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Material information

Plastic bonded magnets (NdFeBp, SmCop, HFp)											
Description		Remanence		Energy product		Coercivity		Coercivity		Working temp.*	Temp. coeff.
		Br (mT)		(BxH) max. (kJ/m^3)		Hcb (kA/m)		Hcj (kA/m)		Tmax.	to Br
Material (selection)	DIN / IEC 60404-8-1	typ.	min.	typ.	min.	typ.	min.	typ.	min.	°C	%/°C
NdFeBp	40/64p	550	500	48	40	340	320	720	640	120	-0.130
NdFeBp	64/64p	650	620	68	64	400	360	720	640	120	-0.130
NdFeBp	64/114p	630	610	68	64	430	410	1170	1140	130	-0.070
NdFeBp	72/64p	700	680	78	72	440	400	720	640	120	-0.110
NdFeBp	80/64p	750	700	88	80	460	420	720	640	120	-0.100
HFp	3/10p	150	140	4	3	100	90	110	100	130	-0.190
HFp	10/17p	250	240	9	10	170	160	190	170	130	-0.190
HFp	12/21p	260	250	13	12	180	170	220	210	130	-0.190
HFp	15/22p	290	280	16	15	190	180	230	220	130	-0.190
* Depending on plastic binder and time											

Useful information

In plastic bonded magnets, magnet powder made of Neodymium, Samarium Cobalt or Hard Ferrite is mixed with thermoplastics and injected into a mould, or pressed.

By applying magnetic fields in the tool, a preferred direction in the axial, radial or diametrical direction can be applied so that isotropic and anisotropic magnets are possible.

Although the magnetic values are not equal to those of the solid material, there are some advantages to this process.

One of the main advantage of plastic bonded magnets is the enormous variety of shapes. So pinion and other functional parts of the same material can be injected at the same time. Shafts or other components can be inserted by means of extrusion coating. It is also possible to press in shafts afterwards because of the close injection moulding tolerances and the material elasticity.

Process flow