

Bonded Neodymium Magnets

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⚠ The details can be found by referring to the appended individual delivery specifications. All specifications are subject to change without notice.

Bonded Neodymium Magnets

Introduction

Bonded neodymium magnets have high dimensional accuracy, magnetic uniformity and consistency. They can be divided into compression molding NdFeB and injection molding NdFeB according to the processing methods.



Bonded neodymium magnets are usually compact isotropic magnets, they can be magnetized multi-polar and made into complex shapes which are difficult to be realized on sintered neodymium magnets and have tight tolerances, no need for further mechanical machining.

Bonded neodymium magnets are widely used in computer hard disk drive and optical disk drive, printer / copier motor and magnetic roller, energy saving home appliances, consumer electronics and control components etc.

Features of bonded neodymium magnets

Typical magnetic properties of bonded neodymium magnets

Bonded magnets can be divided into compression molding NdFeB and injection molding NdFeB according to the processing methods and materials. There are

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differences in magnetic properties among different manufacturers. Following data are only for reference when designing and selecting materials, not as product acceptance standards.

Grade	Residual magnetic flux density B_r		Intrinsic coercive force H_{cJ}		Coercive force H_{cB}		Maximum energy product $(BH)_{max}$		Work Temperature T_w	Average Temperature Coefficients of B_r	
	T	kGs	kA/m	kOe	kA/m	kOe	kJ/m ³	MGOe	°C	%/°C	
Compression Molding NdFeB	BNP-2	300-400	3.0-4.0	240-320	3.0-4.0	480-640	6.0-8.0	24-32	3.0-4.0	160	-0.11
	BNP-4	400-500	4.0-5.0	240-320	3.0-4.0	560-720	7.0-9.0	32-48	4.0-6.0	160	-0.11
	BNP-6	500-600	5.0-6.0	320-400	4.0-5.0	560-720	7.0-9.0	48-60	6.0-7.5	160	-0.11
	BNP-8	600-680	6.0-6.8	360-440	4.5-5.5	640-800	8.0-10.0	60-72	7.5-9.0	160	-0.11
	BNP-8L	600-680	6.0-6.8	400-480	5.0-6.0	640-800	8.0-10.0	64-72	8.0-9.0	160	-0.11
	BNP-8H	600-660	6.0-6.6	400-480	5.0-6.0	1040-1360	13.0-17.0	64-72	8.0-9.0	180	-0.10
	BNP-8SR	620-680	6.2-6.8	400-480	5.0-6.0	800-1120	10.0-14.0	68-76	8.5-9.5	180	-0.10
	BNP-10	690-730	6.8-7.3	400-480	5.0-6.0	640-800	8.0-10.0	76-84	9.5-10.5	160	-0.10
	BNP-10H	700-750	7.0-7.5	440-520	5.5-6.5	720-840	9.0-10.5	80-88	10.0-11.0	160	-0.10
	BNP-12	720-770	7.2-7.7	440-520	5.5-6.5	720-800	9.0-10.0	88-96	10.0-12.0	160	-0.10
	BNP-12H	740-800	7.4-8.0	440-520	5.5-6.5	760-880	9.5-11.0	88-96	11.0-12.0	160	-0.10
	BNP-12L	760-810	7.6-8.1	400-480	5.0-6.0	480-640	6.0-8.0	88-96	11.0-12.0	150	-0.12
	BNP-13L	780-830	7.8-8.3	400-480	5.0-6.0	480-640	6.0-8.0	88-104	11.0-13.0	150	-0.12
Injection Molding NdFeB	BNI-3	340-450	3.5-4.5	200-280	2.5-3.5	400-600	5.0-8.0	20-28	2.5-3.5	120	-0.11
	BNI-4	400-500	4.0-5.0	240-320	3.0-4.0	560-720	7.0-9.0	32-48	4.0-6.0	120	-0.11
	BNI-5	450-550	4.5-5.5	304-360	3.8-4.5	640-800	8.0-10.0	36-44	4.5-5.5	120	-0.11
	BNI-6	500-600	5.0-6.0	328-384	4.1-4.8	640-800	8.0-10.0	44-52	5.5-6.5	120	-0.11
	BNI-7	550-650	5.5-6.5	344-400	4.3-5.0	640-800	8.0-10.0	52-60	6.5-7.5	120	-0.12
	BNI-5SR	450-550	4.5-5.5	320-400	4.0-5.0	880-1120	11.0-14.0	36-44	4.5-5.5	180	-0.11
	BNI-6SR	500-600	5.0-6.0	320-400	4.0-5.0	800-1120	11.0-14.0	44-52	5.5-6.5	180	-0.11

The above-mentioned data of magnetic properties and physical properties are given at room temperature (20°C).

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The max working temperature of magnet is changeable due to length-diameter ratio, coating thickness and other environment factors.

Additional grades are available. Please contact us for information.

Precautions regarding safety and use

1. When a magnet is magnetized, strong attractive force or repulsive force arises between the magnet and other magnetic materials (magnet, yoke, rotor, stator, jig fixture, tool, etc.). A user's hand or finger may be sandwiched between the magnet and other magnetic materials during the handling or the assembling. Also, you may be injured by loss of balance of the body due to the attractive or repulsive force. Use appropriate jigs and take special care in handling the magnetized magnet. A magnetized magnet should be covered with a non-magnetic material such as wood or thick plastics and labeled as magnetized.
2. Sharp edge of a magnet may injure your finger. Protect fingers when needed.
3. When a magnet is magnetized in the winding coil, the magnet may fly out from the inside of the winding coil unexpectedly. It can be the cause of injury. Use a proper jig fixture and keep a magnet inside of the winding coil for safety.
4. When magnetized magnets are stacked, it is difficult to peel off, and chipping or a crack may occur. It is recommended to use spacers between the magnets. The stacked magnetized magnets are similar to one big magnet.
5. When a magnetized magnet is placed near the direct or alternating magnetic field, the demagnetization may occur.
6. A mechanical impact may be a cause of a fracture, a crack and a chipping of a magnet. Take special care during the handling of a magnetized magnet. Such a crack or a chipping may deteriorate the magnetic characteristic, the mechanical strength or the corrosion resistance. A broken piece of magnet may hurt your eyes or body.
7. Store magnets in the place without a mechanical impact. Keep the packaging materials of magnets to be dry. Keep the temperature above the dew point to prevent rust during the storage. Avoid water (rain, water used in the factory, etc.) to be splashed on the packaging material.

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MagnetSearcher provides advanced magnets manufacturing services to engineers, designers, or procurement specialists worldwide.

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