totalElement

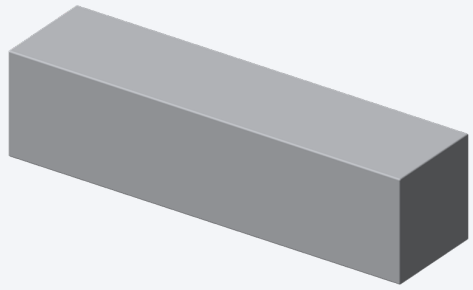
SPECIFICATION SHEET
Part no. B2X12X12N42SH

Bar Magnet

2 x 1/2 x 1/2 Inch (50.80 x 12.70 x 12.70 mm)

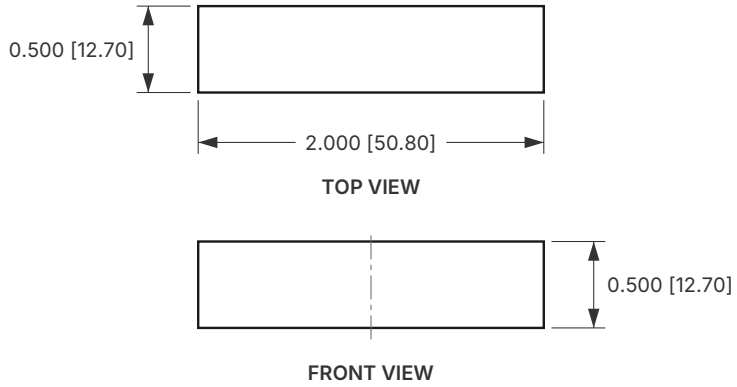
Width x Length x Thickness

ISOMETRIC VIEW — Not to scale



SPECIFICATIONS	
WIDTH	2.000 Inch [50.80 mm]
LENGTH	0.500 Inch [12.70 mm]
THICKNESS	0.500 Inch [12.70 mm]
TOLERANCE	±0.004 Inch [±0.10 mm]
MATERIAL	Sintered Neodymium (NdFeB)
GRADE	N42SH
COATING	Nickel-Copper-Nickel (Ni-Cu-Ni)
MAGNETIZATION	Through the thickness
PULL FORCE	54.3 lbs (24.6 kg)
SURFACE FIELD	4,865 Gauss (486 mT)
WEIGHT (EACH)	62.3 g (2.2 oz)

DIMENSIONS — Inch [mm] · not to scale



MAGNETIZATION



Magnetized through the 0.500 [12.70] dimension. Pole faces shown for illustration.

GRADE PROPERTIES · N42SH

PROPERTY	SI	CGS / IMPERIAL
Remanence (Br)	1.28–1.33 T	12.8–13.3 kG
Coercivity (Hcb)	≥ 963 kA/m	≥ 12.1 kOe
Intrinsic coercivity (Hcj)	≥ 1592 kA/m	≥ 20 kOe
Max. energy product (BH)max	318–342 kJ/m³	40–43 MGOe
Max. operating temperature	150 °C	302 °F

Typical values for sintered NdFeB of grade N42SH at room temperature, not measured on this part. The highest safe working temperature also depends on the magnet's shape and how it's used.

Handling: neodymium magnets are brittle and can chip, or pinch skin, if they snap together. Keep them away from pacemakers and magnetic media.

VIEW ONLINE

Scan to open this magnet on totalElement.com.

CAD FILES

The technical drawing and 3D model are on the product page.

totalElement
totalElement.com
help@totalelement.com
1 (855) 328-2822