

# Anisotropic Cast AlNiCo

## Material Grade



| Main Properties    | Remanence  |               | Coercive Force |             | Intrinsic Coercive Force |             | Max. Energy Product |              | Rev.Temp.Coef. of Induction / Coercivity |              | Working Temperature |
|--------------------|------------|---------------|----------------|-------------|--------------------------|-------------|---------------------|--------------|------------------------------------------|--------------|---------------------|
|                    | Br         |               | HcB            |             | HcJ                      |             | BH max              |              |                                          |              |                     |
| Grade              | Typical mT | Typical Gauss | min kA/m       | min Oersted | min kA/m                 | min Oersted | Typical kJ/m3       | Typical MGOe | α (Br) %/°C                              | α (HcJ) %/°C | maximum °C          |
| AINiCo 5 (LNG34)   | 1100       | 11000         | 50             | 630         | 52                       | 650         | 34                  | 4.25         | -0.02                                    | +0.01        | 525°C               |
| AINiCo 5 (LNG37)   | 1180       | 11800         | 50             | 610         | 51                       | 640         | 37                  | 4.63         | -0.02                                    | +0.01        | 525°C               |
| AINiCo 5 (LNG40)   | 1200       | 12000         | 50             | 630         | 52                       | 650         | 40                  | 5.0          | -0.02                                    | +0.01        | 525°C               |
| AINiCo 5 (LNG44)   | 1250       | 12500         | 50             | 650         | 54                       | 680         | 44                  | 5.5          | -0.02                                    | +0.01        | 525°C               |
| AINiCo 6 (LNG28)   | 1150       | 11500         | 58             | 730         | 60                       | 750         | 28                  | 3.5          | -0.02                                    | +0.03        | 525°C               |
| AINiCo 5DG( LNG52) | 1300       | 13000         | 56             | 700         | 58                       | 730         | 52                  | 6.5          | -0.02                                    | +0.03        | 525°C               |
| AINiCo 5-7 (LNG60) | 1350       | 13500         | 58             | 730         | 60                       | 750         | 60                  | 7.5          | -0.02                                    | +0.03        | 525°C               |
| AINiCo 8 (LNGT38)  | 800        | 8000          | 110            | 1380        | 112                      | 1400        | 38                  | 4.75         | -0.02                                    | +0.01        | 550°C               |
| AINiCo 8 (LNGT40)  | 850        | 8500          | 115            | 1440        | 117                      | 1460        | 40                  | 5.0          | -0.02                                    | +0.01        | 550°C               |
| AINiCo 8 (LNGT44)  | 900        | 9000          | 115            | 1440        | 117                      | 1460        | 44                  | 5.5          | -0.02                                    | +0.01        | 550°C               |
| AINiCo 9 (LNGT60)  | 1000       | 10000         | 110            | 1380        | 112                      | 1400        | 60                  | 7.5          | -0.02                                    | +0.01        | 550°C               |
| AINiCo 9 (LNGT72)  | 1050       | 10500         | 115            | 1440        | 117                      | 1460        | 72                  | 9.0          | -0.02                                    | +0.01        | 550°C               |
| AINiCo 9 (LNGT92)  | 1080       | 10800         | 120            | 1500        | 122                      | 1530        | 80                  | 10           | -0.02                                    | +0.01        | 550°C               |

\* The material data shown above represent properties that may vary due to product shape and size.

# Isotropic Cast AlNiCo

## Material Grade



| Main Properties  | Remanence  |               | Coercive Force |             | Intrinsic Coercive Force |             | Max. Energy Product |              | Rev.Temp.Coef. of Induction / Coercivity |              | Working Temperature |
|------------------|------------|---------------|----------------|-------------|--------------------------|-------------|---------------------|--------------|------------------------------------------|--------------|---------------------|
|                  | Br         |               | HcB            |             | HcJ                      |             | BH max              |              |                                          |              |                     |
| Grade            | Typical mT | Typical Gauss | min kA/m       | min Oersted | min kA/m                 | min Oersted | Typical kJ/m3       | Typical MGOe | a (Br) %/°C                              | a (HcJ) %/°C | maximum °C          |
| AINiCo 3 (LN10)  | 650        | 6500          | 38             | 480         | 40                       | 500         | 10                  | 1.25         | -0.03                                    | -0.02        | 450°C               |
| AINiCo 2 (LNG12) | 750        | 7500          | 45             | 560         | 46                       | 580         | 12                  | 1.50         | -0.03                                    | -0.02        | 450°C               |
| AINiCo 8 (LNG18) | 550        | 5500          | 90             | 1210        | 97                       | 1210        | 18                  | 2.25         | -0.03                                    | +0.01        | 550°C               |

\* The material data shown above represent properties that may vary due to product shape and size.

## Typical Physical Properties

| Property                                         | um                | value                   |
|--------------------------------------------------|-------------------|-------------------------|
| Density                                          | kg/m <sup>3</sup> | 7.3 x 10 <sup>3</sup>   |
| Bending Strength                                 | kg/m <sup>2</sup> | 2.0 x 10 <sup>3</sup>   |
| Compressive Strength                             | kg/m <sup>2</sup> | 4.8 x 10 <sup>3</sup>   |
| Vickers Hardness (Hv)                            | Hv                | 520 - 700               |
| Electrical Resistivity                           | m                 | 4.7 x 10 <sup>3</sup>   |
| Thermal Expansion Coefficient parallel to M      | //M               | 11.4 x 10 <sup>-6</sup> |
| Thermal Expansion Coefficient perpendicular to M | -I M              | 11.4 x 10 <sup>-6</sup> |
| Curie Temperature                                | °C                | 860                     |