

## Neodymium-Iron-Boron(NdFeB) Magnet Grade

| Properties Grade | Br (KG) | Br (T) | Hcb (kOe) | Hcb (KA/m) | Hcj (kOe) | Hcj (KA/m) | (BH)max (MGOe) |     | (BH)max (KJ/m <sup>3</sup> ) |     | TC (°C) | TW (°C) |
|------------------|---------|--------|-----------|------------|-----------|------------|----------------|-----|------------------------------|-----|---------|---------|
|                  |         |        |           |            |           |            | Min            | Max | Min                          | Max |         |         |
| N35              | ≥11.8   | ≥1.18  | ≥10.8     | ≥860       | ≥12       | ≥960       | 33             | 37  | 263                          | 295 | 310     | ≤80     |
| N38              | ≥12.3   | ≥1.23  | ≥10.8     | ≥860       | ≥12       | ≥960       | 36             | 39  | 287                          | 310 |         |         |
| N40              | ≥12.7   | ≥1.27  | ≥11.0     | ≥876       | ≥12       | ≥960       | 38             | 41  | 302                          | 327 |         |         |
| N42              | ≥13.0   | ≥1.30  | ≥11.0     | ≥876       | ≥12       | ≥960       | 40             | 43  | 320                          | 343 |         |         |
| N45              | ≥13.3   | ≥1.33  | ≥11.0     | ≥876       | ≥12       | ≥960       | 42             | 46  | 335                          | 366 |         |         |
| N48              | ≥13.7   | ≥1.37  | ≥10.5     | ≥836       | ≥12       | ≥960       | 45             | 49  | 358                          | 390 |         |         |
| N50              | ≥14.0   | ≥1.40  | ≥10.5     | ≥836       | ≥12       | ≥960       | 47             | 51  | 374                          | 406 |         |         |
| N52              | ≥14.2   | ≥1.42  | ≥10.5     | ≥836       | ≥12       | ≥960       | 49             | 53  | 390                          | 422 |         |         |
| N54              | ≥14.4   | ≥1.44  | ≥10.5     | ≥836       | ≥11       | ≥876       | 51             | 55  | 406                          | 438 |         |         |
| N35M             | ≥11.8   | ≥1.18  | ≥10.8     | ≥860       | ≥14       | ≥1114      | 33             | 37  | 263                          | 295 | 320     | ≤100    |
| N38M             | ≥12.3   | ≥1.23  | ≥11.0     | ≥876       | ≥14       | ≥1114      | 36             | 39  | 287                          | 310 |         |         |
| N40M             | ≥12.7   | ≥1.27  | ≥11.5     | ≥915       | ≥14       | ≥1114      | 38             | 41  | 302                          | 327 |         |         |
| N42M             | ≥13.0   | ≥1.30  | ≥11.8     | ≥939       | ≥14       | ≥1114      | 40             | 43  | 320                          | 343 |         |         |
| N45M             | ≥13.3   | ≥1.33  | ≥12.0     | ≥956       | ≥14       | ≥1114      | 42             | 46  | 335                          | 366 |         |         |
| N48M             | ≥13.7   | ≥1.37  | ≥12.2     | ≥972       | ≥14       | ≥1114      | 45             | 49  | 358                          | 390 |         |         |
| N50M             | ≥14.0   | ≥1.40  | ≥12.5     | ≥995       | ≥14       | ≥1114      | 47             | 51  | 374                          | 406 |         |         |
| N52M             | ≥14.2   | ≥1.42  | ≥12.5     | ≥995       | ≥14       | ≥1114      | 49             | 53  | 390                          | 422 |         |         |
| N33H             | ≥11.4   | ≥1.14  | ≥10.6     | ≥844       | ≥17       | ≥1350      | 31             | 35  | 247                          | 279 |         |         |
| N35H             | ≥11.8   | ≥1.18  | ≥10.8     | ≥860       | ≥17       | ≥1350      | 33             | 37  | 263                          | 295 |         |         |
| N38H             | ≥12.3   | ≥1.23  | ≥11.0     | ≥876       | ≥17       | ≥1350      | 36             | 39  | 287                          | 310 |         |         |
| N40H             | ≥12.7   | ≥1.27  | ≥11.5     | ≥916       | ≥17       | ≥1350      | 38             | 41  | 302                          | 327 |         |         |
| N42H             | ≥13.0   | ≥1.30  | ≥11.8     | ≥940       | ≥17       | ≥1350      | 40             | 43  | 320                          | 343 |         |         |
| N45H             | ≥13.3   | ≥1.33  | ≥12.0     | ≥955       | ≥17       | ≥1350      | 42             | 46  | 335                          | 366 |         |         |
| N48H             | ≥13.6   | ≥1.36  | ≥12.2     | ≥971       | ≥17       | ≥1350      | 45             | 49  | 358                          | 390 |         |         |
| N50H             | ≥14     | ≥1.4   | ≥12.5     | ≥995       | ≥17       | ≥1350      | 47             | 51  | 374                          | 406 |         |         |
| N52H             | ≥14.3   | ≥1.43  | ≥12.5     | ≥995       | ≥17       | ≥1350      | 49             | 53  | 390                          | 422 |         |         |
| N33SH            | ≥11.4   | ≥1.14  | ≥10.6     | ≥844       | ≥20       | ≥1592      | 31             | 35  | 247                          | 279 | 340     | ≤150    |
| N35SH            | ≥11.8   | ≥1.18  | ≥10.8     | ≥860       | ≥20       | ≥1592      | 33             | 37  | 263                          | 295 |         |         |
| N38SH            | ≥12.3   | ≥1.23  | ≥11.0     | ≥876       | ≥20       | ≥1592      | 36             | 39  | 287                          | 310 |         |         |
| N40SH            | ≥12.6   | ≥1.26  | ≥11.5     | ≥916       | ≥20       | ≥1592      | 38             | 41  | 302                          | 327 |         |         |
| N42SH            | ≥12.9   | ≥1.29  | ≥11.8     | ≥940       | ≥20       | ≥1592      | 40             | 43  | 320                          | 343 |         |         |
| N45SH            | ≥13.2   | ≥1.32  | ≥12.0     | ≥955       | ≥20       | ≥1592      | 42             | 46  | 335                          | 366 |         |         |
| N48SH            | ≥13.6   | ≥1.36  | ≥12.2     | ≥971       | ≥20       | ≥1592      | 45             | 49  | 358                          | 390 |         |         |

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| Properties Grade | Br (KG) | Br (T) | Hcb (kOe) | Hcb (KA/m) | Hcj (kOe) | Hcj (KA/m) | (BH)max (MGOe) |     | (BH)max (KJ/m <sup>3</sup> ) |       | TC (°C) | TW (°C) |
|------------------|---------|--------|-----------|------------|-----------|------------|----------------|-----|------------------------------|-------|---------|---------|
|                  |         |        |           |            |           |            | Min            | Max | Min                          | Max   |         |         |
|                  |         |        |           |            |           |            | N50SH          | ≥14 | ≥1.4                         | ≥12.5 |         |         |
| N33UH            | ≥11.4   | ≥1.14  | ≥10.6     | ≥844       | ≥25       | ≥1990      | 31             | 35  | 247                          | 279   | 350     | ≤180    |
| N35UH            | ≥11.8   | ≥1.18  | ≥10.8     | ≥860       | ≥25       | ≥1990      | 33             | 37  | 263                          | 295   |         |         |
| N38UH            | ≥12.3   | ≥1.23  | ≥11.0     | ≥876       | ≥25       | ≥1990      | 36             | 39  | 287                          | 310   |         |         |
| N40UH            | ≥12.6   | ≥1.26  | ≥11.5     | ≥916       | ≥25       | ≥1990      | 38             | 41  | 302                          | 327   |         |         |
| N42UH            | ≥12.9   | ≥1.29  | ≥11.8     | ≥940       | ≥25       | ≥1990      | 40             | 43  | 320                          | 343   |         |         |
| N45UH            | ≥13.2   | ≥1.32  | ≥12.0     | ≥955       | ≥25       | ≥1990      | 42             | 46  | 335                          | 366   |         |         |
| N48UH            | ≥13.6   | ≥1.36  | ≥12.2     | ≥971       | ≥25       | ≥1990      | 45             | 49  | 358                          | 390   |         |         |
| N28EH            | ≥10.4   | ≥1.04  | ≥9.50     | ≥756       | ≥30       | ≥2388      | 26             | 30  | 207                          | 239   | 380     | ≤200    |
| N30EH            | ≥10.8   | ≥1.08  | ≥9.50     | ≥756       | ≥30       | ≥2388      | 28             | 32  | 223                          | 255   |         |         |
| N33EH            | ≥11.4   | ≥1.14  | ≥10.6     | ≥844       | ≥30       | ≥2388      | 31             | 35  | 247                          | 279   |         |         |
| N35EH            | ≥11.8   | ≥1.18  | ≥10.8     | ≥860       | ≥30       | ≥2388      | 33             | 37  | 263                          | 295   |         |         |
| N38EH            | ≥12.3   | ≥1.23  | ≥11.0     | ≥876       | ≥30       | ≥2388      | 36             | 39  | 287                          | 310   |         |         |
| N40EH            | ≥12.6   | ≥1.26  | ≥11.5     | ≥916       | ≥30       | ≥2388      | 38             | 41  | 302                          | 327   |         |         |
| N42EH            | ≥12.9   | ≥1.29  | ≥11.8     | ≥940       | ≥30       | ≥2388      | 41             | 43  | 320                          | 343   |         |         |
| N45EH            | ≥13.2   | ≥1.32  | ≥12.0     | ≥955       | ≥30       | ≥2388      | 42             | 46  | 335                          | 366   |         |         |
| N28AH            | ≥10.3   | ≥1.03  | ≥9.80     | ≥780       | ≥35       | ≥2786      | 26             | 29  | 207                          | 231   | 380     | ≤220    |
| N30AH            | ≥10.8   | ≥1.08  | ≥10.2     | ≥812       | ≥35       | ≥2786      | 28             | 32  | 223                          | 255   |         |         |
| N33AH            | ≥11.4   | ≥1.14  | ≥10.6     | ≥844       | ≥35       | ≥2786      | 31             | 35  | 247                          | 279   |         |         |
| N35AH            | ≥11.8   | ≥1.18  | ≥11.0     | ≥876       | ≥35       | ≥2786      | 33             | 37  | 263                          | 295   |         |         |
| N38AH            | ≥12.2   | ≥1.22  | ≥11.0     | ≥876       | ≥33       | ≥2627      | 36             | 39  | 287                          | 310   |         |         |

### Neodymium-Iron-Boron(NdFeB) Physical Properties

|  |                                 |
|--|---------------------------------|
| Remanence                                  | 1.1-1.5T                        |
| Coercivity                                 | 0.875-2.79MA/m                  |
| Relative Permeability                      | 1.05                            |
| Temperature Coefficient of Remanence(Br)   | -0.09~-0.12%/K                  |
| Temperature Coefficient of Coercivity(Hcj) | -0.50~-0.65%/K                  |
| Density                                    | 7.3-7.5g/cm <sup>3</sup>        |
| CTE,Magnetizing Direction                  | 5.2x10 <sup>-6</sup> %/K        |
| Flexural Strength                          | 250N/mm <sup>2</sup>            |
| Compressive Strength                       | 1100N/mm <sup>2</sup>           |
| Tensile Strength                           | 75N/mm <sup>2</sup>             |
| Vickers Hardness                           | 550-650Hv                       |
| Electrical Resistivity                     | (110-170)x10 <sup>-6</sup> Ω.cm |

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