



TECHNICAL DATASHEET

NdFeB Grade N40SH

Grade-specific magnetic properties reference for N40SH.



Ningbo Empire New Material Co.,Ltd
Ningbo Empire Imp&Exp; Co.,Ltd.
#2432 East BaiZhang Road, Ningbo,China
WhatsApp: +8613805876186
Website: empiremagnets.com

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
40SH	1260-1290 (12.6-12.9)	>=947 (>=11.9)	>=1592 (>=20)	302-326 (38-41)	0.09-0.120	0.50-0.65

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.