



YUNSHENG MATERIAL GRADES

(REV. DATE 09/05/2024)

| GRADE (at 20° C) | Br | | Hcj | | Hcb | | (BH) _{max} | | Tw |
|---------------------|-----------|-----------|------|-----|------|------|---------------------|-------|-----|
| | T | kGs | kA/m | kOe | kA/m | kOe | kJ/m ³ | MGOe | ° C |
| N30 | 1.08-1.14 | 10.8-11.4 | 960 | 12 | 804 | 10.1 | 223-247 | 28-31 | 80 |
| N33 | 1.14-1.19 | 11.4-11.9 | 960 | 12 | 843 | 10.6 | 247-271 | 31-34 | 80 |
| N35 | 1.18-1.23 | 11.8-12.3 | 960 | 12 | 884 | 11.1 | 263-287 | 33-36 | 80 |
| N38 | 1.23-1.28 | 12.3-12.8 | 960 | 12 | 915 | 11.5 | 287-310 | 36-39 | 80 |
| N40 | 1.26-1.30 | 12.6-13.0 | 960 | 12 | 923 | 11.6 | 302-326 | 38-41 | 80 |
| N42C | 1.29-1.33 | 12.9-13.3 | 960 | 12 | 915 | 11.5 | 318-342 | 40-43 | 80 |
| N45C | 1.33-1.38 | 13.3-13.8 | 960 | 12 | 915 | 11.5 | 338-366 | 43-46 | 80 |
| N48C | 1.38-1.42 | 13.8-14.2 | 960 | 12 | 915 | 11.5 | 362-390 | 46-49 | 80 |
| N50C | 1.39-1.45 | 13.9-14.5 | 960 | 12 | 915 | 11.5 | 370-406 | 47-51 | 80 |
| N52 | 1.43-1.48 | 14.3-14.8 | 960 | 12 | 875 | 11.0 | 390-422 | 49-53 | 80 |
| N55 | 1.46-1.52 | 14.6-15.2 | 960 | 12 | 836 | 10.5 | 398-446 | 52-56 | 70 |
| N58 | 1.49-1.55 | 14.9-15.5 | 876 | 11 | 836 | 10.5 | 422-462 | 53-58 | 70 |
| N60 | 1.50-1.56 | 15.0-15.6 | 876 | 11 | 836 | 10.5 | 446-480 | 55-60 | 70 |
| 30M | 1.08-1.14 | 10.8-11.4 | 1114 | 14 | 812 | 10.2 | 223-247 | 28-31 | 100 |
| 33M | 1.14-1.19 | 11.4-11.9 | 1114 | 14 | 852 | 10.7 | 247-271 | 31-34 | 100 |
| 35M | 1.18-1.23 | 11.8-12.3 | 1114 | 14 | 883 | 11.1 | 263-287 | 33-36 | 100 |
| 38MC | 1.22-1.27 | 12.2-12.7 | 1114 | 14 | 915 | 11.5 | 287-310 | 36-39 | 100 |
| 40MC | 1.26-1.30 | 12.6-13.0 | 1114 | 14 | 940 | 11.8 | 302-326 | 38-41 | 100 |
| 42MC | 1.29-1.33 | 12.9-13.3 | 1114 | 14 | 964 | 12.1 | 318-342 | 40-43 | 100 |
| 45MC | 1.33-1.38 | 13.3-13.8 | 1114 | 14 | 995 | 12.5 | 338-366 | 43-46 | 100 |
| 48M | 1.37-1.42 | 13.7-14.2 | 1114 | 14 | 1019 | 12.8 | 358-390 | 45-49 | 100 |
| 50M | 1.39-1.45 | 13.9-14.5 | 1114 | 14 | 1035 | 13.0 | 370-406 | 47-51 | 90 |
| 52M | 1.42-1.48 | 14.2-14.8 | 1114 | 14 | 1035 | 13.0 | 386-422 | 49-53 | 90 |
| 55M | 1.45-1.52 | 14.5-15.2 | 1035 | 13 | 971 | 12.2 | 398-446 | 52-56 | 80 |
| 30H | 1.08-1.14 | 10.8-11.4 | 1353 | 17 | 820 | 10.3 | 223-247 | 28-31 | 120 |
| 33H | 1.14-1.19 | 11.4-11.9 | 1353 | 17 | 860 | 10.8 | 247-271 | 31-34 | 120 |
| 35HC | 1.17-1.22 | 11.7-12.2 | 1353 | 17 | 873 | 11.0 | 263-287 | 33-36 | 120 |
| 38HC | 1.22-1.27 | 12.2-12.7 | 1353 | 17 | 915 | 11.5 | 287-310 | 36-39 | 120 |
| 40HC | 1.26-1.30 | 12.6-13.0 | 1353 | 17 | 940 | 11.8 | 302-326 | 38-41 | 120 |
| 42HC | 1.29-1.33 | 12.9-13.3 | 1353 | 17 | 964 | 12.1 | 318-342 | 40-43 | 120 |
| 45H | 1.33-1.38 | 13.3-13.8 | 1353 | 17 | 1003 | 12.6 | 338-366 | 43-46 | 120 |
| 48H | 1.37-1.42 | 13.7-14.2 | 1353 | 17 | 1035 | 13.0 | 358-390 | 45-49 | 110 |
| 50H | 1.39-1.44 | 13.9-14.4 | 1353 | 17 | 1035 | 13.1 | 370-398 | 47-50 | 110 |
| 52H | 1.42-1.47 | 14.2-14.7 | 1274 | 16 | 1035 | 13.5 | 382-414 | 48-52 | 100 |



YUNSHENG MATERIAL GRADES

(REV. DATE 09/05/2024)

| GRADE (at 20° C) | Br | | Hcj | | Hcb | | (BH) _{max} | | Tw |
|---------------------|-----------|-----------|------|-----|------|------|---------------------|-------|-----|
| | T | kGs | kA/m | kOe | kA/m | kOe | kJ/m ³ | MGOe | ° C |
| G55H | 1.47-1.52 | 14.6-15.2 | 1353 | 17 | 1106 | 13.9 | 414-446 | 52-56 | 120 |
| G57H | 1.49-1.55 | 14.9-15.5 | 1353 | 17 | 1122 | 14.1 | 430-462 | 54-58 | 120 |
| 30SH | 1.08-1.14 | 10.8-11.4 | 1592 | 20 | 820 | 10.3 | 223-247 | 28-31 | 150 |
| 33SH | 1.14-1.19 | 11.4-11.9 | 1592 | 20 | 860 | 10.8 | 247-271 | 31-34 | 150 |
| 35SHC | 1.17-1.22 | 11.7-12.2 | 1592 | 20 | 873 | 11.0 | 263-287 | 33-36 | 150 |
| 38SHC | 1.22-1.27 | 12.2-12.7 | 1592 | 20 | 915 | 11.5 | 287-310 | 36-39 | 150 |
| 40SHC | 1.26-1.30 | 12.6-13.0 | 1592 | 20 | 940 | 11.8 | 302-326 | 38-41 | 150 |
| 42SHC | 1.29-1.33 | 12.9-13.3 | 1592 | 20 | 964 | 12.1 | 318-342 | 40-43 | 150 |
| 44SH | 1.32-1.36 | 13.2-13.6 | 1592 | 20 | 995 | 12.5 | 338-366 | 42-46 | 150 |
| 45SH | 1.33-1.38 | 13.3-13.8 | 1592 | 20 | 1003 | 12.6 | 342-366 | 43-46 | 150 |
| 48SH | 1.37-1.42 | 13.7-14.2 | 1592 | 20 | 1035 | 13.0 | 358-390 | 45-49 | 150 |
| 50SH | 1.39-1.44 | 13.9-14.4 | 1592 | 20 | 1043 | 13.1 | 366-414 | 46-50 | 150 |
| 52SH | 1.42-1.47 | 14.2-14.7 | 1512 | 19 | 1075 | 13.5 | 390-422 | 48-52 | 140 |
| G55SH | 1.47-1.52 | 14.6-15.2 | 1592 | 20 | 1106 | 13.9 | 414-446 | 52-56 | 150 |
| 28UH | 1.04-1.09 | 10.4-10.9 | 1990 | 25 | 788 | 9.9 | 207-231 | 26-29 | 180 |
| 30UH | 1.08-1.14 | 10.8-11.4 | 1990 | 25 | 820 | 10.3 | 223-247 | 28-31 | 180 |
| 33UH | 1.14-1.19 | 11.4-11.9 | 1990 | 25 | 860 | 10.8 | 247-271 | 31-34 | 180 |
| 35UH | 1.18-1.23 | 11.8-12.3 | 1990 | 25 | 884 | 11.1 | 267-291 | 33-36 | 180 |
| 38UH | 1.23-1.28 | 12.3-12.8 | 1990 | 25 | 923 | 11.6 | 291-314 | 36-39 | 180 |
| 40UH | 1.26-1.30 | 12.6-13.0 | 1990 | 25 | 947 | 11.9 | 302-326 | 38-41 | 180 |
| 42UH | 1.29-1.33 | 12.9-13.3 | 1990 | 25 | 971 | 12.2 | 318-342 | 40-43 | 170 |
| 44UH | 1.33-1.36 | 13.3-13.6 | 1990 | 25 | 995 | 12.5 | 334-358 | 42-45 | 170 |
| G45UH | 1.32-1.38 | 13.2-13.8 | 1990 | 25 | 995 | 12.5 | 338-366 | 43-46 | 170 |
| G48UH | 1.36-1.42 | 13.6-14.2 | 1990 | 25 | 1027 | 12.9 | 358-390 | 45-49 | 180 |
| G50UH | 1.39-1.44 | 13.9-14.4 | 1990 | 25 | 1051 | 13.2 | 374-406 | 47-51 | 180 |
| G52UH | 1.42-1.48 | 14.2-14.8 | 1990 | 25 | 1067 | 13.4 | 390-422 | 49-53 | 180 |
| G54UH | 1.45-1.51 | 14.5-15.1 | 1990 | 25 | 1090 | 13.7 | 406-438 | 51-55 | 180 |
| 28EH | 1.05-1.09 | 10.5-10.9 | 2388 | 30 | 788 | 9.9 | 207-231 | 26-29 | 200 |
| 30EH | 1.08-1.14 | 10.8-11.4 | 2388 | 30 | 820 | 10.3 | 223-247 | 28-31 | 200 |
| 33EH | 1.14-1.19 | 11.4-11.9 | 2388 | 30 | 860 | 10.8 | 247-271 | 31-34 | 200 |
| 35EH | 1.18-1.22 | 11.8-12.2 | 2388 | 30 | 884 | 11.1 | 267-291 | 33-36 | 200 |
| 38EH | 1.22-1.27 | 12.2-12.7 | 2388 | 30 | 923 | 11.6 | 287-314 | 36-39 | 200 |
| 40EH | 1.25-1.30 | 12.5-13.0 | 2388 | 30 | 947 | 11.9 | 302-326 | 38-41 | 190 |
| 42EH | 1.28-1.33 | 12.8-13.3 | 2308 | 29 | 971 | 12.2 | 318-342 | 40-43 | 180 |



| GRADE (at 20° C) | Br | | Hcj | | Hcb | | (BH) _{max} | | T _w |
|---------------------|-----------|-----------|------|-----|------|------|---------------------|-------|----------------|
| | T | kGs | kA/m | kOe | kA/m | kOe | kJ/m ³ | MGOe | ° C |
| G45EH | 1.32-1.38 | 13.2-13.8 | 2388 | 30 | 995 | 12.5 | 334-366 | 42-46 | 200 |
| G48EH | 1.36-1.42 | 13.9-14.2 | 2388 | 30 | 1027 | 12.9 | 358-390 | 45-49 | 200 |
| G50EH | 1.39-1.45 | 13.9-14.5 | 2388 | 30 | 1051 | 13.2 | 374-406 | 47-51 | 200 |
| 28TH | 1.05-1.09 | 10.5-10.9 | 2786 | 35 | 796 | 10.0 | 207-231 | 26-29 | 240 |
| 30TH | 1.08-1.14 | 10.8-11.4 | 2786 | 35 | 820 | 10.3 | 223-247 | 28-31 | 240 |
| 33TH | 1.14-1.19 | 11.4-11.9 | 2786 | 35 | 860 | 10.8 | 251-275 | 31-34 | 240 |
| 35TH | 1.18-1.22 | 11.8-12.2 | 2786 | 35 | 891 | 11.2 | 267-291 | 33-36 | 240 |
| G38TH | 1.22-1.27 | 12.2-12.7 | 2786 | 35 | 931 | 11.7 | 287-310 | 36-39 | 240 |
| G40TH | 1.24-1.30 | 12.4-13.0 | 2786 | 35 | 947 | 11.9 | 295-326 | 37-41 | 240 |
| G42TH | 1.27-1.33 | 12.7-13.3 | 2786 | 35 | 963 | 12.1 | 310-342 | 39-43 | 240 |
| G45TH | 1.32-1.38 | 13.2-13.8 | 2786 | 35 | 995 | 12.5 | 334-366 | 42-46 | 240 |
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The above grades are our basic grades. We also have T and L-T series legacy grades which are derived from these basic grades, for example: N45T, 42MT, L-38SHT, L-38UHT. T and L-T series grades apply to those magnets which have low temperature coefficient and corrosion resistance requirements. The main properties of the derived grade such as Br, Hcj, Hcb and (BH)_{max} correspond to those of basic grades. Additional performance data includes:

$\mu_{rec} = 1.05$ Basic grade: $T_c = 310^\circ\text{C}$ $\alpha_{Br} = -0.12\ \%/^\circ\text{C}$ $B_{Hcj} = -0.70\ \%/^\circ\text{C}$
 “T” grade: $T_c = 330^\circ\text{C}$ $\alpha_{Br} = -0.11\ \%/^\circ\text{C}$ $B_{Hcj} = -0.60\ \%/^\circ\text{C}$
 “L-T” grade: $T_c = 350^\circ\text{C}$ $\alpha_{Br} = -0.10\ \%/^\circ\text{C}$ $B_{Hcj} = -0.50\ \%/^\circ\text{C}$

G” grades designate Grain Boundary Diffusion (GBD) grades using Yunsheng-patented technologies, without vacuum environment and reduced Heavy Rare Earth (HRE) content for Terbium (Tb) and Dysprosium (Dy).