



## TECHNICAL DATASHEET

# NdFeB Grade N52UH

Grade-specific magnetic properties reference for N52UH.



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## Technical Data 1

| Grade | Br mT (kGs)           | Hcb kA/m (kOe)  | Hcj kA/m (kOe)  | (BH)max kJ/m3 (MGOe) | alphaBr %/ deg C | betaHcj %/ deg C |
|-------|-----------------------|-----------------|-----------------|----------------------|------------------|------------------|
| N52UH | 1440-1460 (14.4-14.6) | >=1120 (>=14.1) | >=2069 (>=26.0) | 402-410 (50.5-51.5)  | -0.115           | -0.500           |

## Technical Data 2

| Class      | Typical reference temperature* | Selection logic                                       | Typical applications                            |
|------------|--------------------------------|-------------------------------------------------------|-------------------------------------------------|
| Standard N | ~80 deg C                      | Maximum energy density where thermal margin is modest | Speakers, fixtures, sensors, general industrial |
| M          | ~100 deg C                     | Moderate added coercivity                             | Compact motors, actuators                       |
| H          | ~120 deg C                     | Higher demagnetization margin                         | Industrial motors, generators                   |

| Class   | Typical reference temperature* | Selection logic                            | Typical applications                                    |
|---------|--------------------------------|--------------------------------------------|---------------------------------------------------------|
| SH      | ~150 deg C                     | Common automotive / traction-motor class   | EV motors, wind generators, servos                      |
| UH      | ~180 deg C                     | High-temperature compact magnetic circuits | EV/HEV, actuators, aerospace-related industrial systems |
| EH      | ~200 deg C                     | Extreme thermal/demag margin               | High-temperature motors and sensors                     |
| TH / AH | ~220-230 deg C class           | Special high-coercivity families           | Application-specific high-temperature designs           |

## Technical Data 3

| Coating    | Typical Thickness | Reference Salt Spray | Typical Use                              |
|------------|-------------------|----------------------|------------------------------------------|
| Ni-Cu-Ni   | 15-20 umm         | 48 h+                | General indoor / protected applications  |
| Epoxy      | 15-25 umm         | 72 h+                | Humidity / marine-oriented protection    |
| Zinc       | 8-12 umm          | 24 h+                | Cost-sensitive dry environments          |
| Parylene C | 10-15 umm         | 240 h+               | High-protection / specialty applications |

## Engineering note

Values are reference specifications unless explicitly stated as guaranteed on a quotation or approved drawing. Final grade, geometry, tolerance, coating, magnetization, operating temperature and validation requirements must be confirmed for the actual application.