

Physical and Mechanical Properties

Table of Properties

		Bonded Products					
		Bonded Ferrite			Hybrid Injection Molded Ferrite/ NdFeB	Injection Molded NdFeB	Compression Molded NdFeB
		Koerox I */* PA 1 to 10	Koerox I */* PS 11, 12, 14	Koerox I 8/20 PS 13	Koerox H I All	Koerdym I All	Koerdym C All
Density	g/cm ³	2.6 - 3.8	3.4 - 3.6	3.15	3.8 - 4.0	5.0 - 5.4	5.9 - 6.1
Curie Temperature	°C	450	450	450		300 - 470	300 - 470
Vickers Hardness	HV						
Compressive Strength	MPa						80 - 120
Flexural Strength	MPa	80 - 100	50 - 70	60 - 80	70 - 90	60 - 80	
Young's Modulus	GPa	4 - 5.5					0.7 - 1.0
Thermal Conductivity	W/(m·K)						2
Coefficient of Thermal Expansion	// 10 ⁻⁶ /K	30 - 50	30 - 50	30 - 50	30 - 50	60 - 80	10 - 30
Electrical Resistivity	10 ⁻⁶ Ω·m	.01	.01	.01		40 - 70	10 - 30
Specific Heat	J/(kg·K)	199	25				400
Tensile Strength	MPa	40 - 50	30 - 40	50 - 80	20 - 30	25 - 40	37
Elongation at Fracture	%	0.8 - 2.5		0.1 - 0.3	0.2 - 0.4	0.3 - 0.6	

		Sintered Products	
		Sintered NdFeB	Sintered AlNiCo
		Koerdym S All	Koerzit All
Density	g/cm ³	7.5	6.9 - 7.3
Curie Temperature	°C	310	750
Vickers Hardness	HV	600	300 - 500
Compressive Strength	MPa	1100	300 - 400
Flexural Strength	MPa	250	
Young's Modulus	GPa	160	100 - 200
Thermal Conductivity	W/(m·K)	9	10 - 200
Coefficient of Thermal Expansion	// 10 ⁻⁶ /K	3	10 - 13
	↓ 10 ⁻⁶ /K	-5	
Electrical Resistivity	10 ⁻⁶ Ω·m	1.5	0.4 - 0.7
Specific Heat	J/(kg·K)	420	350 - 500
Tensile Strength	MPa		80 - 300
Elongation at Fracture	%		

* Approximate Values