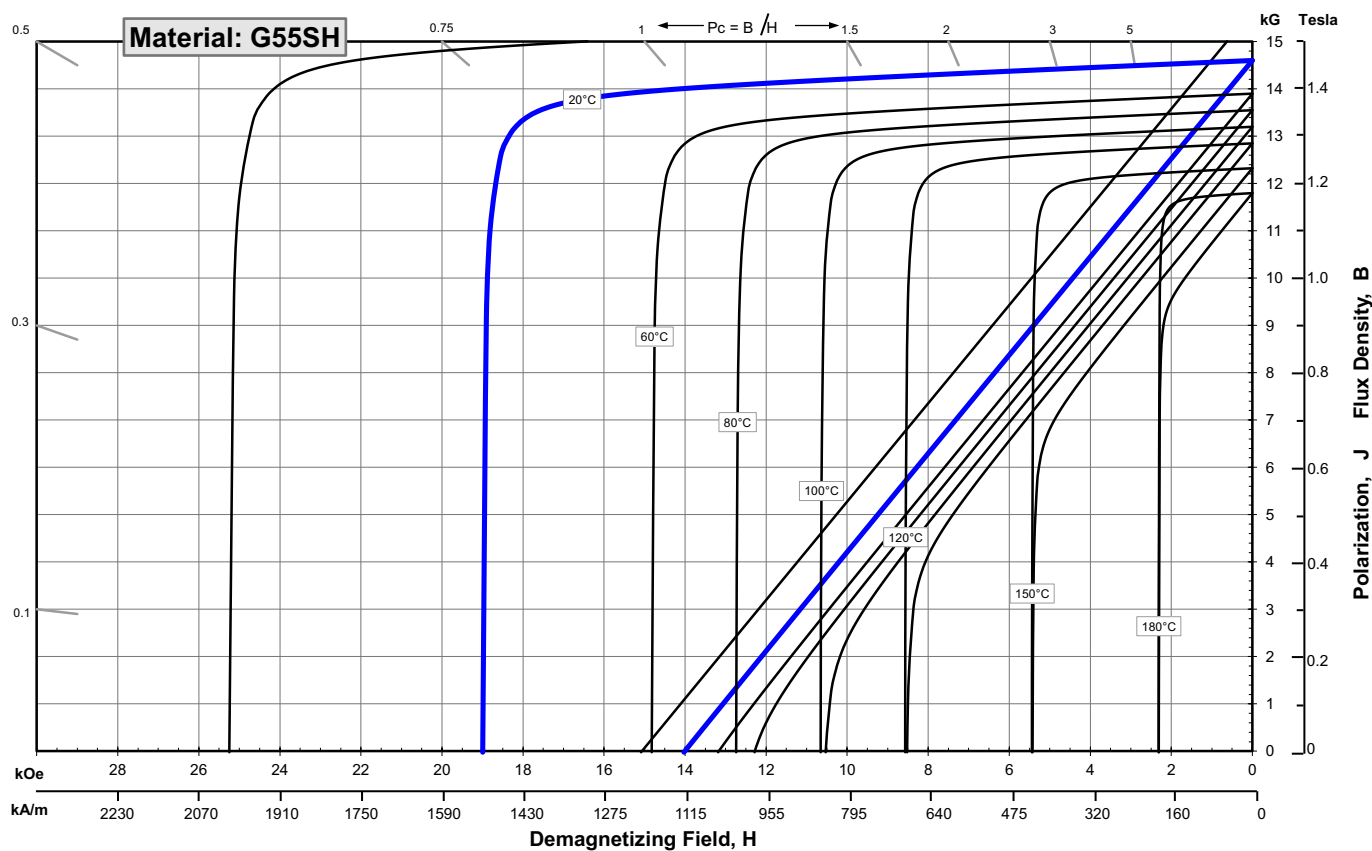
## Sintered Neodymium-Iron-Boron Magnets

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             | 14,400              | 14,600  | 14,800 |
|  | mT                | 1440                | 1460    | 1480   |
| <b>H<sub>cB</sub></b> , Coercivity               | Oersteds          | 13,600              | 13,850  | 14,100 |
|  | kA/m              | 1083                | 1102    | 1122   |
| <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              | 50                  | 53      | 55     |
|  | kJ/m <sup>3</sup> | 398                 | 418     | 438    |

| Characteristic                                     | Units                        | C // C ^ |              |
|--|------------------------------|----------|--------------|
|  |                              | C //     | C ^          |
| <b>Thermal Properties</b>                          |                              |          |              |
| 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> | 7.5      | -0.1         |
| Thermal Conductivity                               | kcal/mh°C                    | 5.3      | 5.8          |
| Specific Heat <sup>(3)</sup>                       | cal/g°C                      |          | 0.11         |
| Curie Temperature, T <sub>c</sub>                  | °C                           |          | 310          |
| <b>Other Properties</b>                            |                              |          |              |
| Flexural Strength                                  | psi                          |          | 41,300       |
|  | MPa                          |          | 285          |
| Density  | g/cm <sup>3</sup>            |          | 7.6          |
| Hardness, Vickers                                  | Hv                           |          | 620          |
| Electrical Resistivity, r                          | nW • cm                      |          | 150 // 130 ⊥ |

Notes: (1) Coefficients measured between 20 and 150 °C  
 (2) Between 20 and 200 °C  
 (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.

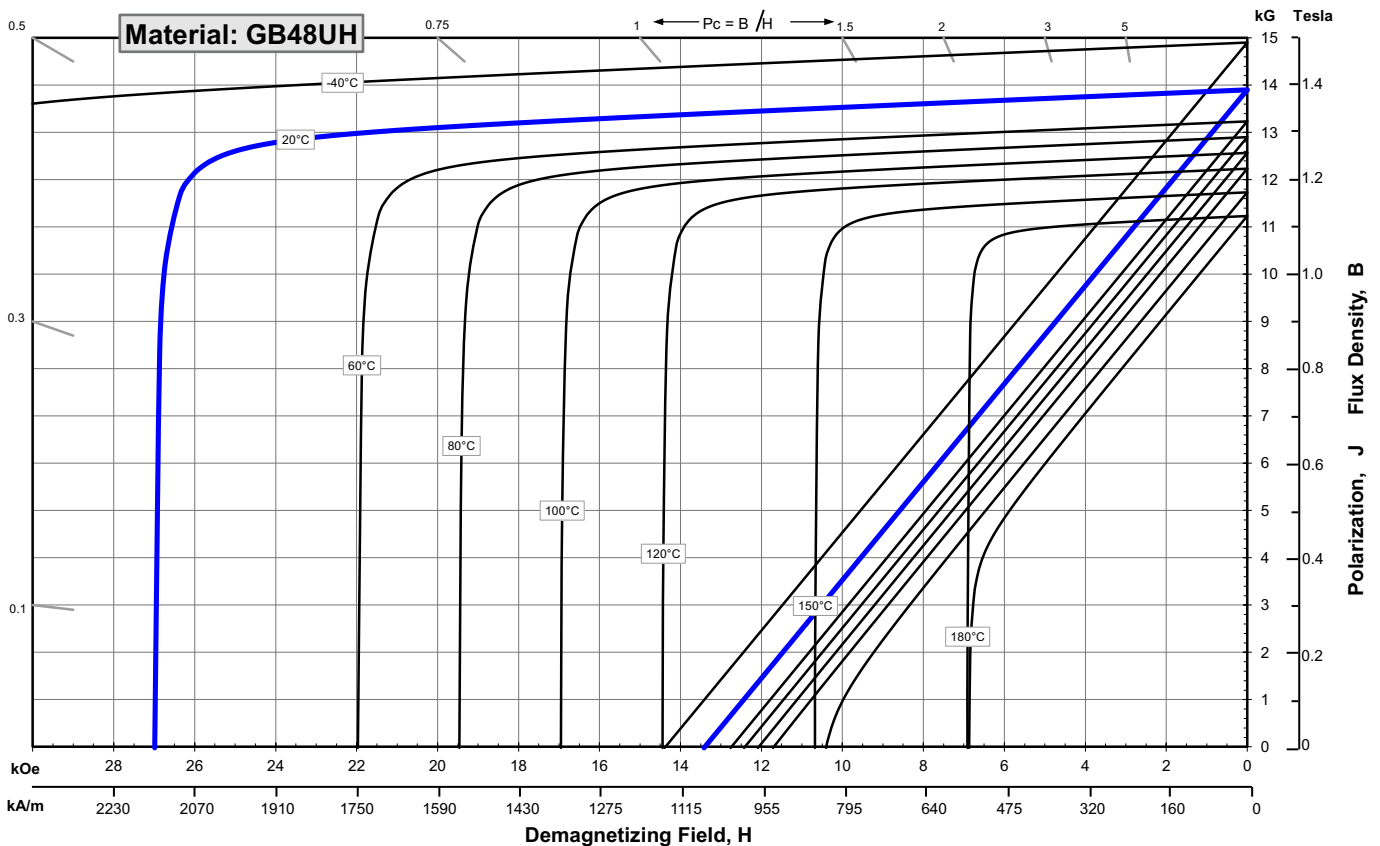
## Sintered Neodymium-Iron-Boron Magnets

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             | 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          | 27,000              |         |        |
|  | kA/m              | 2,419               |         |        |
| <b>BH<sub>max</sub></b> , Maximum Energy Product | MGOe              | 45                  | 47      | 49     |
|  | kJ/m <sup>3</sup> | 358                 | 374     | 390    |

| Characteristic                                     | Units                        | C // C ^     |       |
|--|------------------------------|--------------|-------|
|  |                              | C //         | C ^   |
| <b>Thermal Properties</b>                          |                              |              |       |
| 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×10 <sup>-6</sup> | 7.5          | -0.1  |
| 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          |       |
| <b>Other Properties</b>                            |                              |              |       |
| Flexural Strength                                  | psi                          | 41,300       |       |
|  | MPa                          | 285          |       |
| Density  | g/cm <sup>3</sup>            | 7.6          |       |
| Hardness, Vickers                                  | Hv                           | 620          |       |
| Electrical Resistivity, r                          | nW • cm                      | 150 // 130 ⊥ |       |

Notes: (1) Coefficients measured between 20 and 180 °C  
 (2) Between 20 and 200 °C  
 (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.



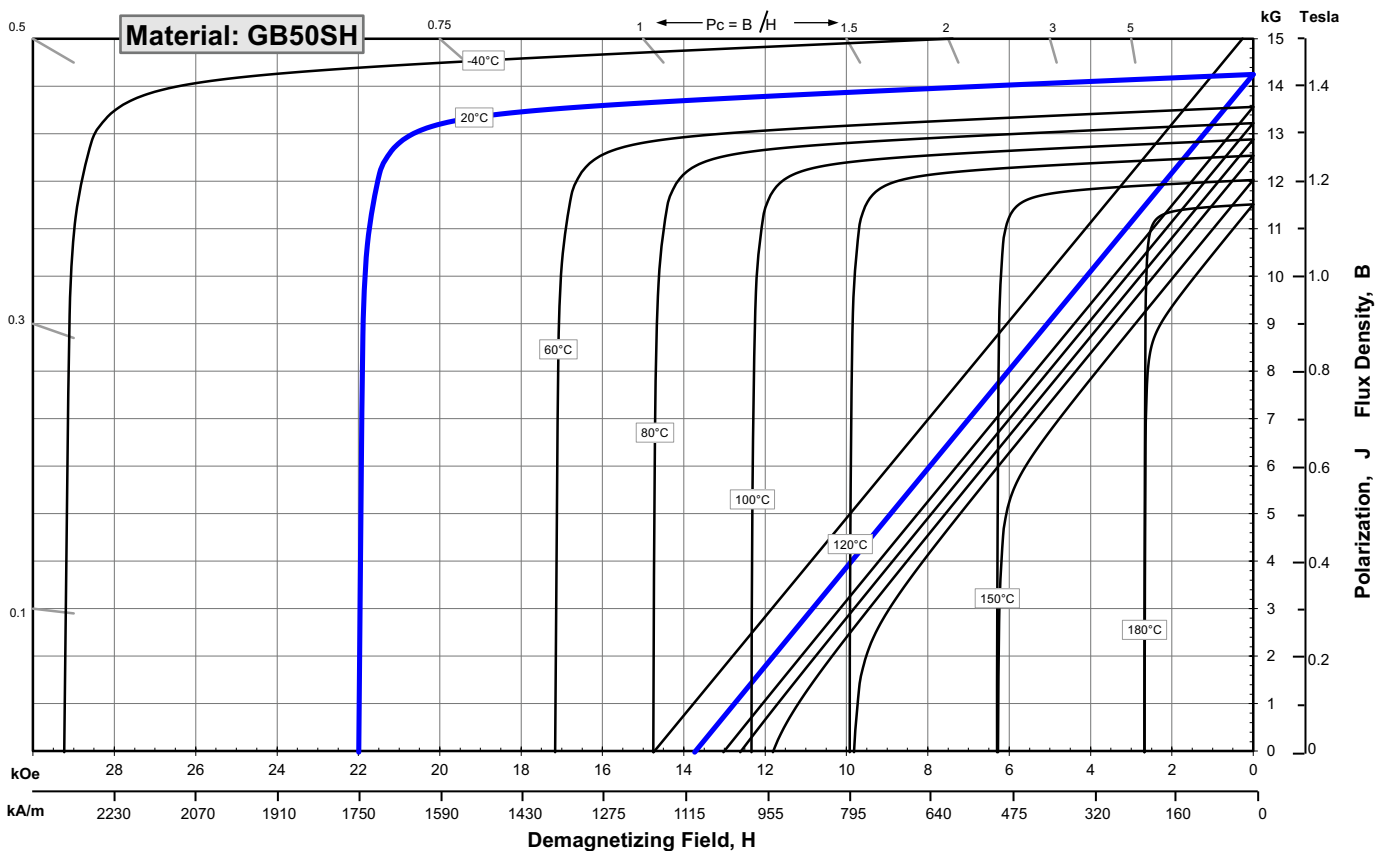
## Sintered Neodymium-Iron-Boron Magnets

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             | 13,900              | 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          | 22,000              |         |        |
|  | kA/m              | 1,751               |         |        |
| <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                         |                    | -0.55        |
| Coefficient of Thermal Expansion <sup>(2)</sup>    | ΔL/L per °Cx10 <sup>-6</sup> | 7.5                | -0.1         |
| 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                          | nW • cm                      |                    | 150 // 130 ⊥ |

Notes: (1) Coefficients measured between 20 and 150 °C  
 (2) Between 20 and 200 °C  
 (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.

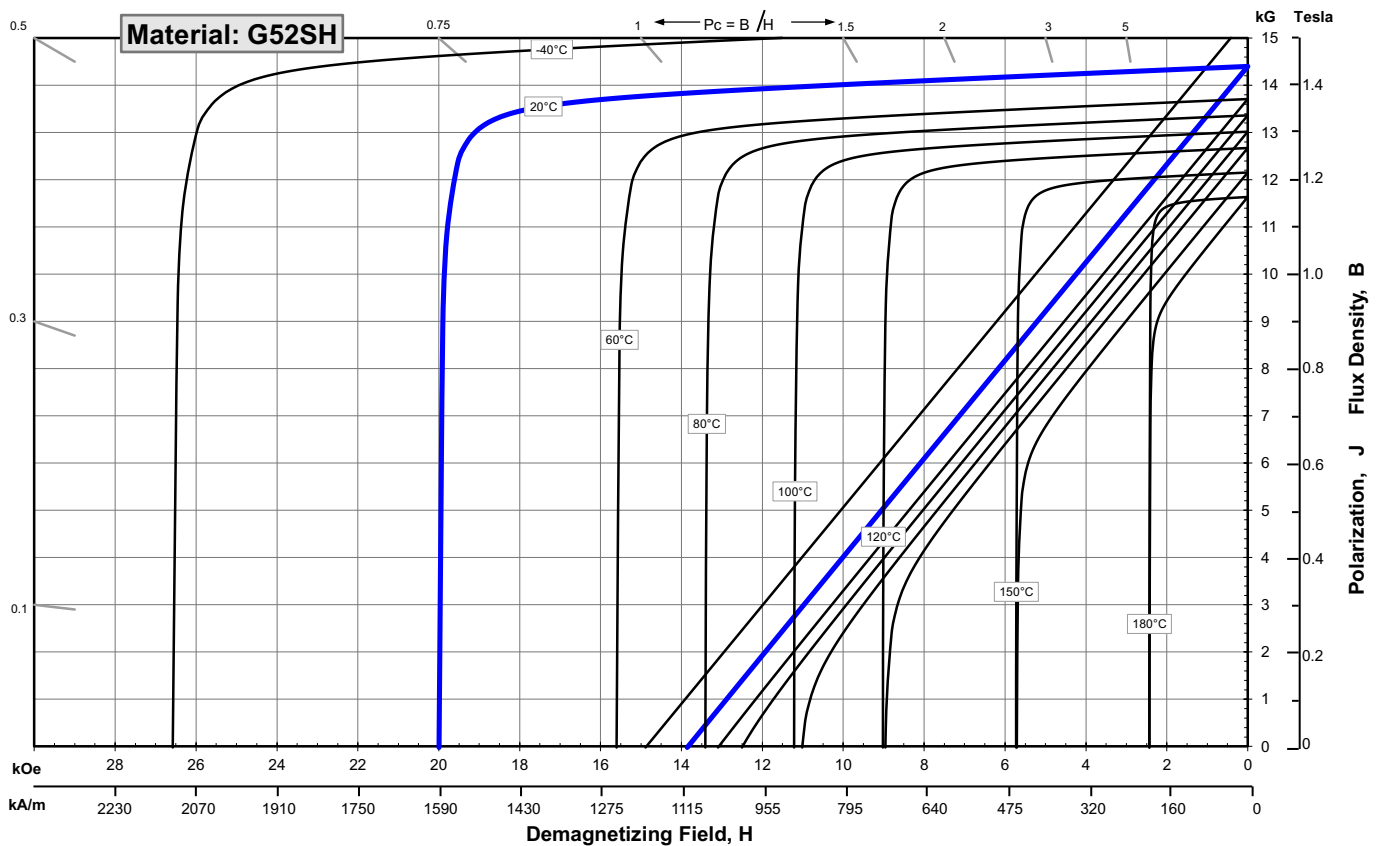
## Sintered Neodymium-Iron-Boron Magnets

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.

| Magnetic Properties                              | Characteristic                 | Units             | min.   | nominal | max.   |
|--|--------------------------------|-------------------|--------|---------|--------|
|  | <b>Br</b> , Residual Induction |                   | Gauss  | 14,200  | 14,400 |
|  |                                | mT                | 1420   | 1440    | 1460   |
| <b>H<sub>cB</sub></b> , Coercivity               |                                | Oersteds          | 13,400 | 13,700  | 14,000 |
|  |                                | kA/m              | 1067   | 1090    | 1114   |
| <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              | 48     | 51      | 53     |
|  |                                | kJ/m <sup>3</sup> | 382    | 402     | 422    |

| Thermal Properties                              | Characteristic                    | Units  | C // | C ^          |        |
|---|-----------------------------------|--|------|--------------|--------|
|   | Thermal Properties                | 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>                     | 7.5  | -0.1         |        |
| Thermal Conductivity                            |                                   | kcal/mhr°C   | 5.3  | 5.8          |        |
| Other Properties                                | 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, r                       | mW • cm                           |  |      | 150 // 130 ⊥ |        |

Notes: (1) Coefficients measured between 20 and 150 °C  
 (2) Between 20 and 200 °C  
 (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.

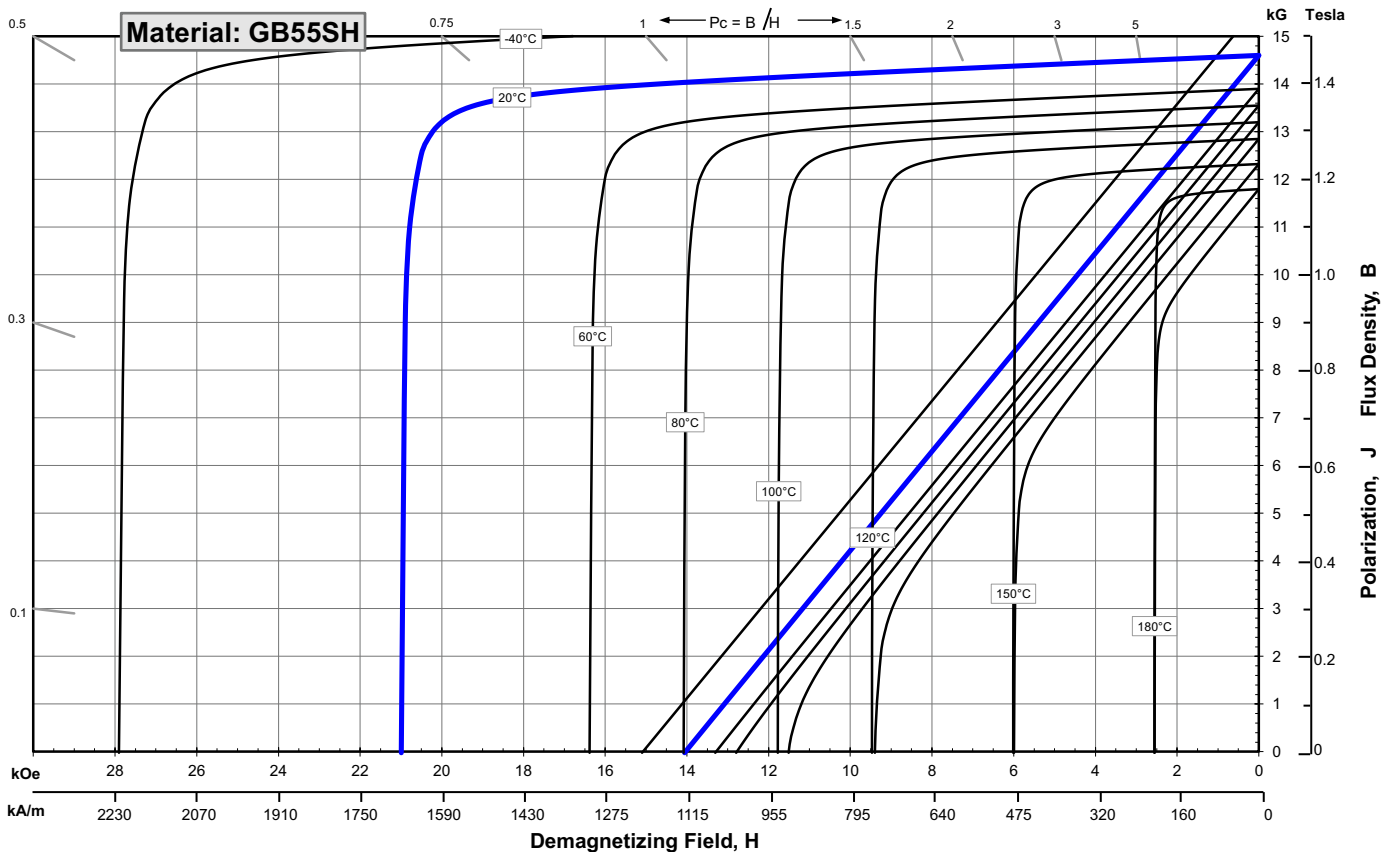
## Sintered Neodymium-Iron-Boron Magnets

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                          | min.            | nominal        | max.           |
|--|--------------------------------|-----------------|----------------|----------------|
|  | <b>Br</b> , Residual Induction | Gauss<br>mT     | 14,400<br>1440 | 14,600<br>1460 |
| <b>H<sub>CB</sub></b> , Coercivity               | Oersteds<br>kA/m               | 13,600<br>1083  | 13,850<br>1102 | 14,100<br>1122 |
| <b>H<sub>CJ</sub></b> , Intrinsic Coercivity     | Oersteds<br>kA/m               | 21,000<br>1,672 |                |                |
| <b>BH<sub>max</sub></b> , Maximum Energy Product | MGOe<br>kJ/m <sup>3</sup>      | 50<br>398       | 53<br>418      | 55<br>438      |

| Characteristic                                     | Units                          | C // C ^ |               |
|--|--------------------------------|----------|---------------|
|  |                                | C //     | C ^           |
| <b>Thermal Properties</b>                          |                                |          |               |
| 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> | 7.5      | -0.1          |
| 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           |
| <b>Other Properties</b>                            |                                |          |               |
| Flexural Strength                                  | psi<br>MPa                     |          | 41,300<br>285 |
| Density  | g/cm <sup>3</sup>              |          | 7.6           |
| Hardness, Vickers                                  | Hv                             |          | 620           |
| Electrical Resistivity, r                          | nW • cm                        |          | 150 // 130 ⊥  |

Notes: (1) Coefficients measured between 20 and 150 °C  
 (2) Between 20 and 200 °C  
 (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.

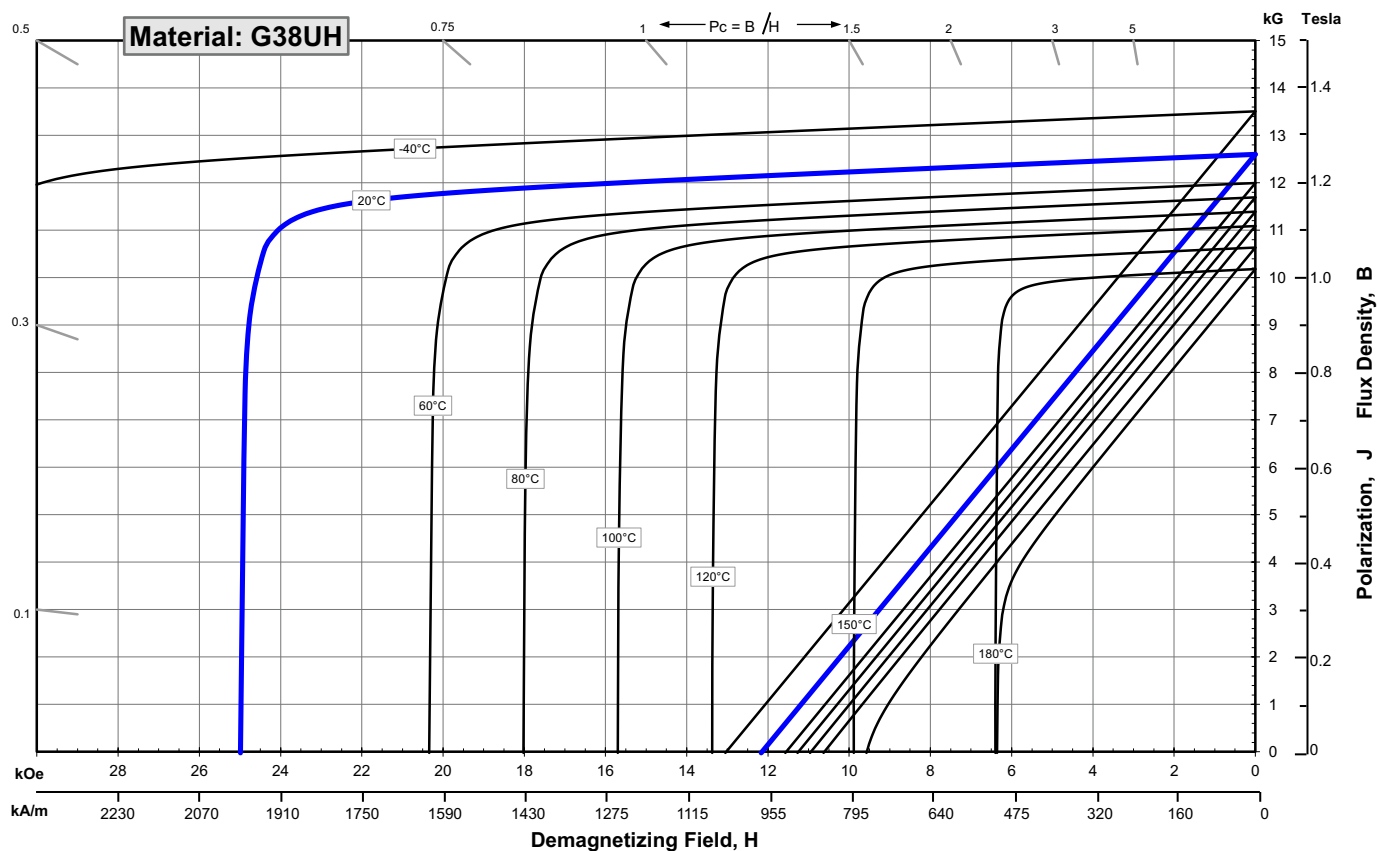
## Sintered Neodymium-Iron-Boron Magnets

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.

| Magnetic Properties                              | Characteristic                 | Units  | 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     |        |

| Thermal Properties                              | Characteristic                    | Units  | C //         | C ^    |
|---|-----------------------------------|--|--------------|--------|
|   | Thermal Properties                | 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>                       | 7.5          | -0.1   |
| Thermal Conductivity                            |                                   | kcal/mhr°C   | 5.3          | 5.8    |
| Other Properties                                | 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, r                       | mW • cm                           |  | 150 // 130 ⊥ |        |

Notes: (1) Coefficients measured between 20 and 180 °C  
 (2) Between 20 and 200 °C  
 (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.

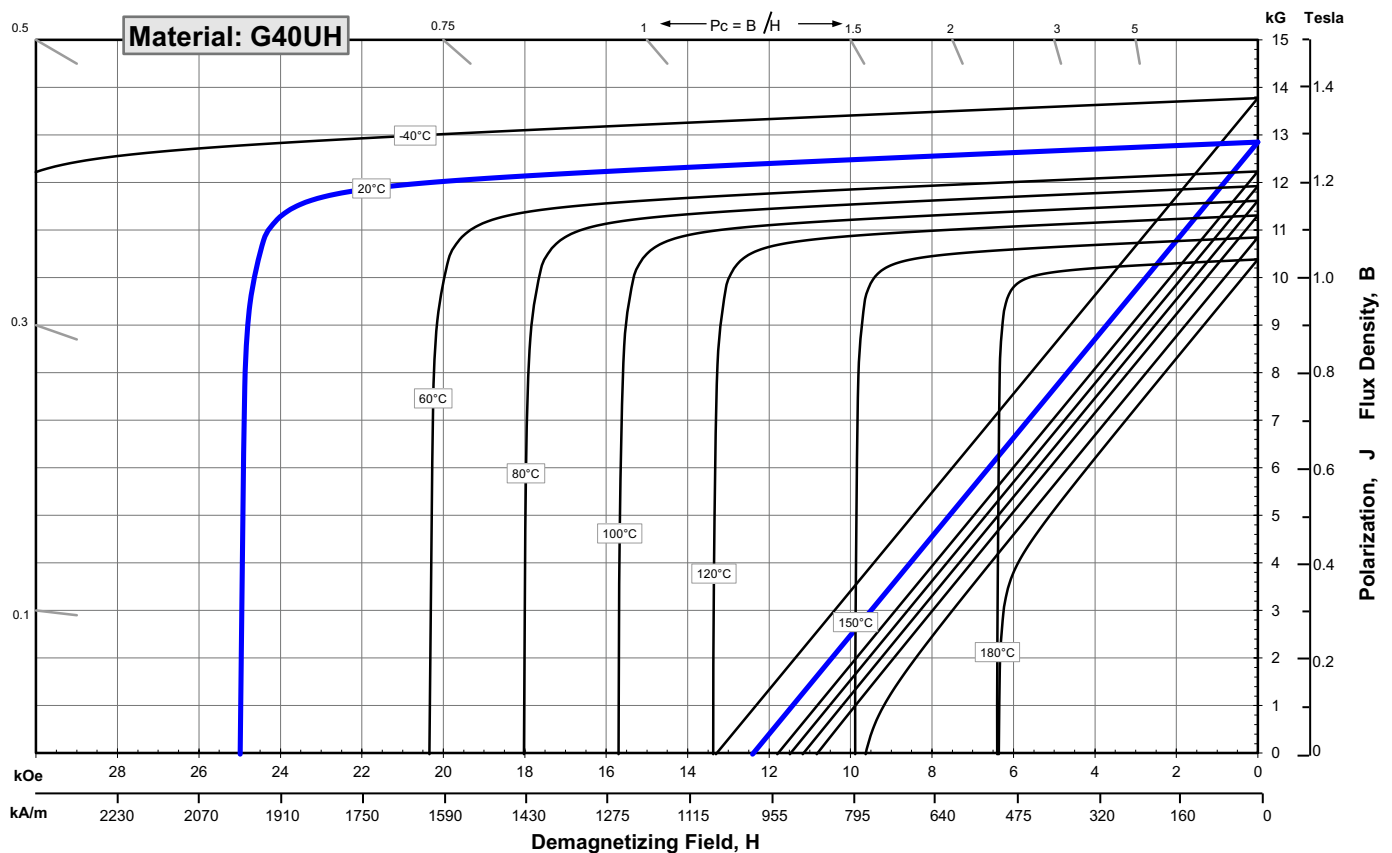
## Sintered Neodymium-Iron-Boron Magnets

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             | 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>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                         |                    | -0.47        |
| Coefficient of Thermal Expansion <sup>(2)</sup>    |                              |                    |              |
|  | ΔL/L per °C×10 <sup>-6</sup> | 7.5                | -0.1         |
| 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, r                          | mW·cm                        |                    | 150 // 130 ⊥ |

Notes: (1) Coefficients measured between 20 and 180 °C  
 (2) Between 20 and 200 °C  
 (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.

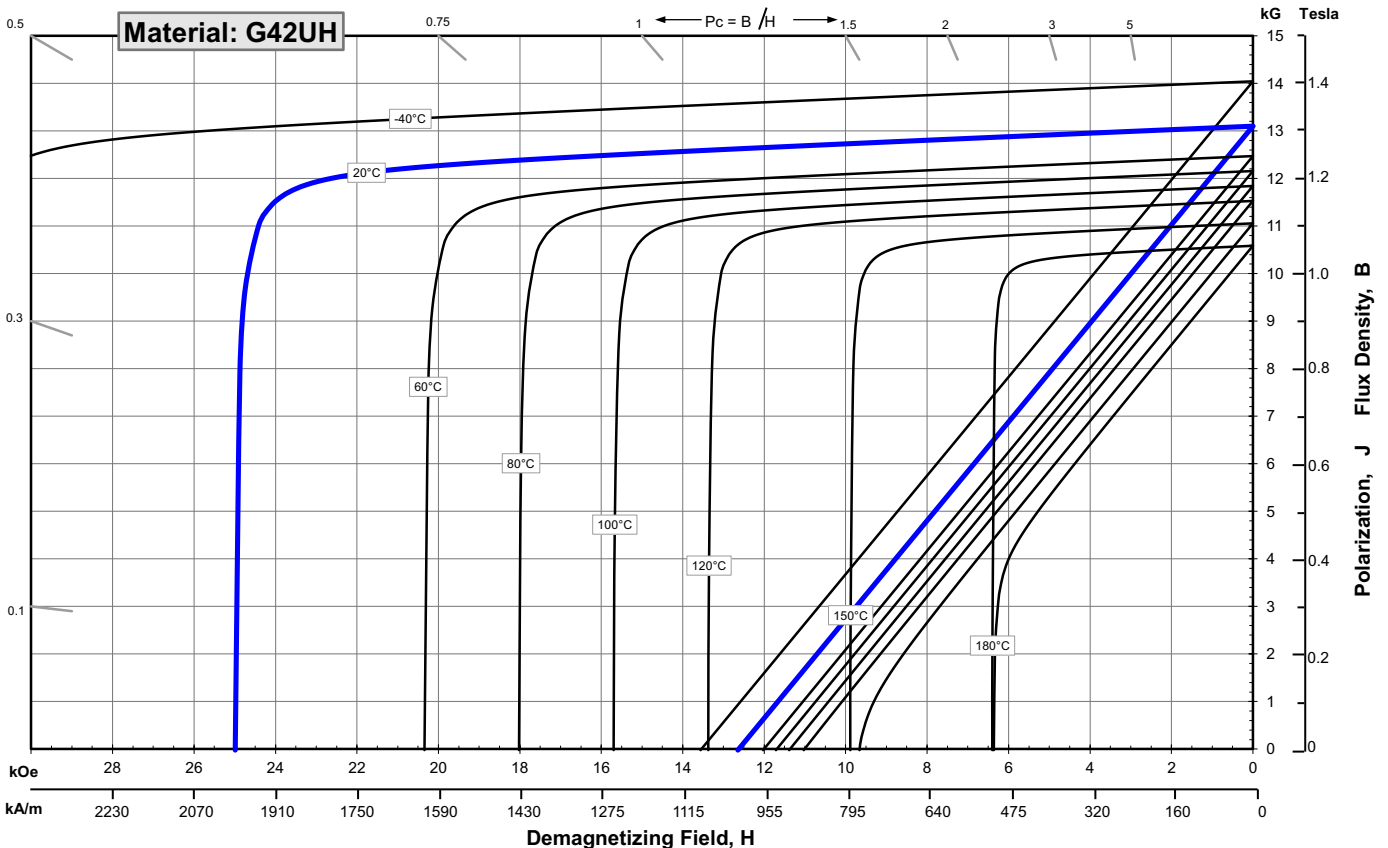
## Sintered Neodymium-Iron-Boron Magnets

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             | 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          | 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                        | C // C ^     |      |
|--|------------------------------|--------------|------|
|  |                              | C //         | C ^  |
| <b>Thermal Properties</b>                          |                              |              |      |
| 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> | 7.5          | -0.1 |
| 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          |      |
| <b>Other Properties</b>                            |                              |              |      |
| Flexural Strength                                  | psi                          | 41,300       |      |
|  | MPa                          | 285          |      |
| Density  | g/cm <sup>3</sup>            | 7.6          |      |
| Hardness, Vickers                                  | Hv                           | 620          |      |
| Electrical Resistivity, r                          | nW • cm                      | 150 // 130 ⊥ |      |

Notes: (1) Coefficients measured between 20 and 180 °C  
 (2) Between 20 and 200 °C  
 (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.

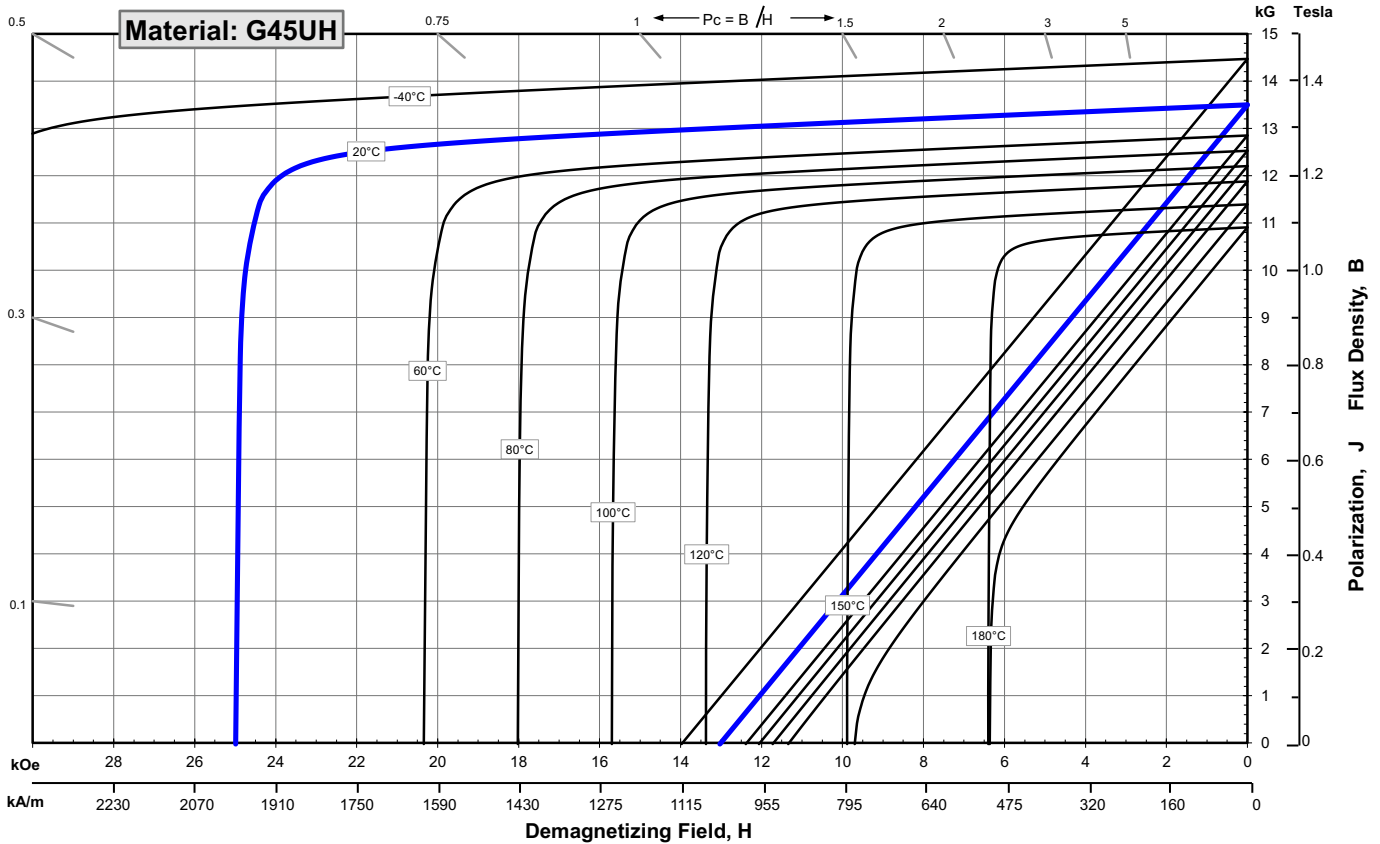
## Sintered Neodymium-Iron-Boron Magnets

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          | 12,300              | 12,750  | 13,200 |
|  | kA/m              | 979                 | 1015    | 1050   |
| <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              | 43                  | 45      | 46     |
|  | kJ/m <sup>3</sup> | 342                 | 354     | 366    |

| Characteristic                                     | Units                          | C // C ^ |              |
|--|--------------------------------|----------|--------------|
|  |                                | C //     | C ^          |
| <b>Thermal Properties</b>                          |                                |          |              |
| 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> | 7.5      | -0.1         |
| 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          |
| <b>Other Properties</b>                            |                                |          |              |
| Flexural Strength                                  | psi                            |          | 41,300       |
|  | MPa                            |          | 285          |
| Density  | g/cm <sup>3</sup>              |          | 7.6          |
| Hardness, Vickers                                  | Hv                             |          | 620          |
| Electrical Resistivity, r                          | nW • cm                        |          | 150 // 130 ⊥ |

Notes: (1) Coefficients measured between 20 and 180 °C  
 (2) Between 20 and 200 °C  
 (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.

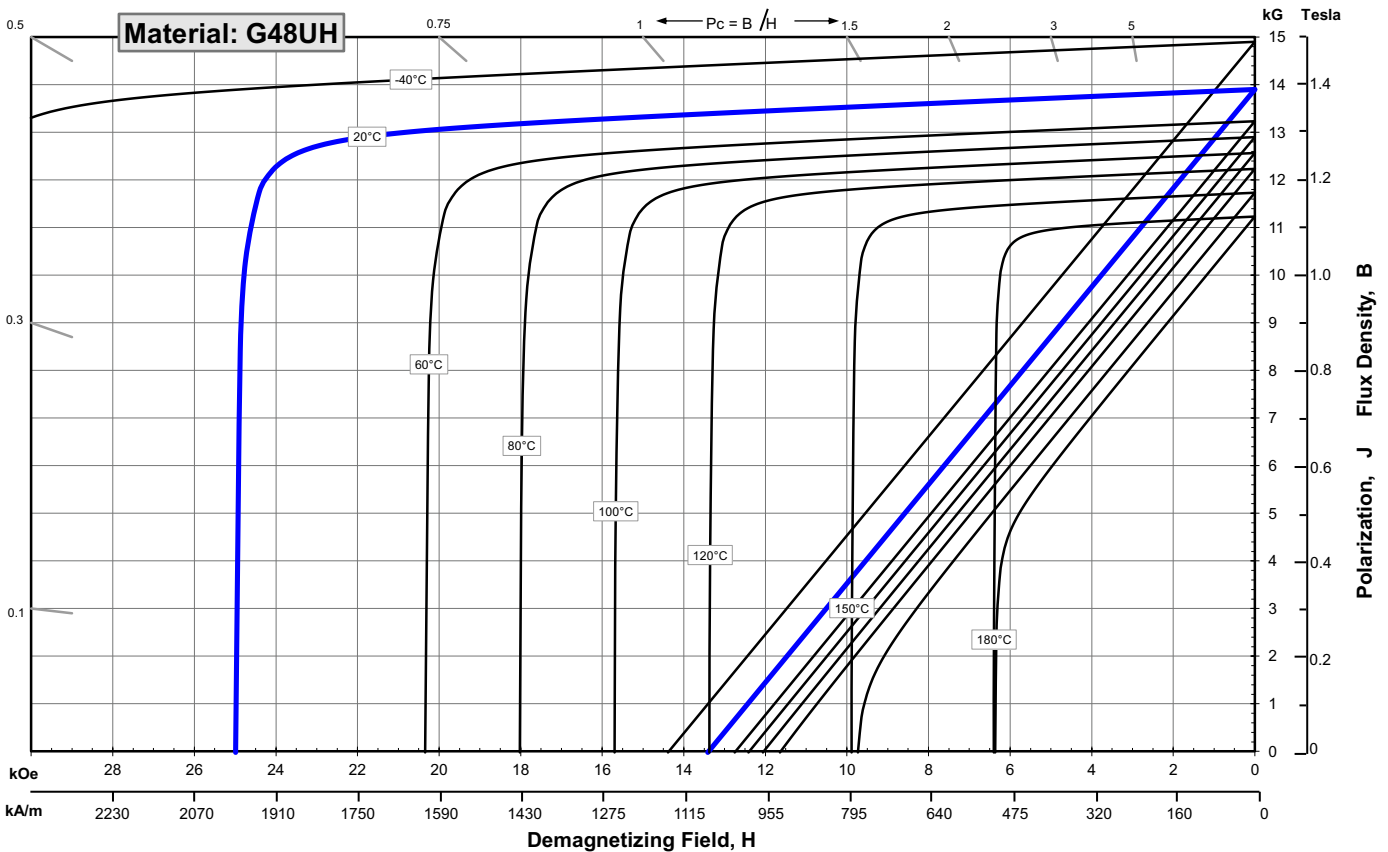
## Sintered Neodymium-Iron-Boron Magnets

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             | 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          | 25,000              |         |        |
|  | kA/m              | 1,990               |         |        |
| <b>BH<sub>max</sub></b> , Maximum Energy Product | MGOe              | 45                  | 47      | 49     |
|  | kJ/m <sup>3</sup> | 358                 | 374     | 390    |

| Characteristic                                     | Units                        | C // C ^ |              |
|--|------------------------------|----------|--------------|
|  |                              | C //     | C ^          |
| <b>Thermal Properties</b>                          |                              |          |              |
| 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> | 7.5      | -0.1         |
| 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          |
| <b>Other Properties</b>                            |                              |          |              |
| Flexural Strength                                  | psi                          |          | 41,300       |
|  | MPa                          |          | 285          |
| Density  | g/cm <sup>3</sup>            |          | 7.6          |
| Hardness, Vickers                                  | Hv                           |          | 620          |
| Electrical Resistivity, r                          | mW • cm                      |          | 150 // 130 ⊥ |

Notes: (1) Coefficients measured between 20 and 180 °C  
 (2) Between 20 and 200 °C  
 (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.



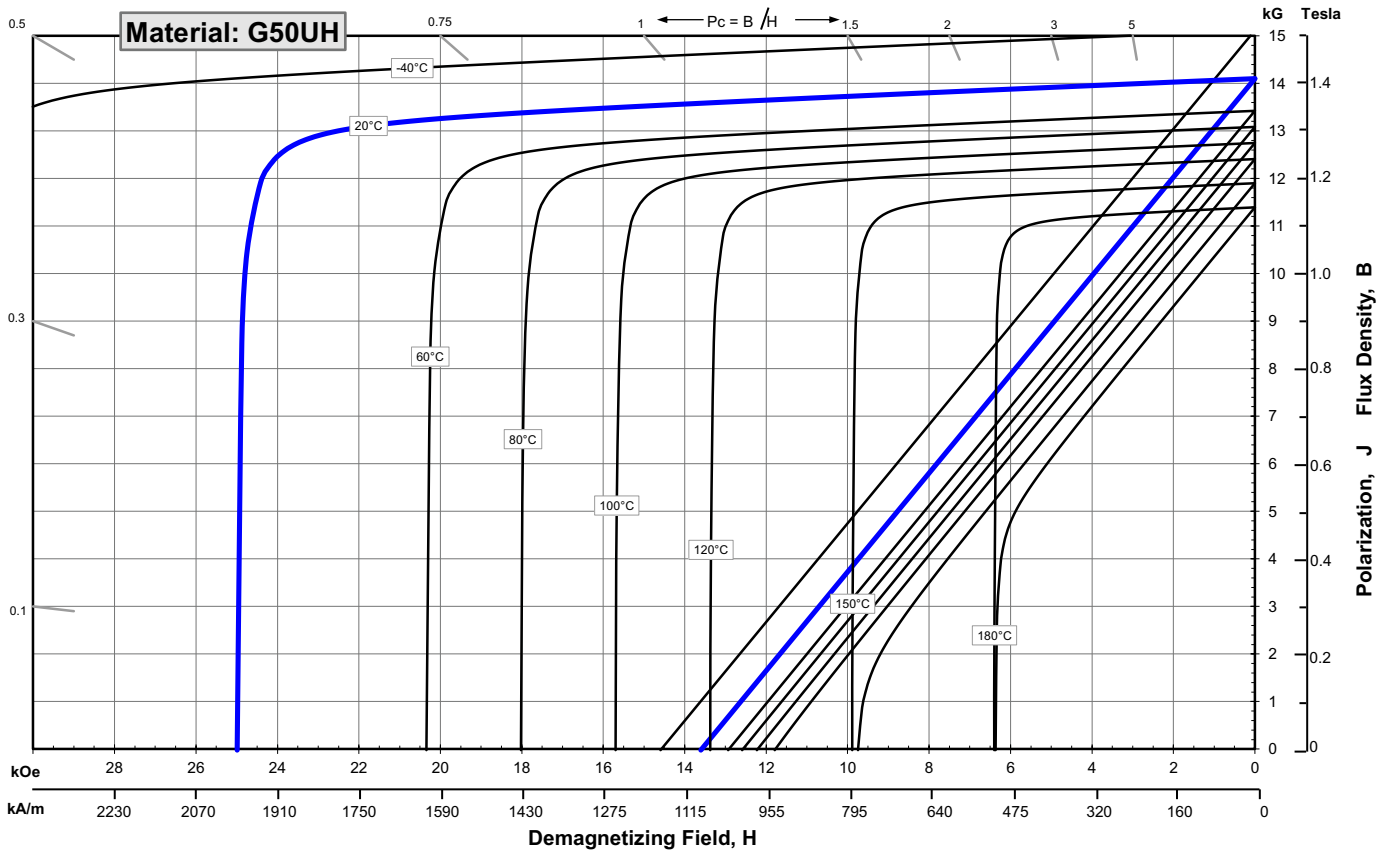
## Sintered Neodymium-Iron-Boron Magnets

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              | 14,100  | 14,400 |
|  | mT                | 1390                | 1410    | 1440   |
| <b>H<sub>CB</sub></b> , Coercivity               | Oersteds          | 13,200              | 13,500  | 13,800 |
|  | kA/m              | 1051                | 1074    | 1098   |
| <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              | 46                  | 49      | 51     |
|  | kJ/m <sup>3</sup> | 366                 | 386     | 406    |

| Characteristic                                     | Units                        | Thermal Properties |      |
|--|------------------------------|--------------------|------|
|  |                              | C //               | C ^  |
| Reversible Temperature Coefficients <sup>(1)</sup> |                              |                    |      |
| of Induction, α(Br)                                | %/°C                         | -0.12              |      |
| of Coercivity, α(Hcj)                              | %/°C                         | -0.47              |      |
| Coefficient of Thermal Expansion <sup>(2)</sup>    | ΔL/L per °Cx10 <sup>-6</sup> | 7.5                | -0.1 |
| Thermal Conductivity                               | kcal/mhr°C                   | 5.3                | 5.8  |
| Specific Heat <sup>(3)</sup>                       | cal/g°C                      | 0.11               |      |
| Curie Temperature, Tc                              | °C                           | 310                |      |
| Flexural Strength                                  | psi                          | 41,300             |      |
|  | MPa                          | 285                |      |
| Density  | g/cm <sup>3</sup>            | 7.6                |      |
| Hardness, Vickers                                  | Hv                           | 620                |      |
| Electrical Resistivity, r                          | mW • cm                      | 150 // 130 ⊥       |      |

Notes: (1) Coefficients measured between 20 and 180 °C  
 (2) Between 20 and 200 °C  
 (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.

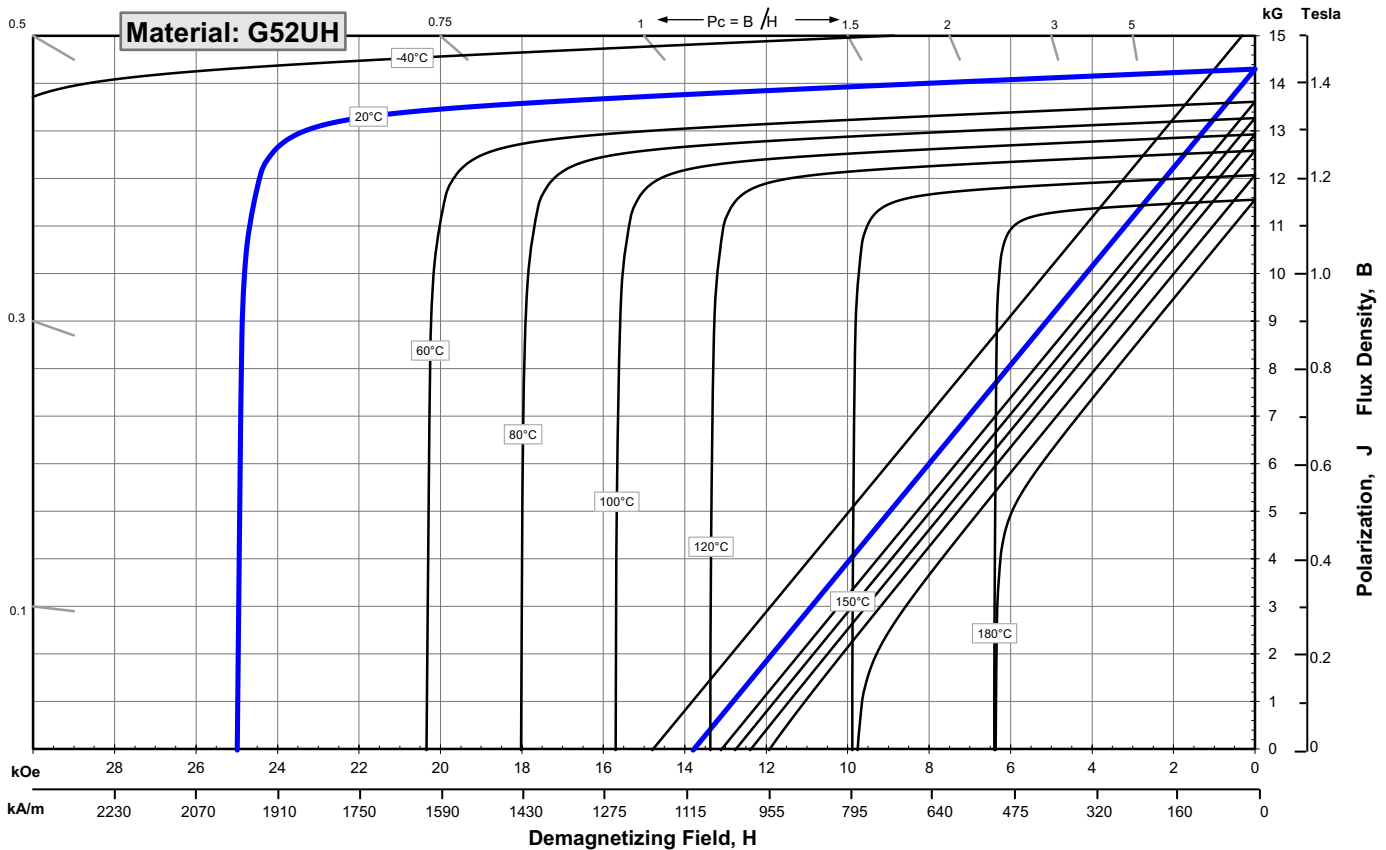
## Sintered Neodymium-Iron-Boron Magnets

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             | 14,100              | 14,300  | 14,500 |
|  | mT                | 1410                | 1430    | 1450   |
| <b>H<sub>cB</sub></b> , Coercivity               | Oersteds          | 13,400              | 13,650  | 13,900 |
|  | kA/m              | 1067                | 1086    | 1106   |
| <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              | 47                  | 50      | 52     |
|  | kJ/m <sup>3</sup> | 374                 | 394     | 414    |

| Characteristic                                     | Units                        | C // C ^ |              |
|--|------------------------------|----------|--------------|
|  |                              | C //     | C ^          |
| <b>Thermal Properties</b>                          |                              |          |              |
| 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> | 7.5      | -0.1         |
| 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          |
| <b>Other Properties</b>                            |                              |          |              |
| Flexural Strength                                  | psi                          |          | 41,300       |
|  | MPa                          |          | 285          |
| Density  | g/cm <sup>3</sup>            |          | 7.6          |
| Hardness, Vickers                                  | Hv                           |          | 620          |
| Electrical Resistivity, r                          | mW • cm                      |          | 150 // 130 ⊥ |

Notes: (1) Coefficients measured between 20 and 180 °C  
 (2) Between 20 and 200 °C  
 (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.

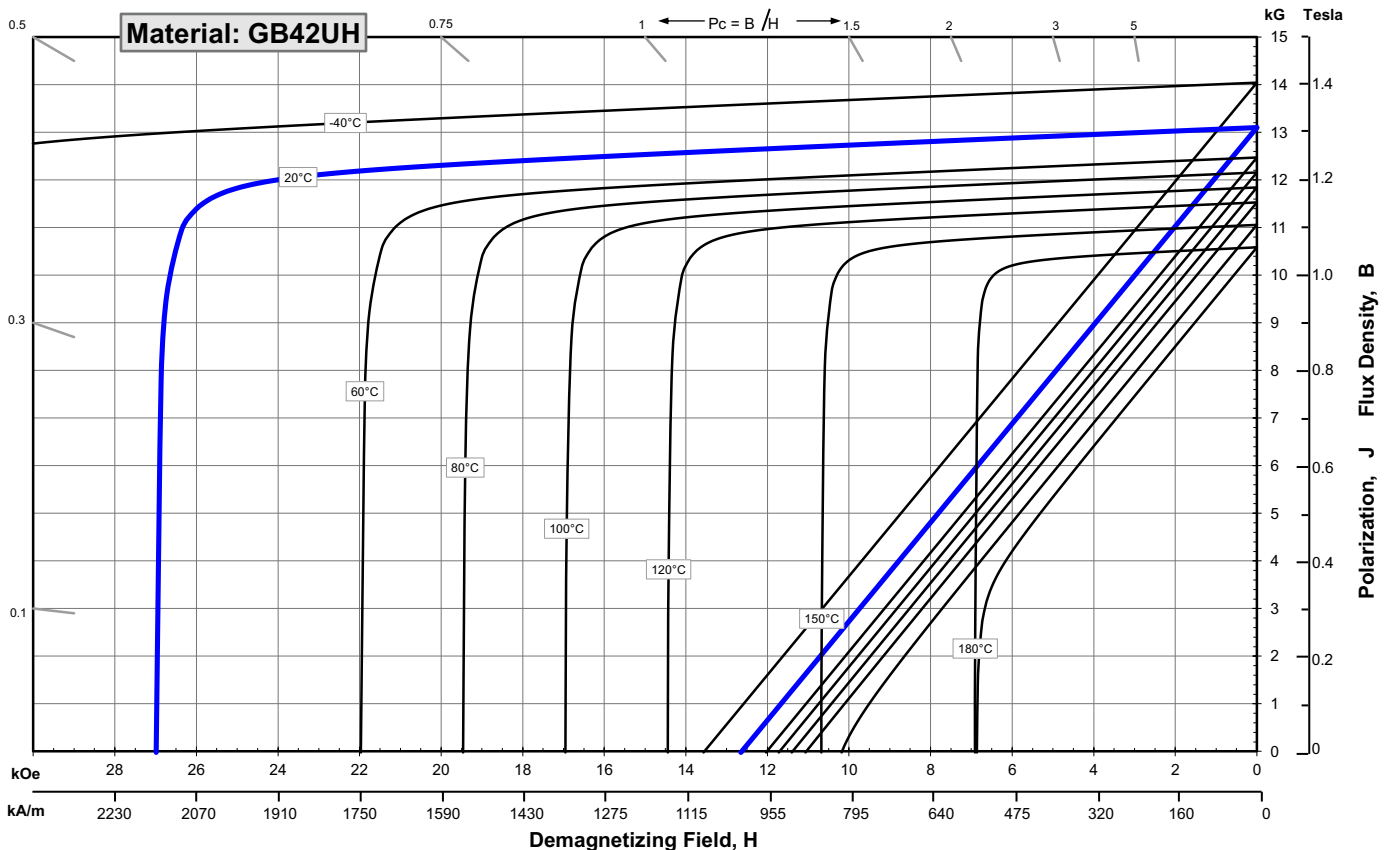
## Sintered Neodymium-Iron-Boron Magnets

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             | 12,800              | 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          | 27,000              |         |        |
|  | kA/m              | 2,149               |         |        |
| <b>BH<sub>max</sub></b> , Maximum Energy Product | MGOe              | 39                  | 42      | 44     |
|  | kJ/m <sup>3</sup> | 310                 | 330     | 350    |

| Characteristic                                     | Units                          | C // C ^     |      |
|--|--------------------------------|--------------|------|
|  |                                | C //         | C ^  |
| <b>Thermal Properties</b>                          |                                |              |      |
| 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> | 7.5          | -0.1 |
| 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          |      |
| <b>Other Properties</b>                            |                                |              |      |
| Flexural Strength                                  | psi                            | 41,300       |      |
|  | MPa                            | 285          |      |
| Density  | g/cm <sup>3</sup>              | 7.6          |      |
| Hardness, Vickers                                  | Hv                             | 620          |      |
| Electrical Resistivity, r                          | nW • cm                        | 150 // 130 ⊥ |      |

Notes: (1) Coefficients measured between 20 and 180 °C  
 (2) Between 20 and 200 °C  
 (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.

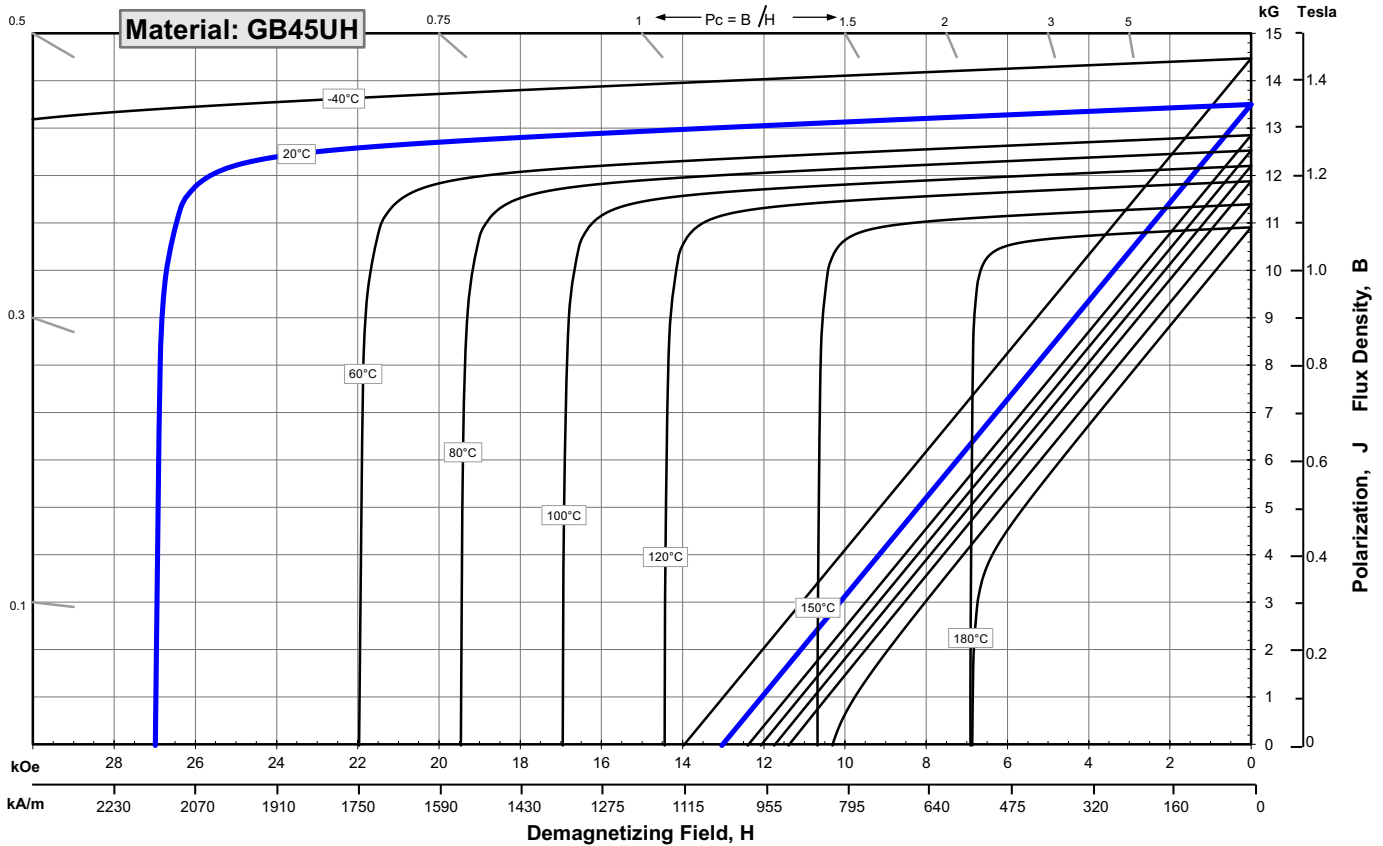
## Sintered Neodymium-Iron-Boron Magnets

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          | 12,300              | 12,750  | 13,200 |
|  | kA/m              | 979                 | 1015    | 1050   |
| <b>H<sub>cJ</sub></b> , Intrinsic Coercivity     | Oersteds          | 27,000              |         |        |
|  | kA/m              | 2,149               |         |        |
| <b>BH<sub>max</sub></b> , Maximum Energy Product | MGOe              | 43                  | 45      | 46     |
|  | kJ/m <sup>3</sup> | 342                 | 354     | 366    |

| Characteristic                                     | Units                        | C // C ^ |              |
|--|------------------------------|----------|--------------|
|  |                              | C //     | C ^          |
| <b>Thermal Properties</b>                          |                              |          |              |
| 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×10 <sup>-6</sup> | 7.5      | -0.1         |
| Thermal Conductivity                               | kcal/mh°C                    | 5.3      | 5.8          |
| Specific Heat <sup>(3)</sup>                       | cal/g°C                      |          | 0.11         |
| Curie Temperature, T <sub>c</sub>                  | °C                           |          | 310          |
| <b>Other Properties</b>                            |                              |          |              |
| Flexural Strength                                  | psi                          |          | 41,300       |
|  | MPa                          |          | 285          |
| Density  | g/cm <sup>3</sup>            |          | 7.6          |
| Hardness, Vickers                                  | Hv                           |          | 620          |
| Electrical Resistivity, r                          | mV • cm                      |          | 150 // 130 ⊥ |

Notes: (1) Coefficients measured between 20 and 180 °C  
 (2) Between 20 and 200 °C  
 (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.

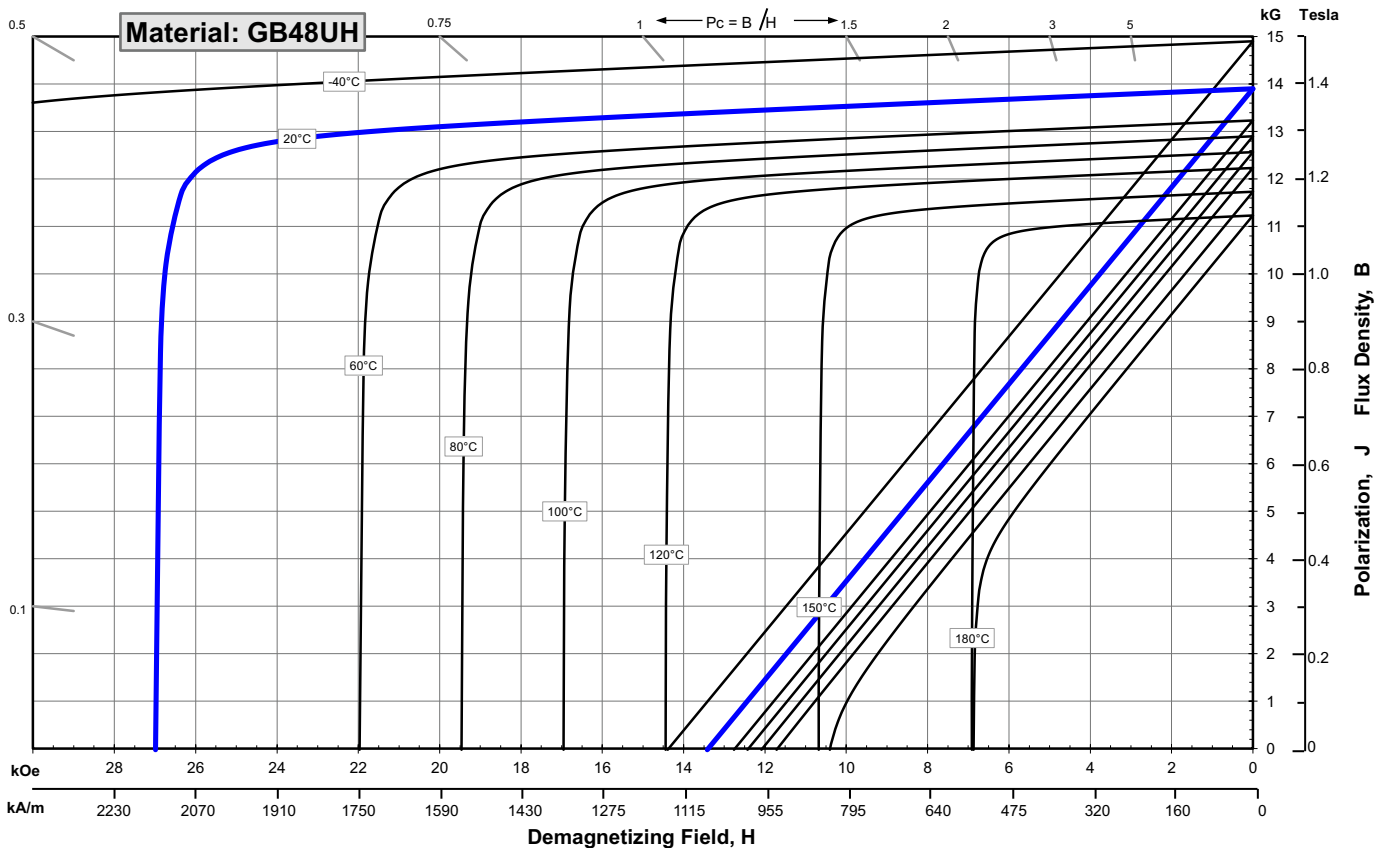
## Sintered Neodymium-Iron-Boron Magnets

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.

| Magnetic Properties                 | Characteristic             | Units  | min.   | nominal | max.   |
|-------------------------------------|----------------------------|--------|--------|---------|--------|
|                                     | $B_r$ , Residual Induction | Gauss  | 13,600 | 13,900  | 14,200 |
|                                     | mT                         | 1360   | 1390   | 1420    |        |
| $H_{cB}$ , Coercivity               | Oersteds                   | 12,700 | 13,150 | 13,600  |        |
|                                     | kA/m                       | 1011   | 1046   | 1082    |        |
| $H_{cJ}$ , Intrinsic Coercivity     | Oersteds                   | 27,000 |        |         |        |
|                                     | kA/m                       | 2,419  |        |         |        |
| $BH_{max}$ , Maximum Energy Product | MGOe                       | 45     | 47     | 49      |        |
|                                     | kJ/m <sup>3</sup>          | 358    | 374    | 390     |        |

| Thermal Properties                              | Characteristic                                     | Units             | C // | C ^          |
|---|--|-------------------|------|--------------|
|   | Reversible Temperature Coefficients <sup>(1)</sup> |                   |      |              |
| of Induction, $\alpha(B_r)$                     | %/°C   |                   |      | -0.12        |
| of Coercivity, $\alpha(H_{cJ})$                 | %/°C   |                   |      | -0.47        |
| Coefficient of Thermal Expansion <sup>(2)</sup> | $\Delta L/L$ per °C x 10 <sup>-6</sup>             | 7.5               |      | -0.1         |
| 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, $r$                        | mW • cm           |      | 150 // 130 ⊥ |

Notes: (1) Coefficients measured between 20 and 180 °C  
 (2) Between 20 and 200 °C  
 (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  $B_r$  and minimum  $H_{cI}$ . Magnets can be supplied thermally stabilized or magnetically calibrated to customer specifications. Additional grades are available. Please contact the factory for information.

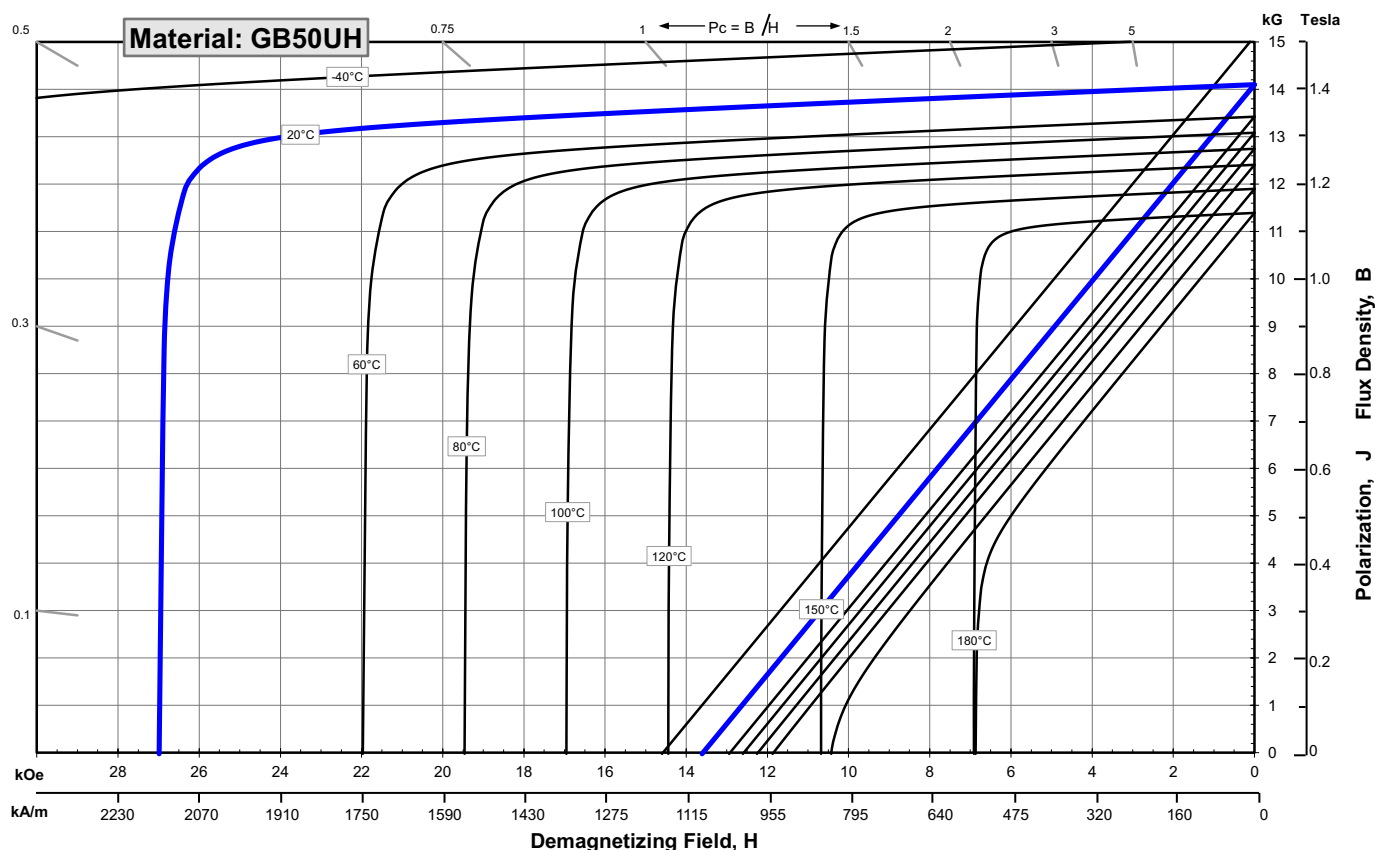
## Sintered Neodymium-Iron-Boron Magnets

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.

| Magnetic Properties                              | Characteristic                 | Units             | min.   | nominal | max.   |
|--|--------------------------------|-------------------|--------|---------|--------|
|  | <b>Br</b> , Residual Induction |                   | Gauss  | 13,900  | 14,100 |
|  |                                | mT                | 1390   | 1410    | 1440   |
| <b>H<sub>cB</sub></b> , Coercivity               |                                | Oersteds          | 13,200 | 13,500  | 13,800 |
|  |                                | kA/m              | 1051   | 1074    | 1098   |
| <b>H<sub>cJ</sub></b> , Intrinsic Coercivity     |                                | Oersteds          | 27,000 |         |        |
|  |                                | kA/m              | 2,449  |         |        |
| <b>BH<sub>max</sub></b> , Maximum Energy Product |                                | MGOe              | 46     | 49      | 51     |
|  |                                | kJ/m <sup>3</sup> | 366    | 386     | 406    |

| Thermal Properties                              | Characteristic                    | Units  | C // | C ^          |        |
|---|-----------------------------------|--|------|--------------|--------|
|   | Thermal Properties                | 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>                       | 7.5  | -0.1         |        |
| Thermal Conductivity                            |                                   | kcal/mhr°C   | 5.3  | 5.8          |        |
| Other Properties                                | 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, r                       | mΩ • cm                           |  |      | 150 // 130 ⊥ |        |

Notes: (1) Coefficients measured between 20 and 180 °C  
 (2) Between 20 and 200 °C  
 (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.

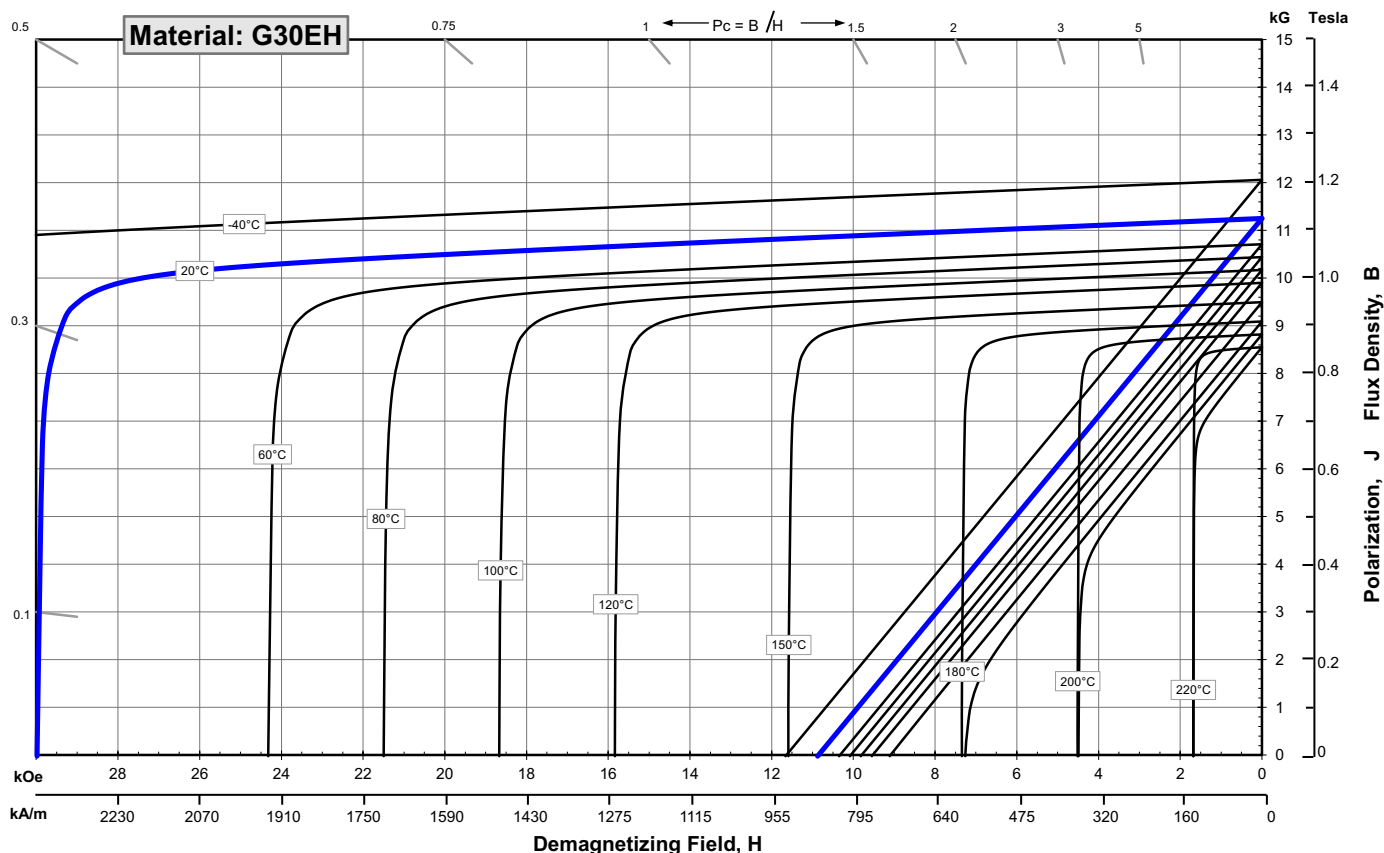
## Sintered Neodymium-Iron-Boron Magnets

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              | 11,250  | 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> | 7.5                | -0.1 |
| 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, r                          | nW • cm                        | 150 // 130 ⊥       |      |

Notes: (1) Coefficients measured between 20 and 200 °C  
 (2) Between 20 and 200 °C  
 (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.

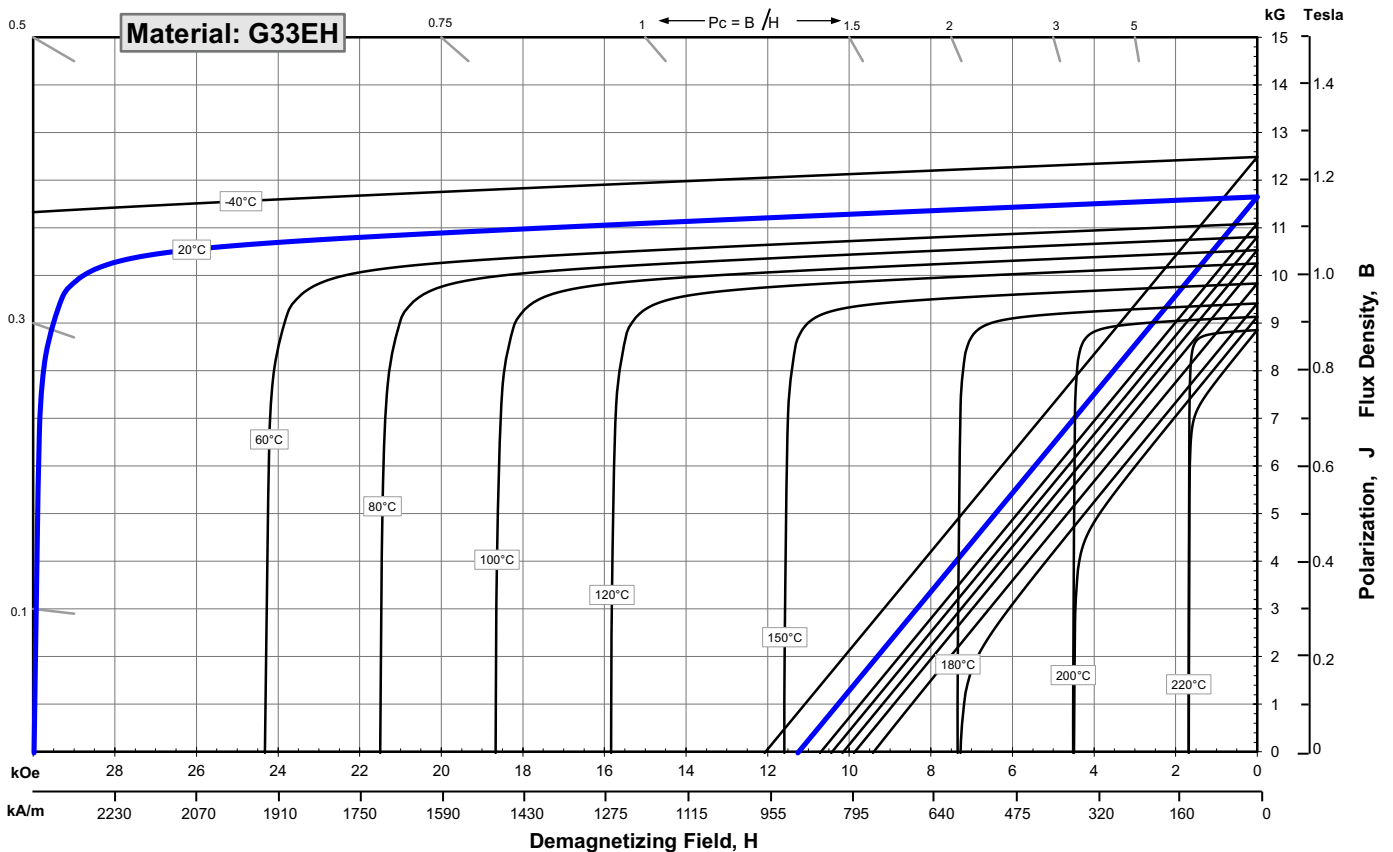
## Sintered Neodymium-Iron-Boron Magnets

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             | 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>BH<sub>max</sub></b> , Maximum Energy Product | MGOe              | 31                  | 34      | 36     |
|  | kJ/m <sup>3</sup> | 247                 | 267     | 287    |

| Characteristic                                     | Units                        | C // C ^ |              |
|--|------------------------------|----------|--------------|
|  |                              | C //     | C ^          |
| <b>Thermal Properties</b>                          |                              |          |              |
| 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> | 7.5      | -0.1         |
| 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          |
| <b>Other Properties</b>                            |                              |          |              |
| Flexural Strength                                  | psi                          |          | 41,300       |
|  | MPa                          |          | 285          |
| Density  | g/cm <sup>3</sup>            |          | 7.6          |
| Hardness, Vickers                                  | Hv                           |          | 620          |
| Electrical Resistivity, r                          | nW • cm                      |          | 150 // 130 ⊥ |

Notes: (1) Coefficients measured between 20 and 200 °C  
 (2) Between 20 and 200 °C  
 (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.



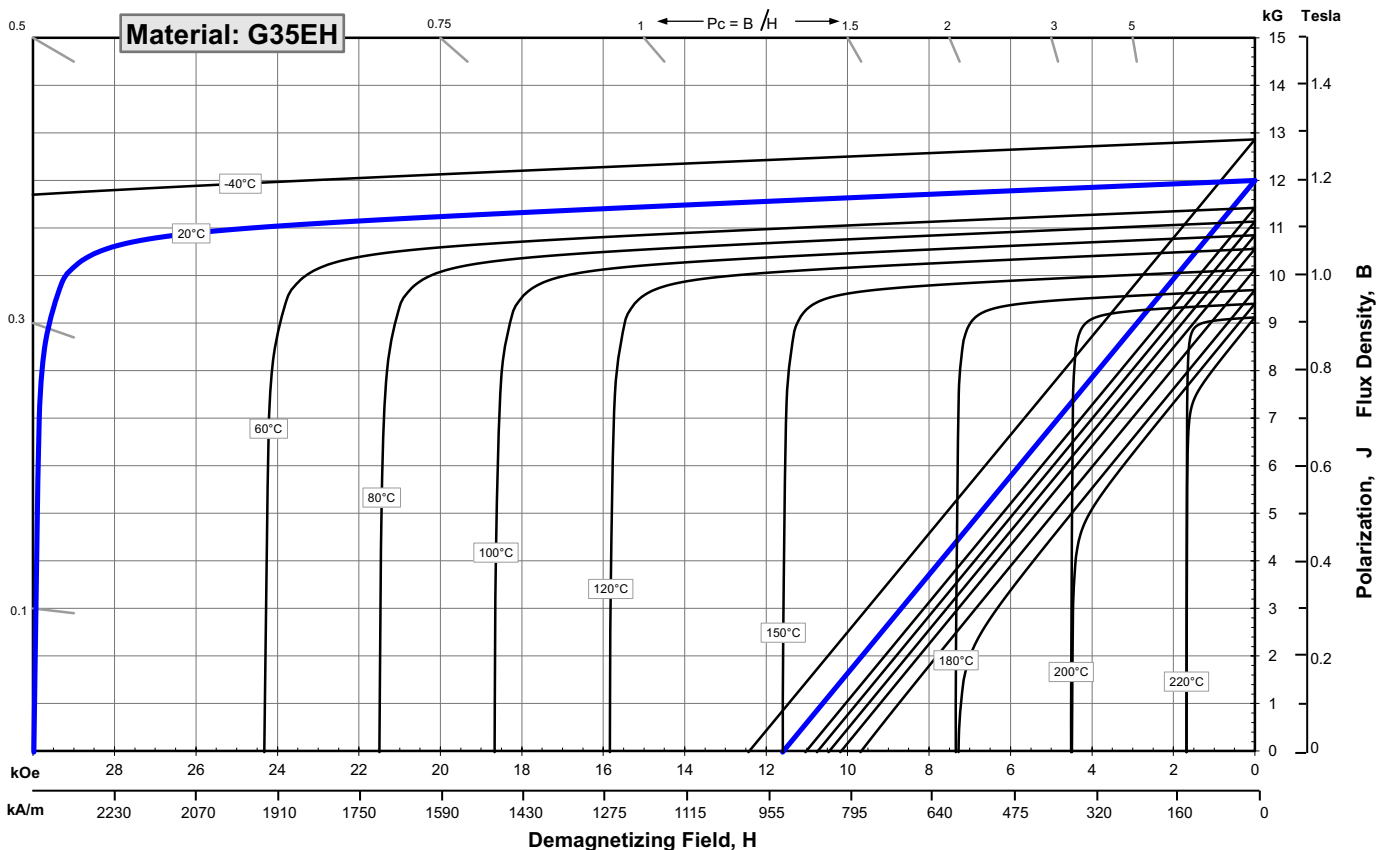
## Sintered Neodymium-Iron-Boron Magnets

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             | 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>BH<sub>max</sub></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(Hcj)                              | %/°C                         |                    | -0.47        |
| Coefficient of Thermal Expansion <sup>(2)</sup>    | ΔL/L per °Cx10 <sup>-6</sup> | 7.5                | -0.1         |
| Thermal Conductivity                               | kcal/mhr°C                   | 5.3                | 5.8          |
| Specific Heat <sup>(3)</sup>                       | cal/g°C                      |                    | 0.11         |
| Curie Temperature, Tc                              | °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, r    | mW • cm            | 150 // 130 ⊥ |

Notes: (1) Coefficients measured between 20 and 200 °C  
 (2) Between 20 and 200 °C  
 (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 Hcj. Magnets can be supplied thermally stabilized or magnetically calibrated to customer specifications. Additional grades are available. Please contact the factory for information.

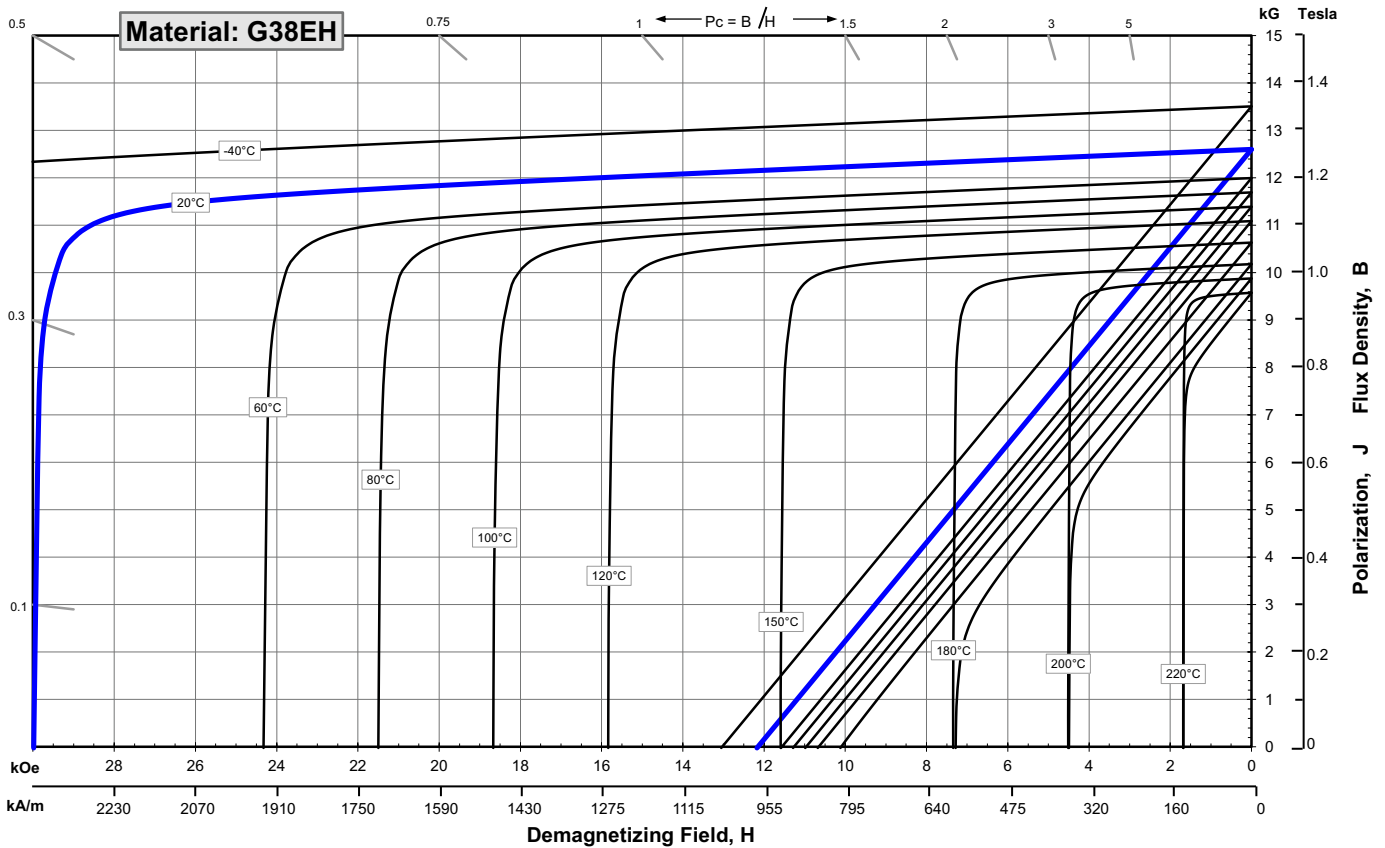
## Sintered Neodymium-Iron-Boron Magnets

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<sub>r</sub></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          | 30,000              |         |        |
|  | kA/m              | 2,388               |         |        |
| <b>BH<sub>max</sub></b> , Maximum Energy Product | MGOe              | 36                  | 39      | 41     |
|  | kJ/m <sup>3</sup> | 287                 | 307     | 326    |

| Characteristic                    | Units  | C // C ^                     |            |      |
|-----------------------------------|--|------------------------------|------------|------|
|                                   |  | C //                         | C ^        |      |
| Thermal Properties                | 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×10 <sup>-6</sup> | 7.5        | -0.1 |
|                                   | Thermal Conductivity                               | kcal/mh°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, r                          | nW·cm                        | 150 // 130 | ↓    |

Notes: (1) Coefficients measured between 20 and 200 °C  
 (2) Between 20 and 200 °C  
 (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.

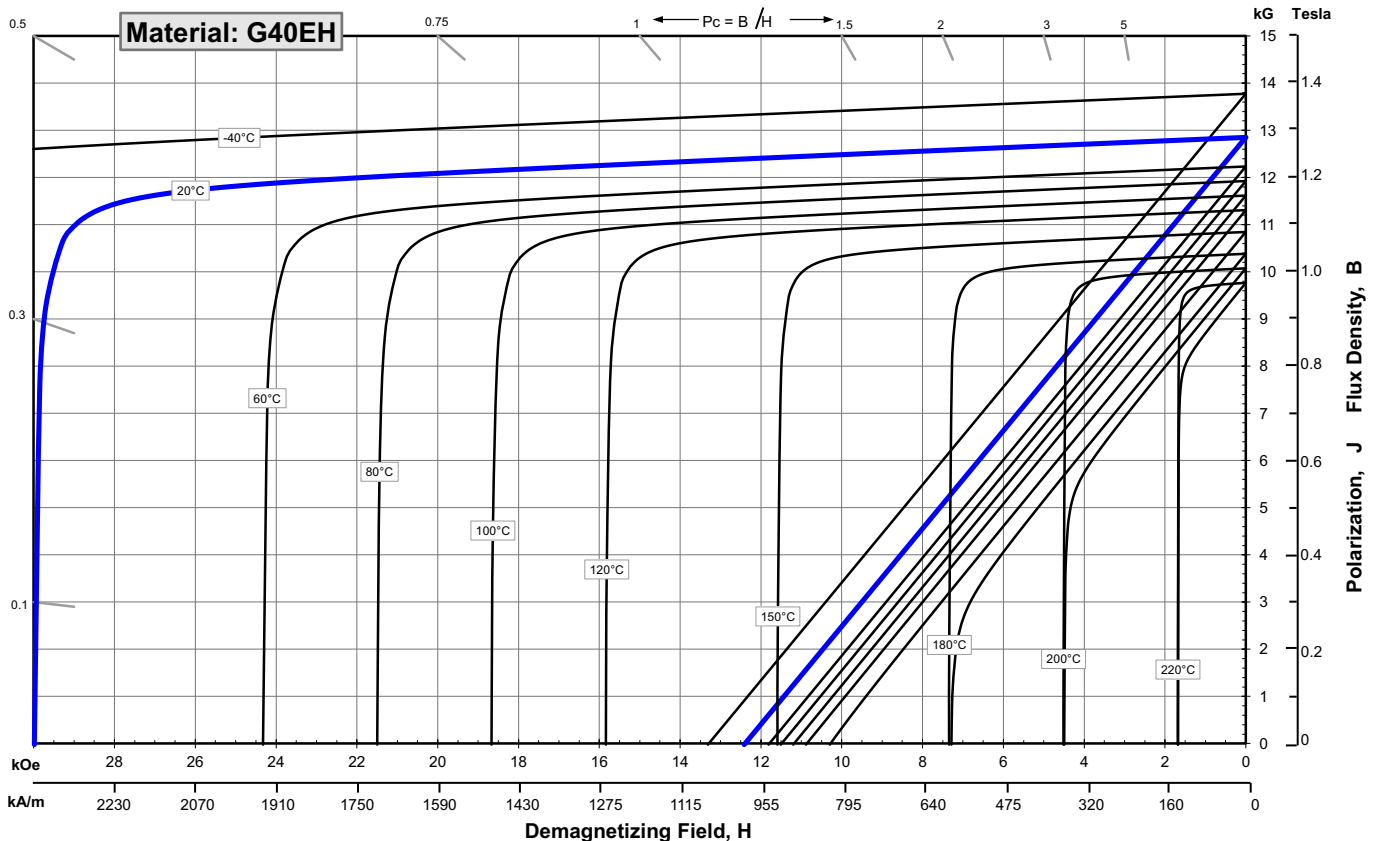
## Sintered Neodymium-Iron-Boron Magnets

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<sub>r</sub></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          | 30,000              |         |        |
|  | kA/m              | 2,388               |         |        |
| <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                         | -0.47              |      |
| Coefficient of Thermal Expansion <sup>(2)</sup>    | ΔL/L per °Cx10 <sup>-6</sup> | 7.5                | -0.1 |
| 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, r                          | mW • cm                      | 150 // 130 ⊥       |      |

Notes: (1) Coefficients measured between 20 and 200 °C  
 (2) Between 20 and 200 °C  
 (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.

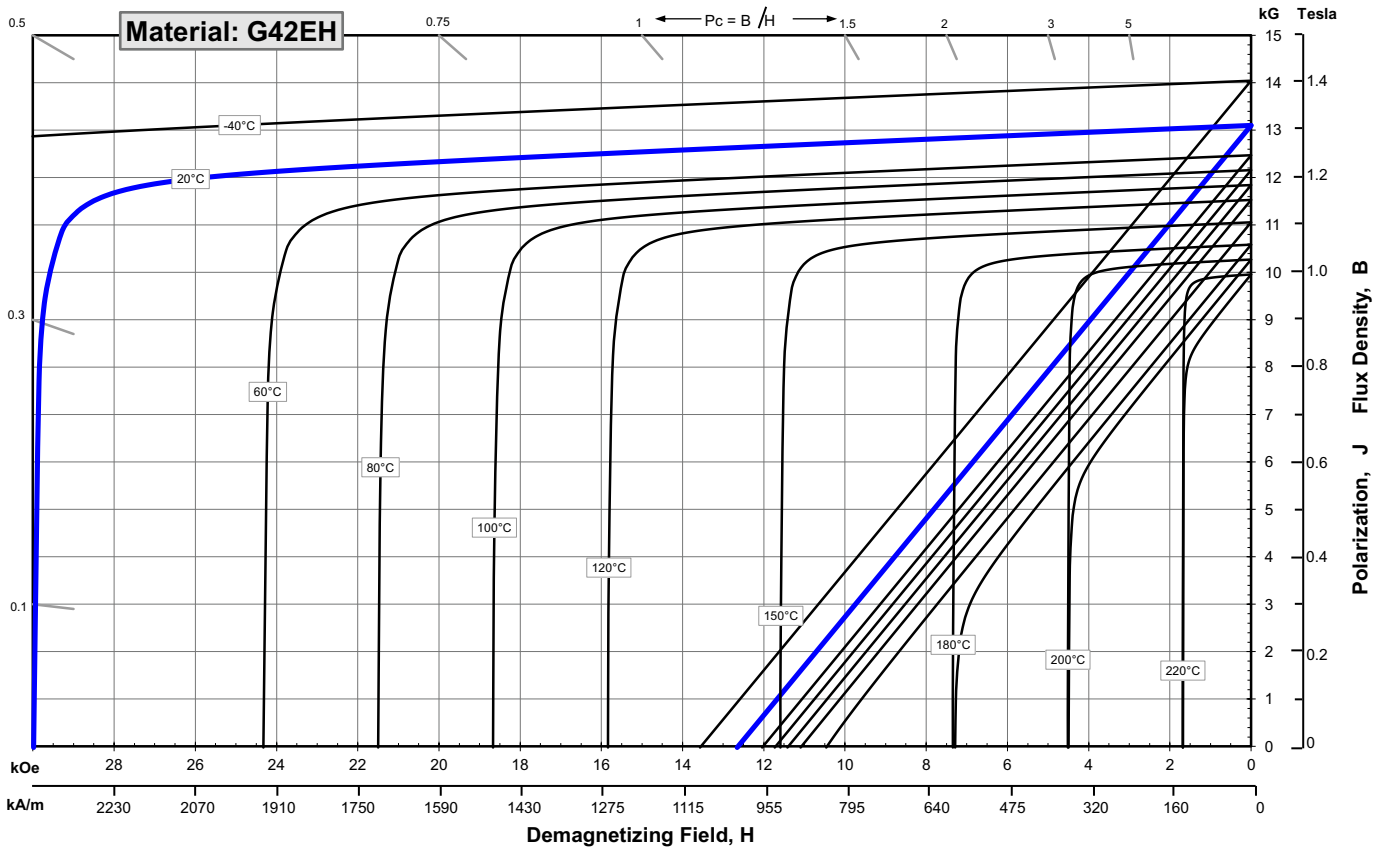
## Sintered Neodymium-Iron-Boron Magnets

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.

| Magnetic Properties                              | Characteristic                 | Units  | 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                       | 30,000 |        |         |        |
|  | kA/m                           | 2,388  |        |         |        |
| <b>BH<sub>max</sub></b> , Maximum Energy Product | MGOe                           | 39     | 42     | 44      |        |
|  | kJ/m <sup>3</sup>              | 310    | 330    | 350     |        |

| Thermal Properties                              | Characteristic                    | Units  | C // | C ^          |        |
|---|-----------------------------------|--|------|--------------|--------|
|   | Thermal Properties                | Reversible Temperature Coefficients <sup>(1)</sup> |      |              |        |
| of Induction, α(Br)                             |                                   | %/°C   |      | -0.12        |        |
| of Coercivity, α(Hcj)                           |                                   | %/°C   |      | -0.47        |        |
| Coefficient of Thermal Expansion <sup>(2)</sup> |                                   | ΔL/L per °Cx10 <sup>-6</sup>                       | 7.5  | -0.1         |        |
| Thermal Conductivity                            |                                   | kcal/mhr°C   | 5.3  | 5.8          |        |
| Other Properties                                | 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, r                       | nW·cm                             |  |      | 150 // 130 ⊥ |        |

Notes: (1) Coefficients measured between 20 and 200 °C  
 (2) Between 20 and 200 °C  
 (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.

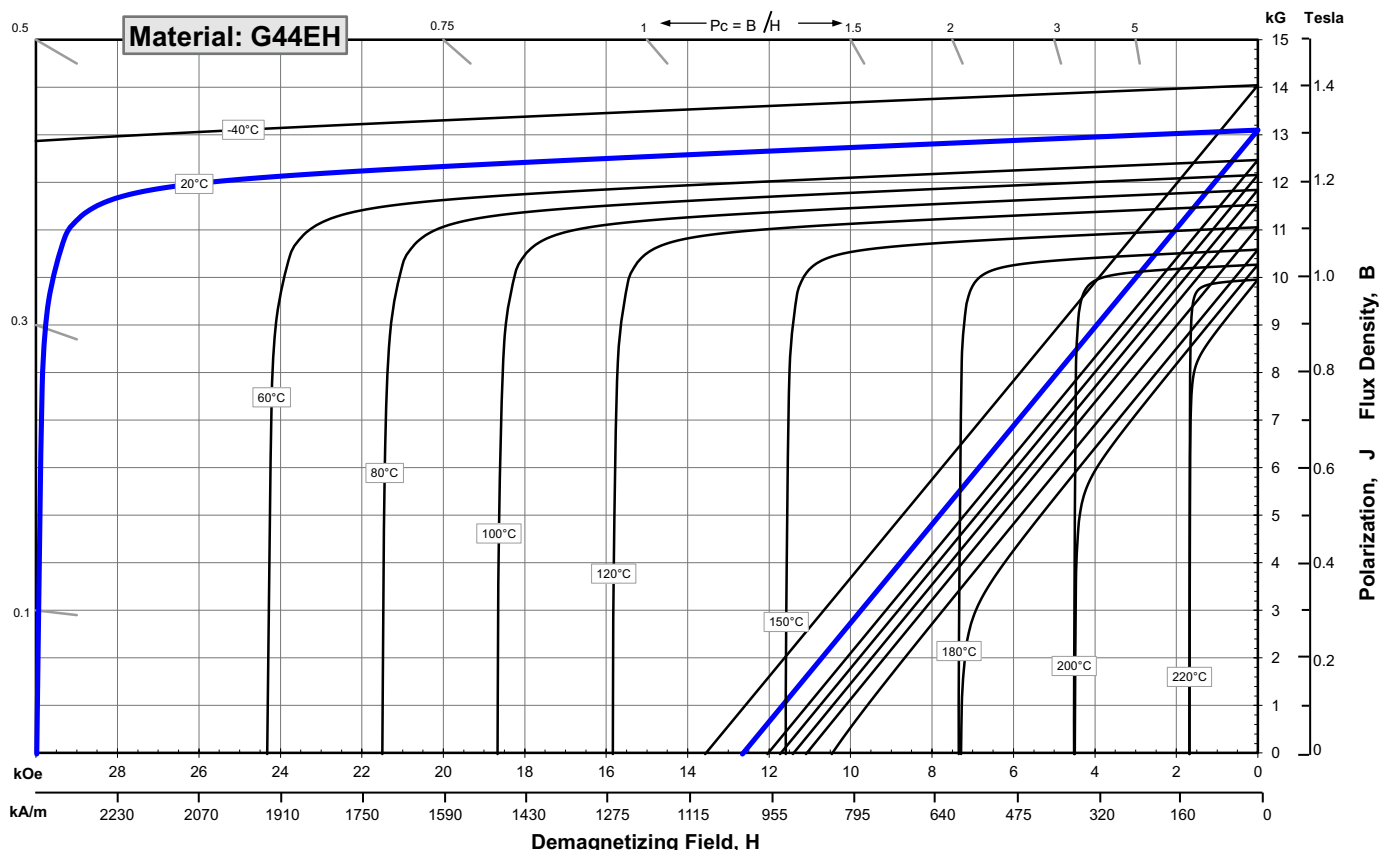
## Sintered Neodymium-Iron-Boron Magnets

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             | 12,900              | 13,100  | 13,400 |
|  | mT                | 1290                | 1310    | 1340   |
| <b>H<sub>cB</sub></b> , Coercivity               | Oersteds          | 12,200              | 12,500  | 12,800 |
|  | kA/m              | 971                 | 995     | 1019   |
| <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              | 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                         |                    | -0.47        |
| Coefficient of Thermal Expansion <sup>(2)</sup>    | ΔL/L per °Cx10 <sup>-6</sup> | 7.5                | -0.1         |
| Thermal Conductivity                               | kcal/mh°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, r                          | mW • cm                      |                    | 150 // 130 ⊥ |

Notes: (1) Coefficients measured between 20 and 200 °C  
 (2) Between 20 and 200 °C  
 (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.

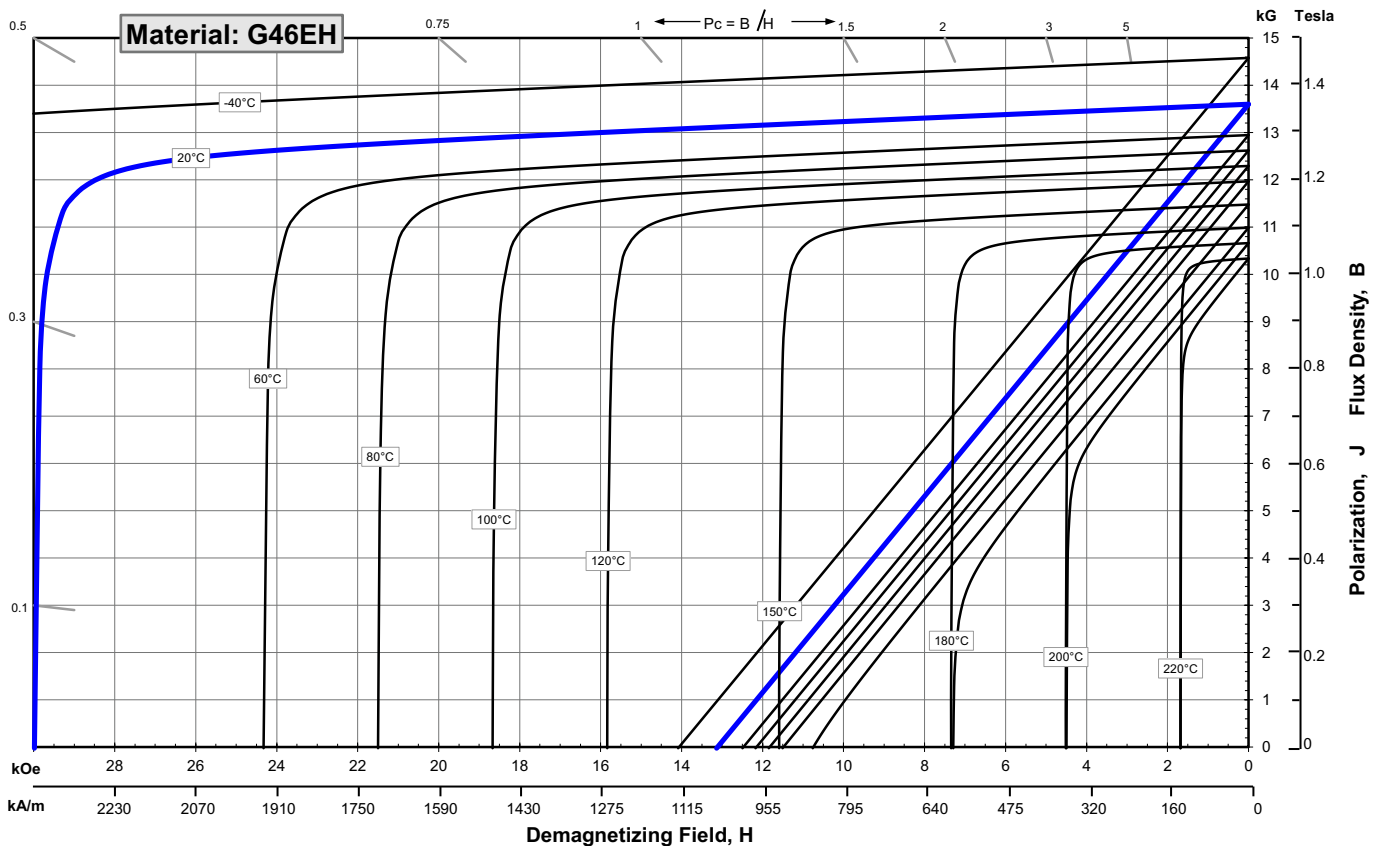
## Sintered Neodymium-Iron-Boron Magnets

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             | 13,400              | 13,600  | 13,800 |
|  | mT                | 1340                | 1360    | 1380   |
| <b>H<sub>CB</sub></b> , Coercivity               | Oersteds          | 12,700              | 12,950  | 13,200 |
|  | kA/m              | 1011                | 1031    | 1050   |
| <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              | 43                  | 46      | 48     |
|  | kJ/m <sup>3</sup> | 342                 | 362     | 382    |

| Characteristic                                     | Units                          | C // C ^ |              |
|--|--------------------------------|----------|--------------|
|  |                                | C //     | C ^          |
| <b>Thermal Properties</b>                          |                                |          |              |
| 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> | 7.5      | -0.1         |
| 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          |
| <b>Other Properties</b>                            |                                |          |              |
| Flexural Strength                                  | psi                            |          | 41,300       |
|  | MPa                            |          | 285          |
| Density  | g/cm <sup>3</sup>              |          | 7.6          |
| Hardness, Vickers                                  | Hv                             |          | 620          |
| Electrical Resistivity, r                          | nW • cm                        |          | 150 // 130 ⊥ |

Notes: (1) Coefficients measured between 20 and 200 °C  
 (2) Between 20 and 200 °C  
 (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.

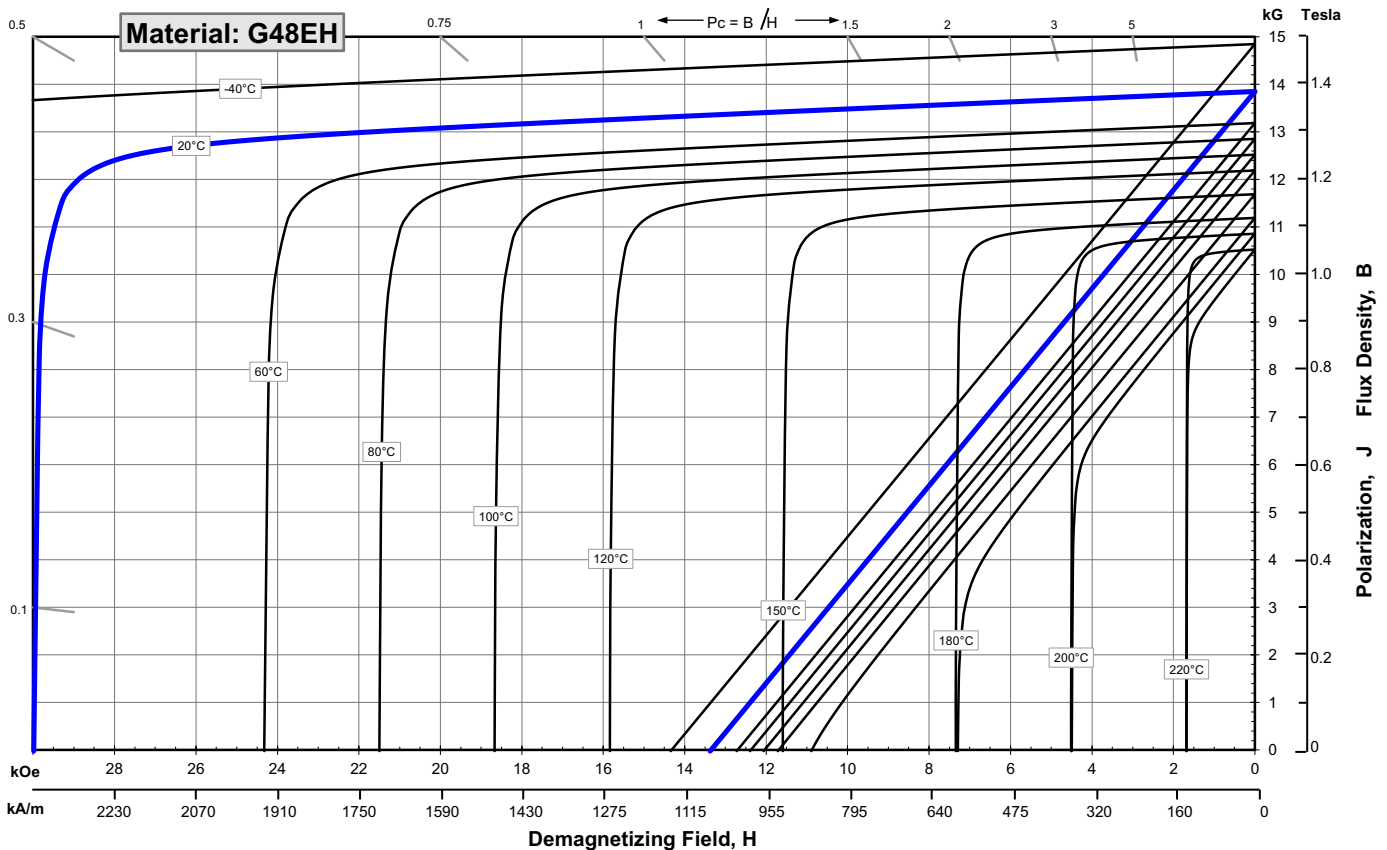
## Sintered Neodymium-Iron-Boron Magnets

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.

| Magnetic Properties                              | Characteristic                 | Units             | min.   | nominal | max.   |
|--|--------------------------------|-------------------|--------|---------|--------|
|  | <b>Br</b> , Residual Induction |                   | Gauss  | 13,600  | 13,850 |
|  |                                | mT                | 1360   | 1385    | 1410   |
| <b>H<sub>cB</sub></b> , Coercivity               |                                | Oersteds          | 12,900 | 13,200  | 13,500 |
|  |                                | kA/m              | 1027   | 1050    | 1074   |
| <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              | 44     | 47      | 49     |
|  |                                | kJ/m <sup>3</sup> | 350    | 370     | 390    |

| Thermal Properties                              | Characteristic                    | Units  | C // | C ^          |        |
|---|-----------------------------------|--|------|--------------|--------|
|   | Thermal Properties                | 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>                       | 7.5  | -0.1         |        |
| Thermal Conductivity                            |                                   | kcal/mhr°C   | 5.3  | 5.8          |        |
| Other Properties                                | 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, r                       | mW • cm                           |  |      | 150 // 130 ⊥ |        |

Notes: (1) Coefficients measured between 20 and 200 °C  
 (2) Between 20 and 200 °C  
 (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.



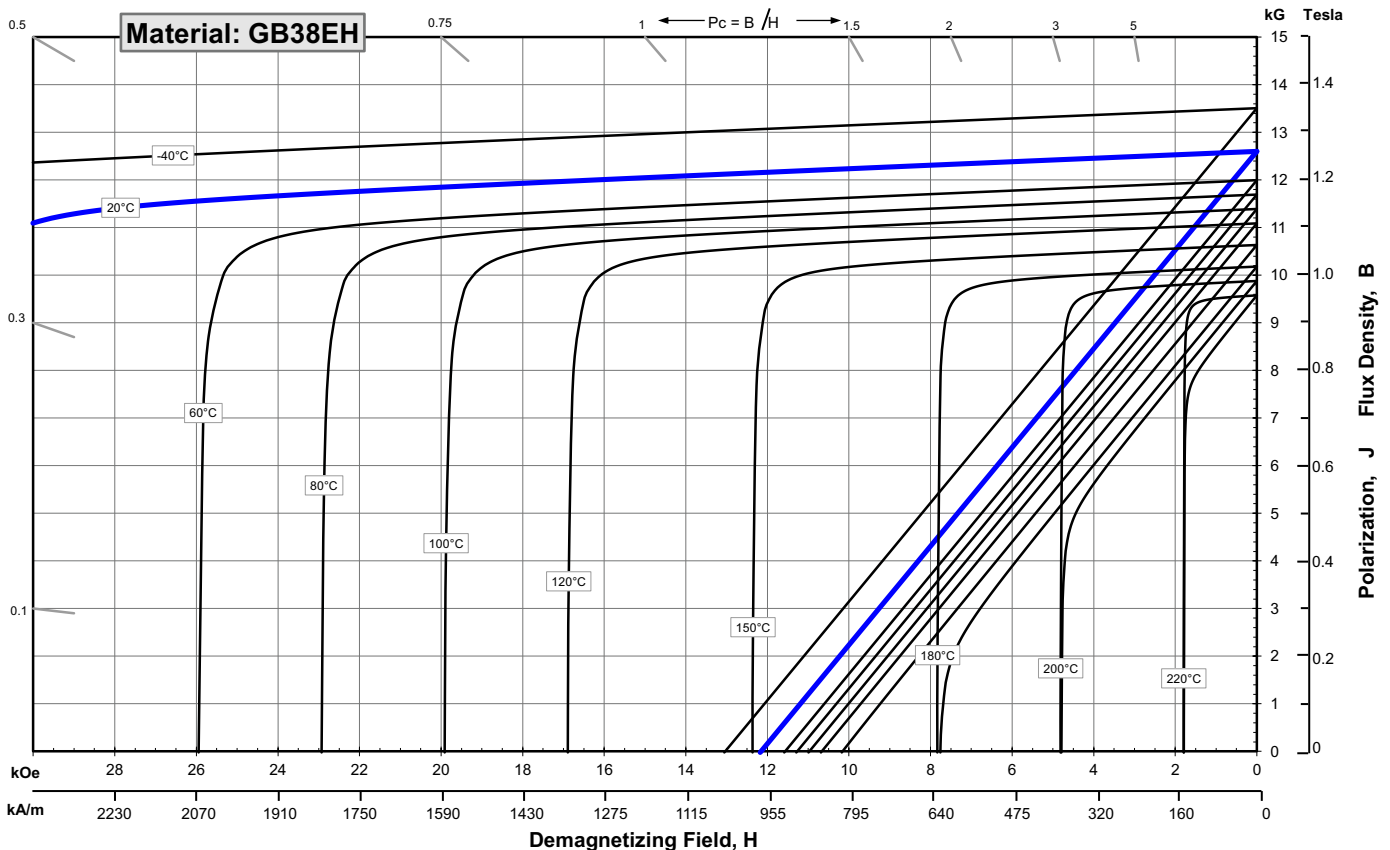
## Sintered Neodymium-Iron-Boron Magnets

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             | 12,200              | 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          | 32,000              |         |        |
|  | kA/m              | 2,547               |         |        |
| <b>BH<sub>max</sub></b> , Maximum Energy Product | MGOe              | 36                  | 39      | 41     |
|  | kJ/m <sup>3</sup> | 287                 | 307     | 326    |

| Characteristic                                     | Units                        | C // C ^     |      |
|--|------------------------------|--------------|------|
|  |                              | C //         | C ^  |
| <b>Thermal Properties</b>                          |                              |              |      |
| 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> | 7.5          | -0.1 |
| 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          |      |
| <b>Other Properties</b>                            |                              |              |      |
| Flexural Strength                                  | psi                          | 41,300       |      |
|  | MPa                          | 285          |      |
| Density  | g/cm <sup>3</sup>            | 7.6          |      |
| Hardness, Vickers                                  | Hv                           | 620          |      |
| Electrical Resistivity, r                          | mW • cm                      | 150 // 130 ⊥ |      |

Notes: (1) Coefficients measured between 20 and 200 °C  
 (2) Between 20 and 200 °C  
 (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.



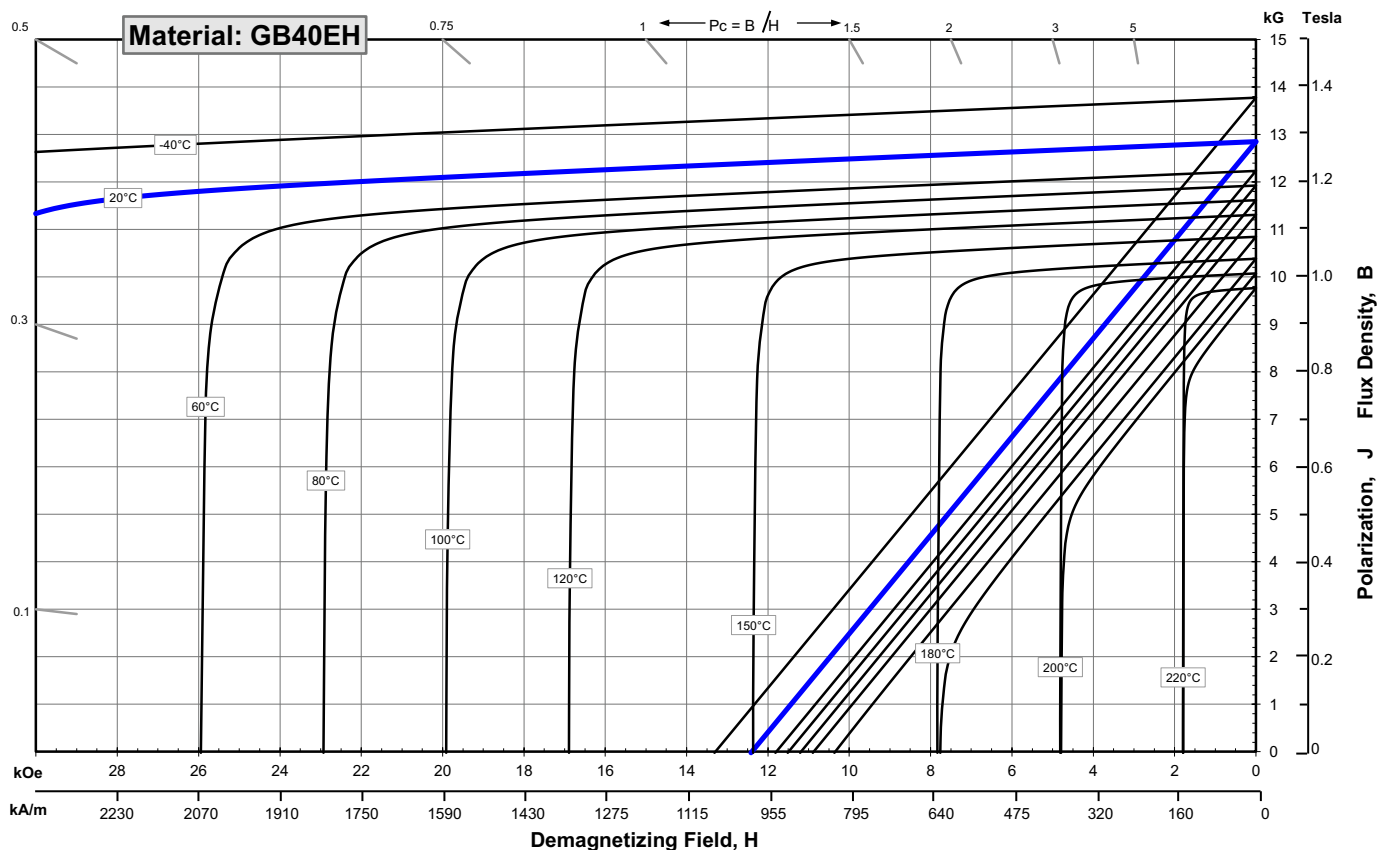
## Sintered Neodymium-Iron-Boron Magnets

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          | 32,000              |         |        |
|  | kA/m              | 2,547               |         |        |
| <b>BH<sub>max</sub></b> , Maximum Energy Product | MGOe              | 38                  | 40      | 42     |
|  | kJ/m <sup>3</sup> | 302                 | 318     | 334    |

| Characteristic                                     | Units                        | C // C^      |      |
|--|------------------------------|--------------|------|
|  |                              | C //         | C ^  |
| <b>Thermal Properties</b>                          |                              |              |      |
| 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> | 7.5          | -0.1 |
| 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          |      |
| <b>Other Properties</b>                            |                              |              |      |
| Flexural Strength                                  | psi                          | 41,300       |      |
|  | MPa                          | 285          |      |
| Density  | g/cm <sup>3</sup>            | 7.6          |      |
| Hardness, Vickers                                  | Hv                           | 620          |      |
| Electrical Resistivity, r                          | mW • cm                      | 150 // 130 ⊥ |      |

Notes: (1) Coefficients measured between 20 and 200 °C  
 (2) Between 20 and 200 °C  
 (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.

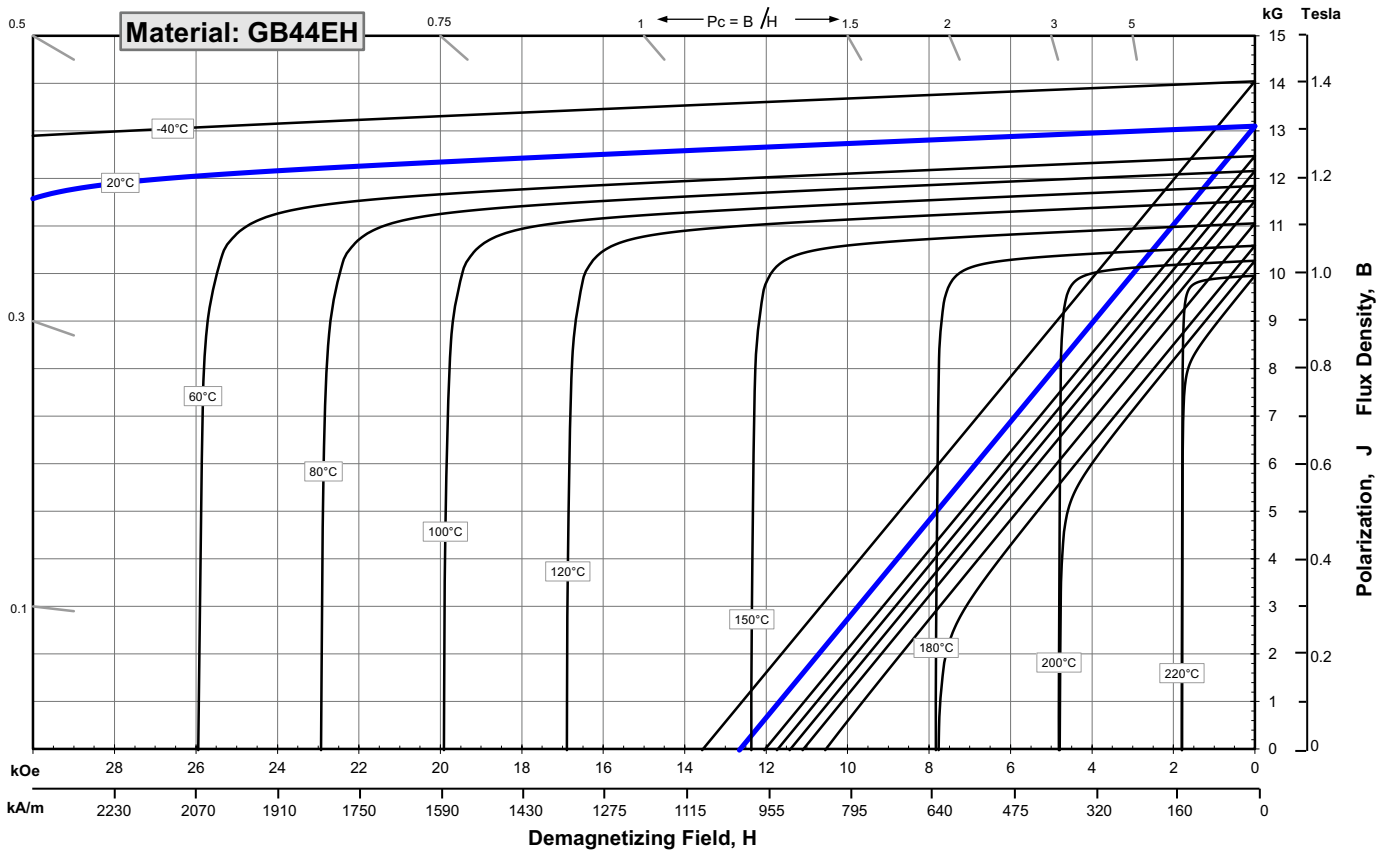
## Sintered Neodymium-Iron-Boron Magnets

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             | 12,900              | 13,100  | 13,400 |
|  | mT                | 1290                | 1310    | 1340   |
| <b>H<sub>CB</sub></b> , Coercivity               | Oersteds          | 12,200              | 12,500  | 12,800 |
|  | kA/m              | 971                 | 995     | 1019   |
| <b>H<sub>CJ</sub></b> , Intrinsic Coercivity     | Oersteds          | 32,000              |         |        |
|  | kA/m              | 2,547               |         |        |
| <b>BH<sub>max</sub></b> , Maximum Energy Product | MGOe              | 40                  | 43      | 45     |
|  | kJ/m <sup>3</sup> | 318                 | 338     | 358    |

| Characteristic                                     | Units                        | C // C ^ |              |
|--|------------------------------|----------|--------------|
|  |                              | C //     | C ^          |
| <b>Thermal Properties</b>                          |                              |          |              |
| Reversible Temperature Coefficients <sup>(1)</sup> |                              |          |              |
| of Induction, α(Br)                                | %/°C                         |          | -0.12        |
| of Coercivity, α(Hcj)                              | %/°C                         |          | -0.47        |
| Coefficient of Thermal Expansion <sup>(2)</sup>    | ΔL/L per °Cx10 <sup>-6</sup> | 7.5      | -0.1         |
| Thermal Conductivity                               | kcal/mhr°C                   | 5.3      | 5.8          |
| Specific Heat <sup>(3)</sup>                       | cal/g°C                      |          | 0.11         |
| Curie Temperature, Tc                              | °C                           |          | 310          |
| <b>Other Properties</b>                            |                              |          |              |
| Flexural Strength                                  | psi                          |          | 41,300       |
|  | MPa                          |          | 285          |
| Density  | g/cm <sup>3</sup>            |          | 7.6          |
| Hardness, Vickers                                  | Hv                           |          | 620          |
| Electrical Resistivity, r                          | mW • cm                      |          | 150 // 130 ⊥ |

Notes: (1) Coefficients measured between 20 and 200 °C  
 (2) Between 20 and 200 °C  
 (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 Hcj. Magnets can be supplied thermally stabilized or magnetically calibrated to customer specifications. Additional grades are available. Please contact the factory for information.

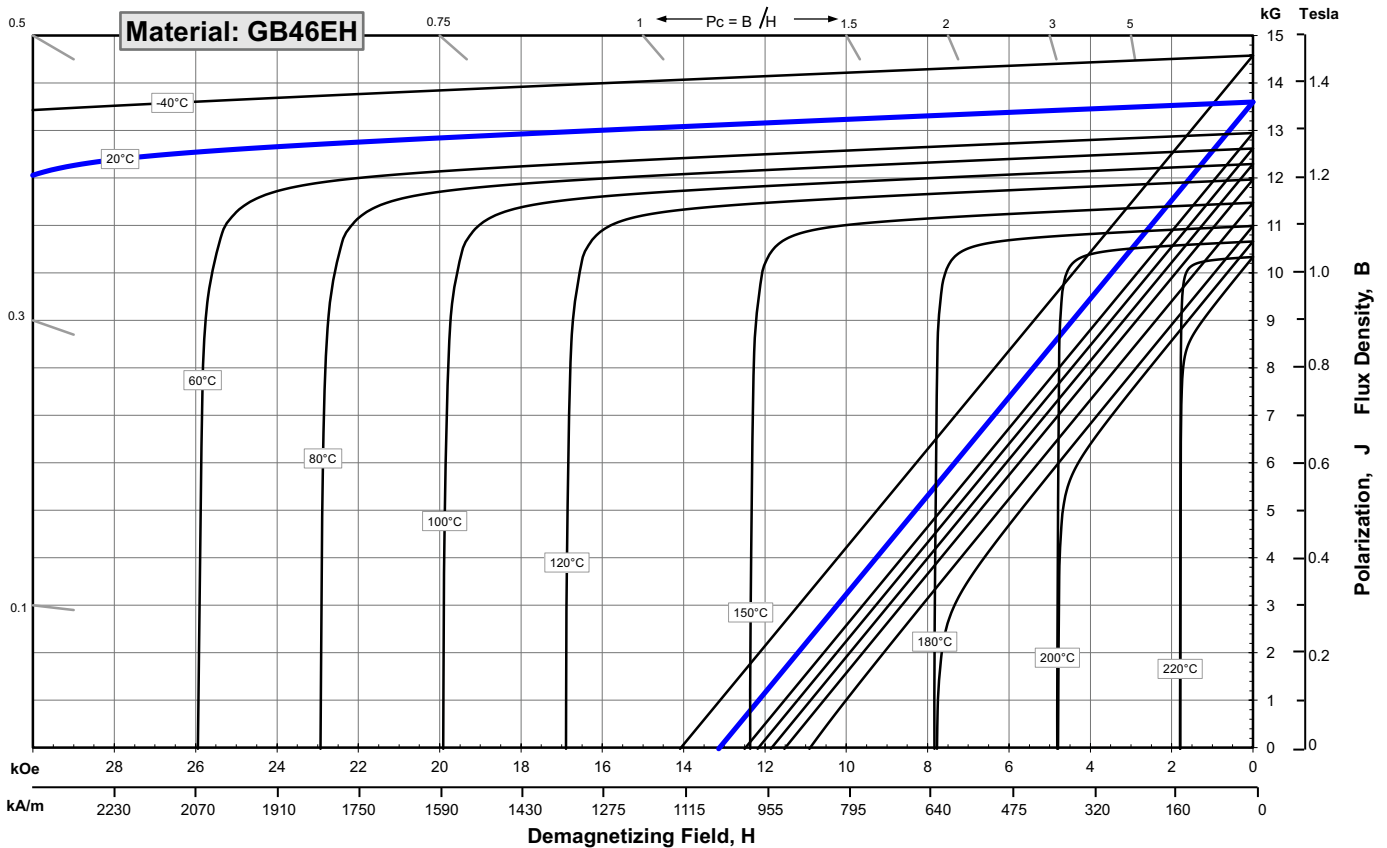
## Sintered Neodymium-Iron-Boron Magnets

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.

| Magnetic Properties                              | Characteristic                 | Units             | min.   | nominal | max.   |
|--|--------------------------------|-------------------|--------|---------|--------|
|  | <b>Br</b> , Residual Induction |                   | Gauss  | 13,400  | 13,600 |
|  |                                | mT                | 1340   | 1360    | 1380   |
| <b>H<sub>cB</sub></b> , Coercivity               |                                | Oersteds          | 12,700 | 12,950  | 13,200 |
|  |                                | kA/m              | 1011   | 1031    | 1050   |
| <b>H<sub>cJ</sub></b> , Intrinsic Coercivity     |                                | Oersteds          | 32,000 |         |        |
|  |                                | kA/m              | 2,547  |         |        |
| <b>BH<sub>max</sub></b> , Maximum Energy Product |                                | MGOe              | 43     | 46      | 48     |
|  |                                | kJ/m <sup>3</sup> | 342    | 362     | 382    |

| Thermal Properties                              | Characteristic                    | Units  | C // | C ^          |        |
|---|-----------------------------------|--|------|--------------|--------|
|   | Thermal Properties                | 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>                       | 7.5  | -0.1         |        |
| Thermal Conductivity                            |                                   | kcal/mhr°C   | 5.3  | 5.8          |        |
| Other Properties                                | 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, r                       | mW·cm                             |  |      | 150 // 130 ⊥ |        |

Notes: (1) Coefficients measured between 20 and 200 °C  
 (2) Between 20 and 200 °C  
 (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.

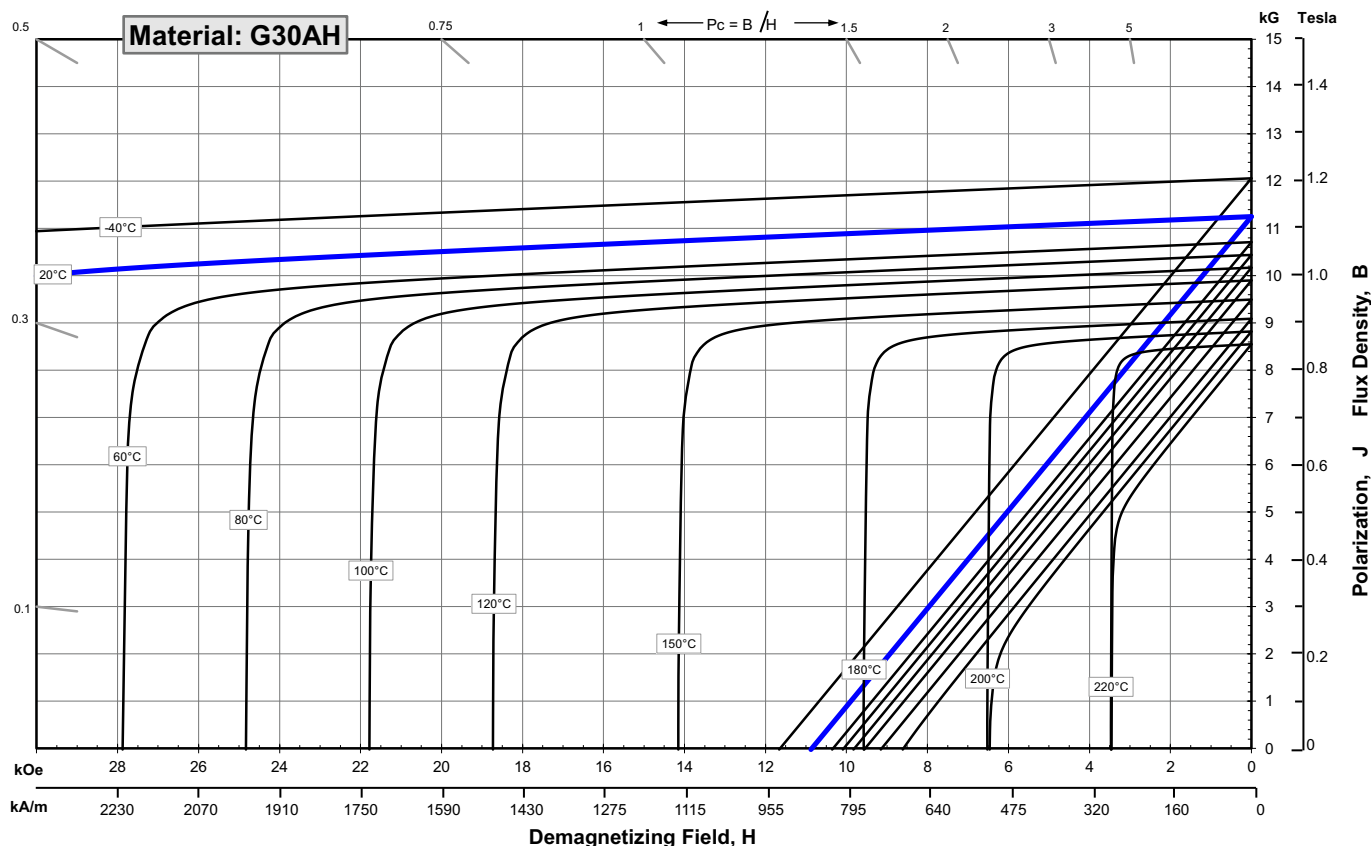
## Sintered Neodymium-Iron-Boron Magnets

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             | 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          | 34,000              |         |        |
|  | kA/m              | 2,706               |         |        |
| <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                         |                    | -0.45        |
| Coefficient of Thermal Expansion <sup>(2)</sup>    |                              |                    |              |
|  | ΔL/L per °Cx10 <sup>-6</sup> | 7.5                | -0.1         |
| 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, r                          | nW·cm                        |                    | 150 // 130 ⊥ |

Notes: (1) Coefficients measured between 20 and 220 °C  
 (2) Between 20 and 200 °C  
 (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.

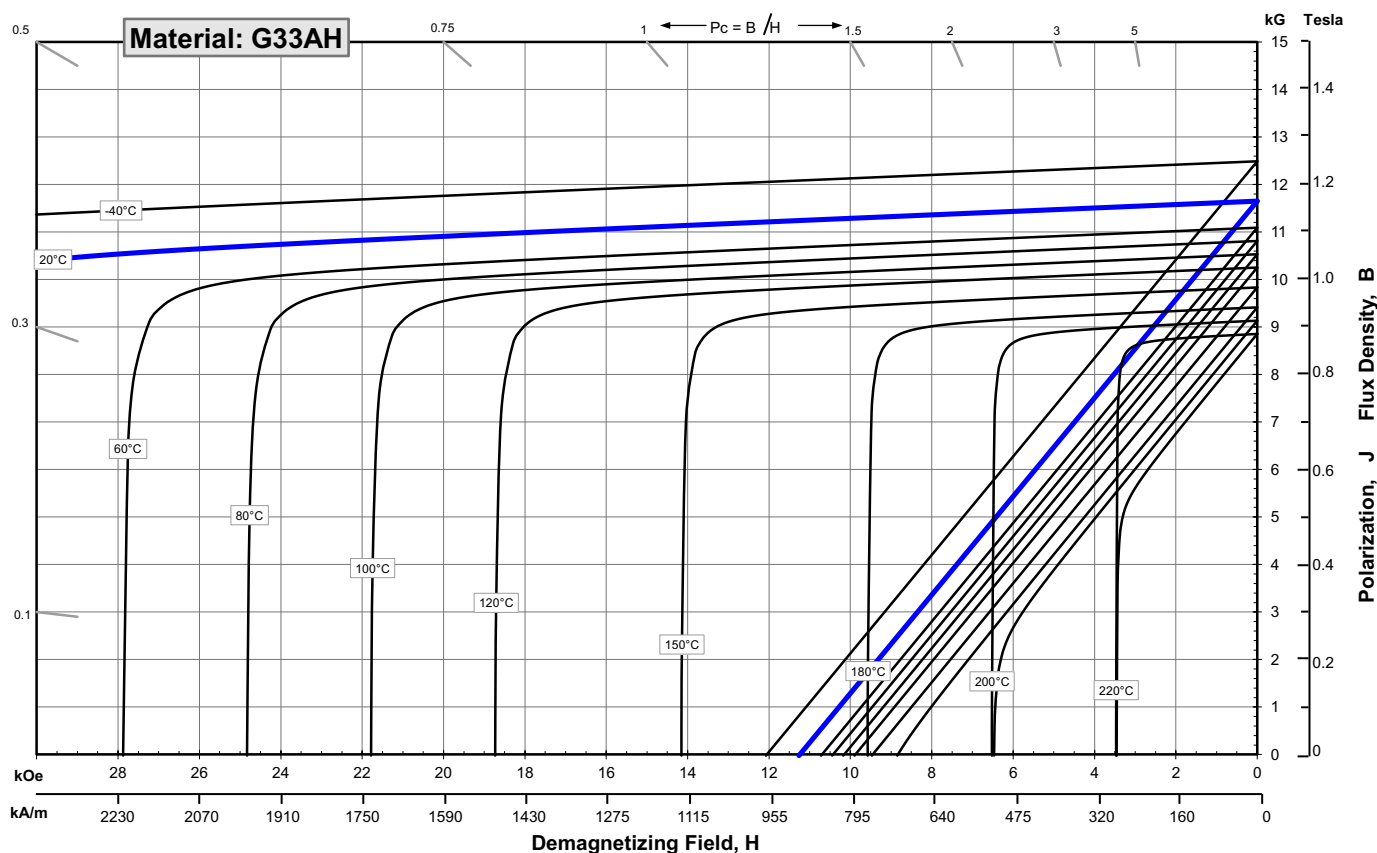
## Sintered Neodymium-Iron-Boron Magnets

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.

| Magnetic Properties                              | Characteristic                 | Units  | 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                       | 34,000 |        |         |        |
|  | kA/m                           | 2,706  |        |         |        |
| <b>BH<sub>max</sub></b> , Maximum Energy Product | MGOe                           | 31     | 34     | 36      |        |
|  | kJ/m <sup>3</sup>              | 247    | 267    | 287     |        |

| Thermal Properties                              | Characteristic                    | Units  | C // | C ^          |        |
|---|-----------------------------------|--|------|--------------|--------|
|   | Thermal Properties                | 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>                       | 7.5  | -0.1         |        |
| Thermal Conductivity                            |                                   | kcal/mhr°C   | 5.3  | 5.8          |        |
| Other Properties                                | 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, r                       | mW • cm                           |  |      | 150 // 130 ⊥ |        |

Notes: (1) Coefficients measured between 20 and 220 °C  
 (2) Between 20 and 200 °C  
 (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.

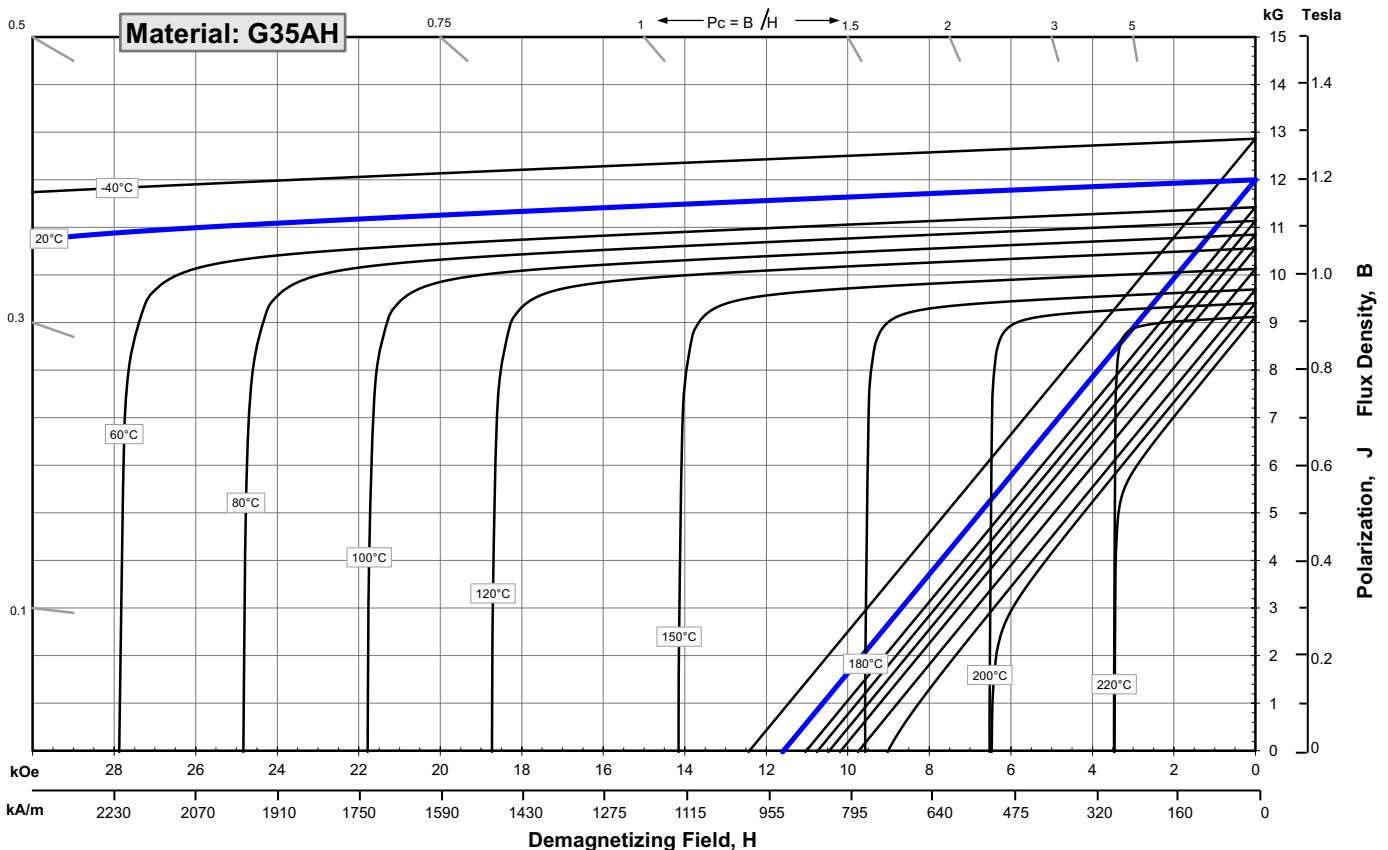
## Sintered Neodymium-Iron-Boron Magnets

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.

| Magnetic Properties                              | Characteristic                 | Units             | min.   | nominal | max.   |
|--|--------------------------------|-------------------|--------|---------|--------|
|  | <b>Br</b> , Residual Induction |                   | Gauss  | 11,700  | 12,000 |
|  |                                | 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          | 34,000 |         |        |
|  |                                | kA/m              | 2,706  |         |        |
| <b>BH<sub>max</sub></b> , Maximum Energy Product |                                | MGOe              | 33     | 35      | 37     |
|  |                                | kJ/m <sup>3</sup> | 263    | 279     | 295    |

| Thermal Properties                              | Characteristic                    | Units  | C // | C ^          |        |
|---|-----------------------------------|--|------|--------------|--------|
|   | Thermal Properties                | 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>                       | 7.5  | -0.1         |        |
| Thermal Conductivity                            |                                   | kcal/mhr°C   | 5.3  | 5.8          |        |
| Other Properties                                | 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, r                       | nW • cm                           |  |      | 150 // 130 ⊥ |        |

Notes: (1) Coefficients measured between 20 and 220 °C  
 (2) Between 20 and 200 °C  
 (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.

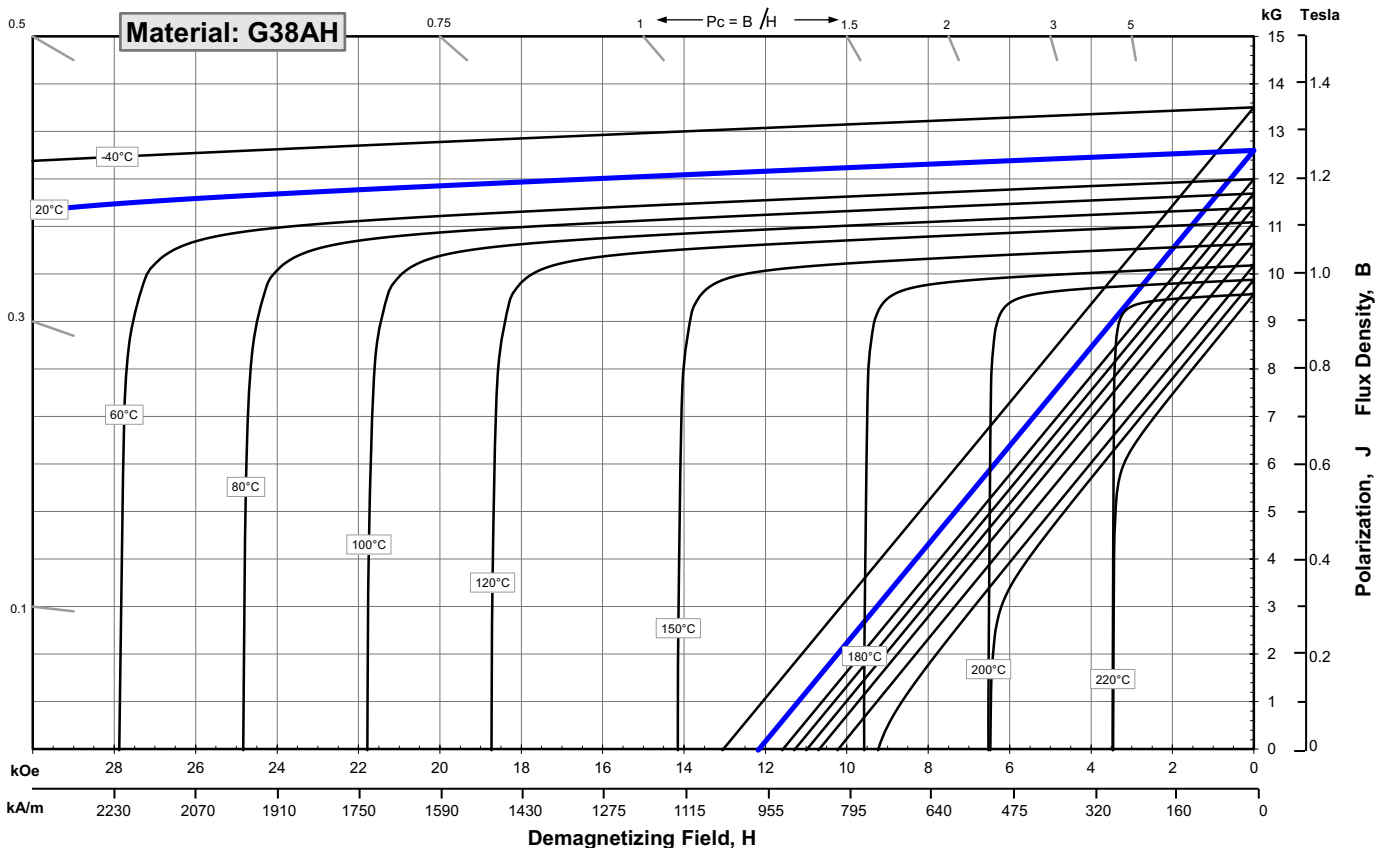
## Sintered Neodymium-Iron-Boron Magnets

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.

| Magnetic Properties                              | Characteristic                 | Units             | min.   | nominal | max.   |
|--|--------------------------------|-------------------|--------|---------|--------|
|  | <b>Br</b> , Residual Induction |                   | Gauss  | 12,200  | 12,600 |
|  |                                | 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          | 34,000 |         |        |
|  |                                | kA/m              | 2,706  |         |        |
| <b>BH<sub>max</sub></b> , Maximum Energy Product |                                | MGOe              | 36     | 39      | 41     |
|  |                                | kJ/m <sup>3</sup> | 287    | 307     | 326    |

| Thermal Properties                              | Characteristic                    | Units  | C // | C ^          |        |
|---|-----------------------------------|--|------|--------------|--------|
|   | Thermal Properties                | 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>                       | 7.5  | -0.1         |        |
| Thermal Conductivity                            |                                   | kcal/mhr°C   | 5.3  | 5.8          |        |
| Other Properties                                | 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, r                       | mW·cm                             |  |      | 150 // 130 ⊥ |        |

Notes: (1) Coefficients measured between 20 and 220 °C  
 (2) Between 20 and 200 °C  
 (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.

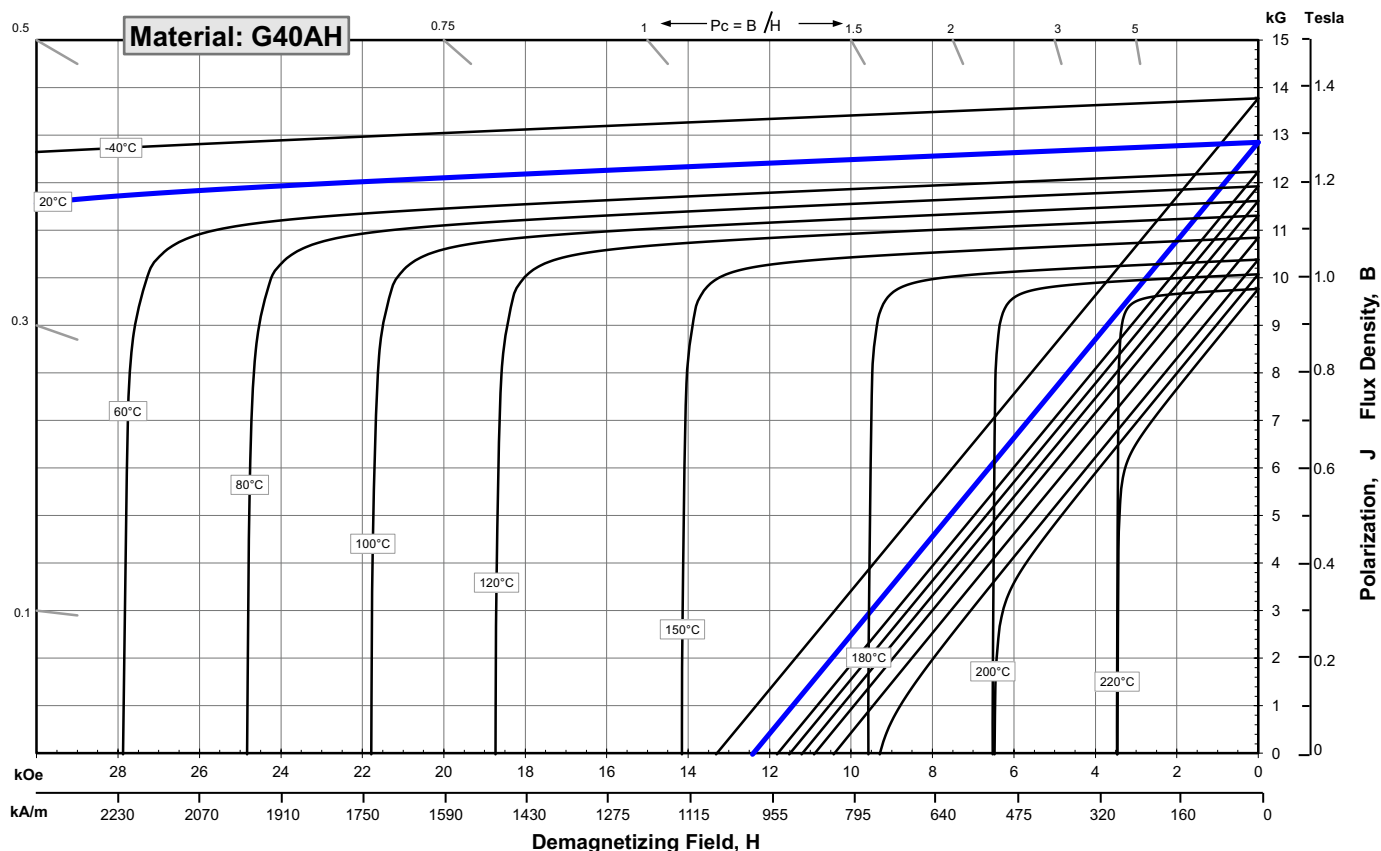
## Sintered Neodymium-Iron-Boron Magnets

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          | 34,000              |         |        |
|  | kA/m              | 2,706               |         |        |
| <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                         | -0.45              |      |
| Coefficient of Thermal Expansion <sup>(2)</sup>    | ΔL/L per °Cx10 <sup>-6</sup> | 7.5                | -0.1 |
| 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, r                          | mW • cm                      | 150 // 130 ⊥       |      |

Notes: (1) Coefficients measured between 20 and 220 °C  
 (2) Between 20 and 200 °C  
 (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.



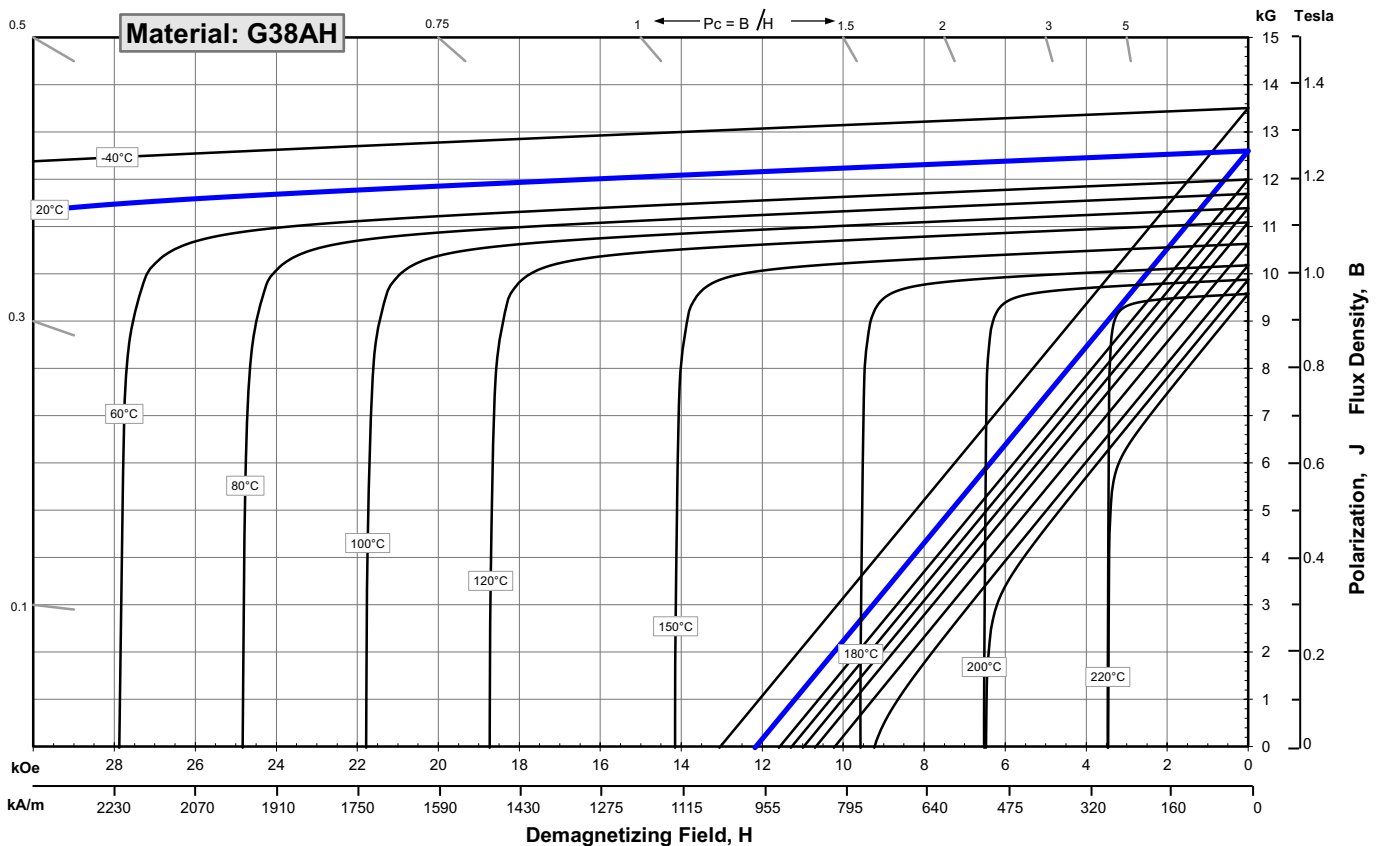
## Sintered Neodymium-Iron-Boron Magnets

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.

| Magnetic Properties                              | Characteristic                 | Units             | min.   | nominal | max.   |
|--|--------------------------------|-------------------|--------|---------|--------|
|  | <b>Br</b> , Residual Induction |                   | Gauss  | 12,200  | 12,600 |
|  |                                | 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          | 34,000 |         |        |
|  |                                | kA/m              | 2,706  |         |        |
| <b>BH<sub>max</sub></b> , Maximum Energy Product |                                | MGOe              | 36     | 39      | 41     |
|  |                                | kJ/m <sup>3</sup> | 287    | 307     | 326    |

| 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                         |      | -0.45        |
| Coefficient of Thermal Expansion <sup>(2)</sup> |  | ΔL/L per °Cx10 <sup>-6</sup> | 7.5  | -0.1         |
| 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, r                          | mW • cm                      |      | 150 // 130 ⊥ |

Notes: (1) Coefficients measured between 20 and 220 °C  
 (2) Between 20 and 200 °C  
 (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.

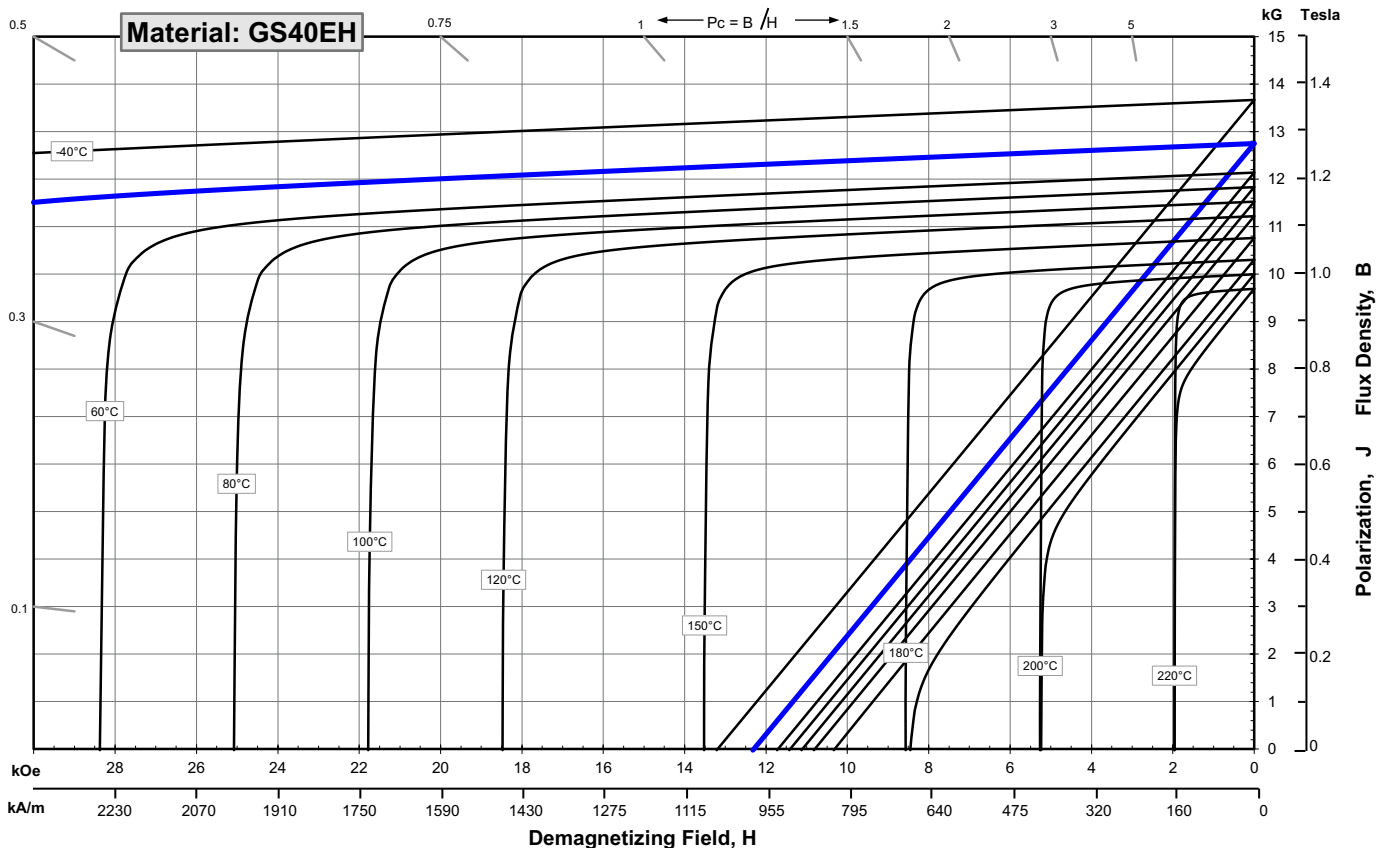
## Sintered Neodymium-Iron-Boron Magnets

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              | 12,750  | 13,000 |
|  | mT                | 1250                | 1275    | 1300   |
| <b>H<sub>cB</sub></b> , Coercivity               | Oersteds          | 12,000              | 12,200  | 12,400 |
|  | kA/m              | 955                 | 971     | 987    |
| <b>H<sub>cJ</sub></b> , Intrinsic Coercivity     | Oersteds          | 35,000              |         |        |
|  | kA/m              | 2,786               |         |        |
| <b>BH<sub>max</sub></b> , Maximum Energy Product | MGOe              | 38                  | 41      | 43     |
|  | kJ/m <sup>3</sup> | 302                 | 322     | 342    |

| Characteristic                                     | Units                        | C // C ^ |              |
|--|------------------------------|----------|--------------|
|  |                              | C //     | C ^          |
| <b>Thermal Properties</b>                          |                              |          |              |
| 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> | 7.5      | -0.1         |
| Thermal Conductivity                               | kcal/mh°C                    | 5.3      | 5.8          |
| Specific Heat <sup>(3)</sup>                       | cal/g°C                      |          | 0.11         |
| Curie Temperature, T <sub>c</sub>                  | °C                           |          | 310          |
| <b>Other Properties</b>                            |                              |          |              |
| Flexural Strength                                  | psi                          |          | 41,300       |
|  | MPa                          |          | 285          |
| Density  | g/cm <sup>3</sup>            |          | 7.6          |
| Hardness, Vickers                                  | Hv                           |          | 620          |
| Electrical Resistivity, r                          | mW • cm                      |          | 150 // 130 ⊥ |

Notes: (1) Coefficients measured between 20 and 200 °C  
 (2) Between 20 and 200 °C  
 (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.

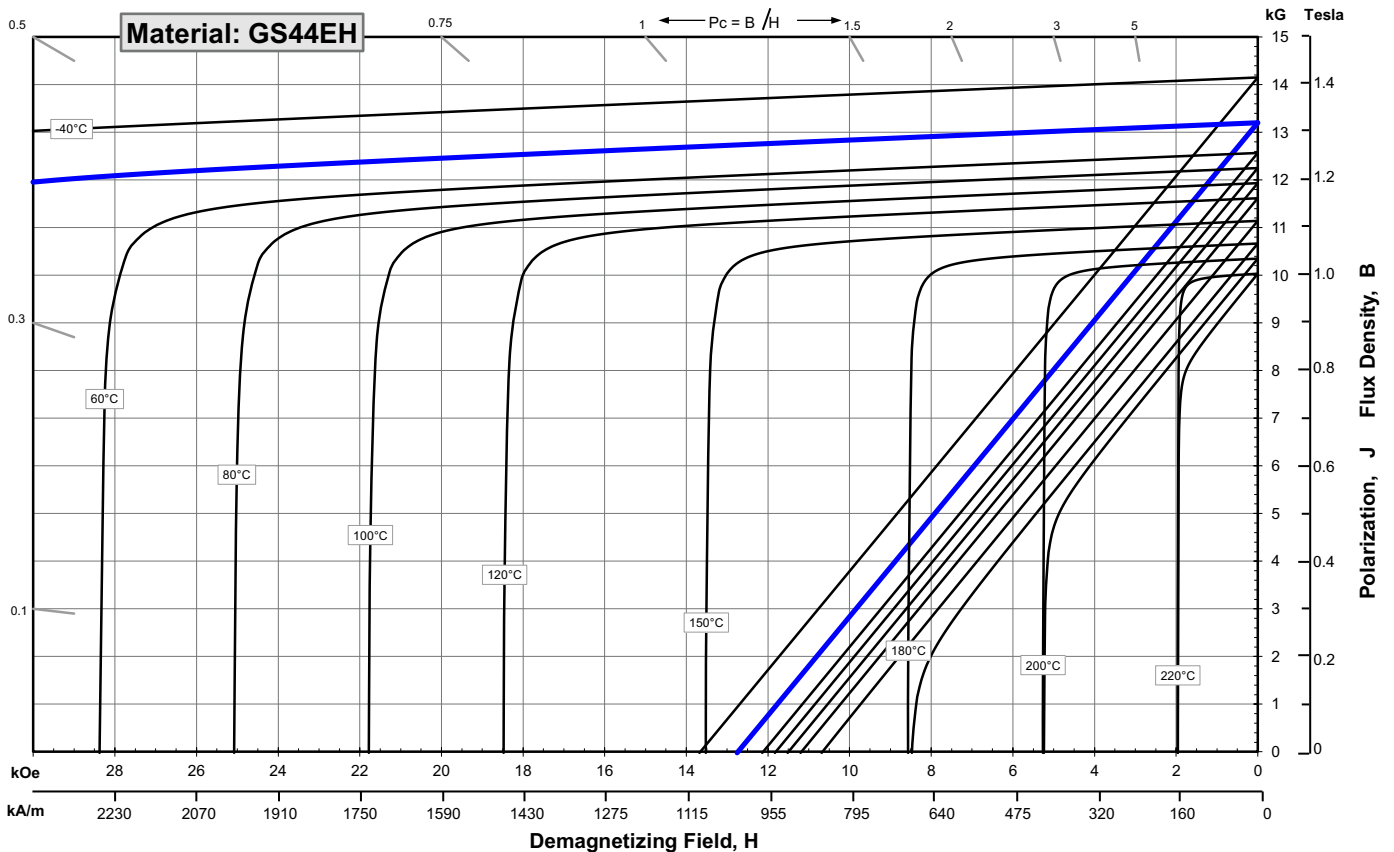
## Sintered Neodymium-Iron-Boron Magnets

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.

| Magnetic Properties                              | Characteristic                 | Units             | min.   | nominal | max.   |
|--|--------------------------------|-------------------|--------|---------|--------|
|  | <b>Br</b> , Residual Induction |                   | Gauss  | 13,000  | 13,200 |
|  |                                | mT                | 1300   | 1320    | 1340   |
| <b>H<sub>cB</sub></b> , Coercivity               |                                | Oersteds          | 12,300 | 12,550  | 12,800 |
|  |                                | kA/m              | 979    | 999     | 1019   |
| <b>H<sub>cJ</sub></b> , Intrinsic Coercivity     |                                | Oersteds          | 35,000 |         |        |
|  |                                | kA/m              | 2,786  |         |        |
| <b>BH<sub>max</sub></b> , Maximum Energy Product |                                | MGOe              | 41     | 44      | 46     |
|  |                                | kJ/m <sup>3</sup> | 326    | 346     | 366    |

| Thermal Properties                              | Characteristic                    | Units  | C // | C ^          |        |
|---|-----------------------------------|--|------|--------------|--------|
|   | Thermal Properties                | 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>                     | 7.5  | -0.1         |        |
| Thermal Conductivity                            |                                   | kcal/mhr°C   | 5.3  | 5.8          |        |
| Other Properties                                | 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, r                       | mW • cm                           |  |      | 150 // 130 ⊥ |        |

Notes: (1) Coefficients measured between 20 and 200 °C  
 (2) Between 20 and 200 °C  
 (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.

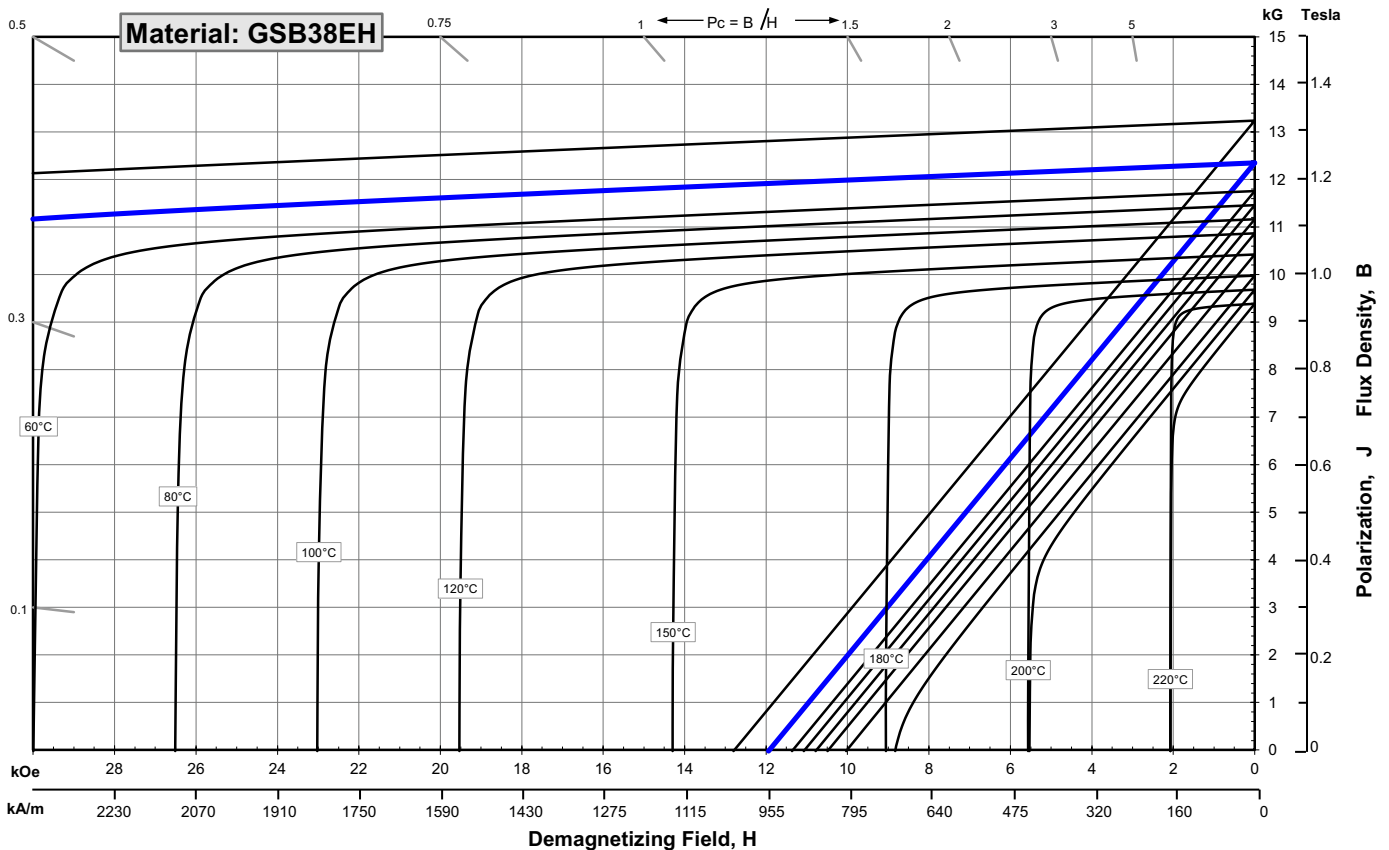
## Sintered Neodymium-Iron-Boron Magnets

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             | 12,100              | 12,350  | 12,600 |
|  | mT                | 1210                | 1235    | 1260   |
| <b>H<sub>cB</sub></b> , Coercivity               | Oersteds          | 11,500              | 11,750  | 12,000 |
|  | kA/m              | 915                 | 935     | 955    |
| <b>H<sub>cJ</sub></b> , Intrinsic Coercivity     | Oersteds          | 37,000              |         |        |
|  | kA/m              | 2,945               |         |        |
| <b>BH<sub>max</sub></b> , Maximum Energy Product | MGOe              | 36                  | 39      | 41     |
|  | kJ/m <sup>3</sup> | 287                 | 307     | 326    |

| Characteristic                                     | Units                        | C // C ^     |      |
|--|------------------------------|--------------|------|
|  |                              | C //         | C ^  |
| <b>Thermal Properties</b>                          |                              |              |      |
| 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> | 7.5          | -0.1 |
| 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          |      |
| <b>Other Properties</b>                            |                              |              |      |
| Flexural Strength                                  | psi                          | 41,300       |      |
|  | MPa                          | 285          |      |
| Density  | g/cm <sup>3</sup>            | 7.6          |      |
| Hardness, Vickers                                  | Hv                           | 620          |      |
| Electrical Resistivity, r                          | mW • cm                      | 150 // 130 ⊥ |      |

Notes: (1) Coefficients measured between 20 and 200 °C  
 (2) Between 20 and 200 °C  
 (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.

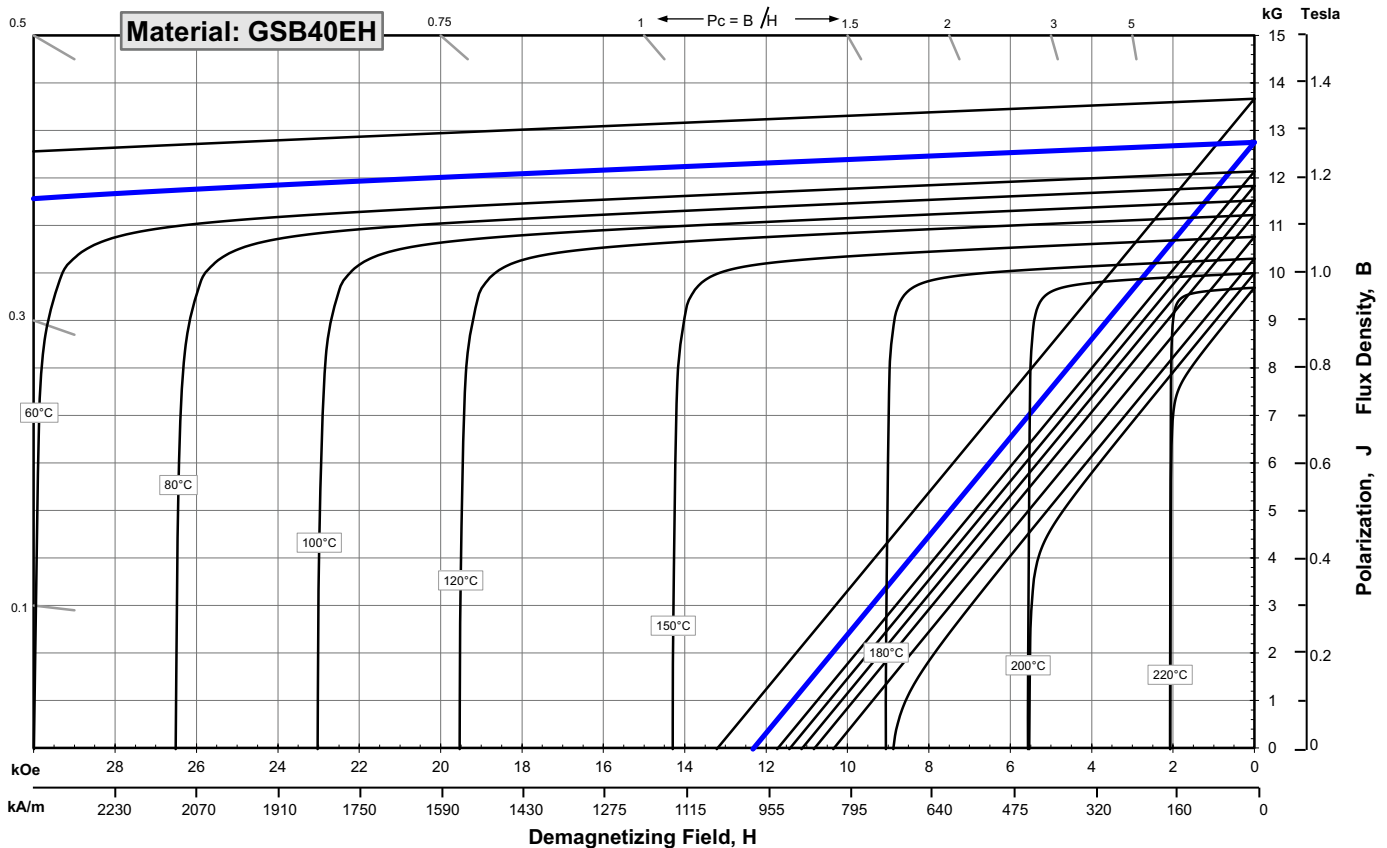
## Sintered Neodymium-Iron-Boron Magnets

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.

| Magnetic Properties                              | Characteristic                 | Units             | min.   | nominal | max.   |
|--|--------------------------------|-------------------|--------|---------|--------|
|  | <b>Br</b> , Residual Induction |                   | Gauss  | 12,500  | 12,750 |
|  |                                | mT                | 1250   | 1275    | 1300   |
| <b>H<sub>cB</sub></b> , Coercivity               |                                | Oersteds          | 12,000 | 12,200  | 12,400 |
|  |                                | kA/m              | 955    | 971     | 987    |
| <b>H<sub>cJ</sub></b> , Intrinsic Coercivity     |                                | Oersteds          | 37,000 |         |        |
|  |                                | kA/m              | 2,945  |         |        |
| <b>BH<sub>max</sub></b> , Maximum Energy Product |                                | MGOe              | 38     | 41      | 43     |
|  |                                | kJ/m <sup>3</sup> | 302    | 324     | 345    |

| 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                         |      | -0.47        |
| Coefficient of Thermal Expansion <sup>(2)</sup> |  | ΔL/L per °Cx10 <sup>-6</sup> | 7.5  | -0.1         |
| Thermal Conductivity                            |  | kcal/mhr°C                   | 5.3  | 5.8          |
| Specific Heat <sup>(3)</sup>                    |  | cal/g°C                      |      | 0.11         |
| Other Properties                                | Curie Temperature, T <sub>c</sub>                  | °C                           |      | 310          |
|   | Flexural Strength                                  |                              | psi  | 41,300       |
|   |  |                              | MPa  |              |
|   | Density  | g/cm <sup>3</sup>            |      | 7.6          |
|   | Hardness, Vickers                                  | Hv                           |      | 620          |
|   | Electrical Resistivity, r                          | mW•cm                        |      | 150 // 130 ⊥ |

Notes: (1) Coefficients measured between 20 and 200 °C  
 (2) Between 20 and 200 °C  
 (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.



770 Linden Ave. • Rochester, NY 14625-2764 USA  
Tel: 800-593-9127 • (+1) 585-385-9010 • Fax: (+1) 585-385-5625  
Email: [info@arnoldmagnetics.com](mailto:info@arnoldmagnetics.com)

**[www.arnoldmagnetics.com](http://www.arnoldmagnetics.com)**

©2019 Arnold Magnetic Technologies