

GRADE REFERENCE

NdFeB N42SH

Catalogue properties for initial material selection. Confirm the part geometry, magnetic circuit, thermal exposure and acceptance criteria before design release.



Product illustration. Geometry and configuration are project-specific.

Catalogue properties.

Grade	Br mT (kGs)	Hcb kA/m (kOe)	Hcj kA/m (kOe)	(BH)max kJ/m ³ (MGOe)
42SH	1290-1330 (12.9-13.3)	≥971 (≥12.2)	≥1592 (≥20)	318-342 (40-43)

Catalogue figures support initial selection. They are not a lot test report or an approved project specification. The source does not state a complete test basis for these values; agree temperature, sample geometry, magnetization state, method and acceptance limits before use.

The catalogue designation 42SH corresponds to N42SH in this document. The source property values are unchanged.

Before selecting this grade.

Thermal definition

Confirm continuous and peak magnet-body temperatures, dwell time, cycling, opposing field and permitted change in magnetic output.

Temperature coefficients

Agree the signed definition, reference temperature, measurement interval and method for the selected grade. No coefficient is assigned in this edition.

PROJECT DEFINITION

From grade to component.

Working point

Share the air gap, pole geometry, target flux or force, and the nearby steel path. A grade number alone is not enough to confirm performance.

Temperature profile

Provide continuous, peak and dwell temperatures at the magnet, not only the ambient temperature. Include start-up and fault conditions when relevant.

Surface environment

State humidity, salt, chemicals, vacuum, cleaning agents and whether the finished part will be edge-sealed or encapsulated.

Magnetizing and assembly

Show orientation, pole count, adhesive, insertion force, fixturing and any shock or high-speed loads applied after magnetizing.

Agree the verification plan.

Magnetic performance

Agree on the measured property, test method, sample quantity and acceptance band for Br, Hcj, flux, pull force or torque.

Temperature verification

For H, SH, UH or EH selections, define the temperature exposure and the post-exposure magnetic acceptance criterion.

Coating and corrosion

Confirm coating system, thickness range, adhesion method and environmental test requirement before production release.

Dimensional release

Identify critical faces, datum scheme, flatness, chamfer and coating allowance so the inspection report matches the drawing.

Define the next step.

Share your drawing, application conditions and target quantity for a material or assembly review.

Empire Magnets | rfq@china-empire.com | +86 574 8791 5261

Contact: Ningbo Empire Advanced Material Co., Ltd.

No. 2432 East Baizhang Road, Ningbo 315040, Zhejiang, China

ABOUT THIS EDITION

New editorial reference edition 2026.09-R1, compiled 2026-09-27. Catalogue data and selection questions are reorganized for clarity. This edition does not record an engineering approval or certify a measured production result.

Source: Empire Magnets existing product catalogue and technical-library archive. For a project-controlled specification, request an engineering review.