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## Iron-Nickel: SSI-50Ni

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### Typical Magnetic Properties

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	Grade ST		Grade MT	
Density, g/cm <sup>3</sup>	7.10	7.25	7.25	7.40
Resistivity, $\mu\Omega$ -cm	44	44	50	50
Maximum Induction (B <sub>100</sub> ), kG				
B <sub>15</sub>	9.5	10.3	11.3	11.9
B <sub>100</sub>	11.0	11.7	12.2	12.8
B <sub>500</sub>	-	-	-	13.2
Remanent Induction (B <sub>r</sub> ), kG	6.3	6.7	7.6	7.8
Coercive Force (H <sub>c</sub> ), Oe	0.26	0.26	0.18	0.17
Maximum Permeability ( $\mu_{\max}$ )	11,100	11,700	19,800	20,600

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### Typical Mechanical Properties

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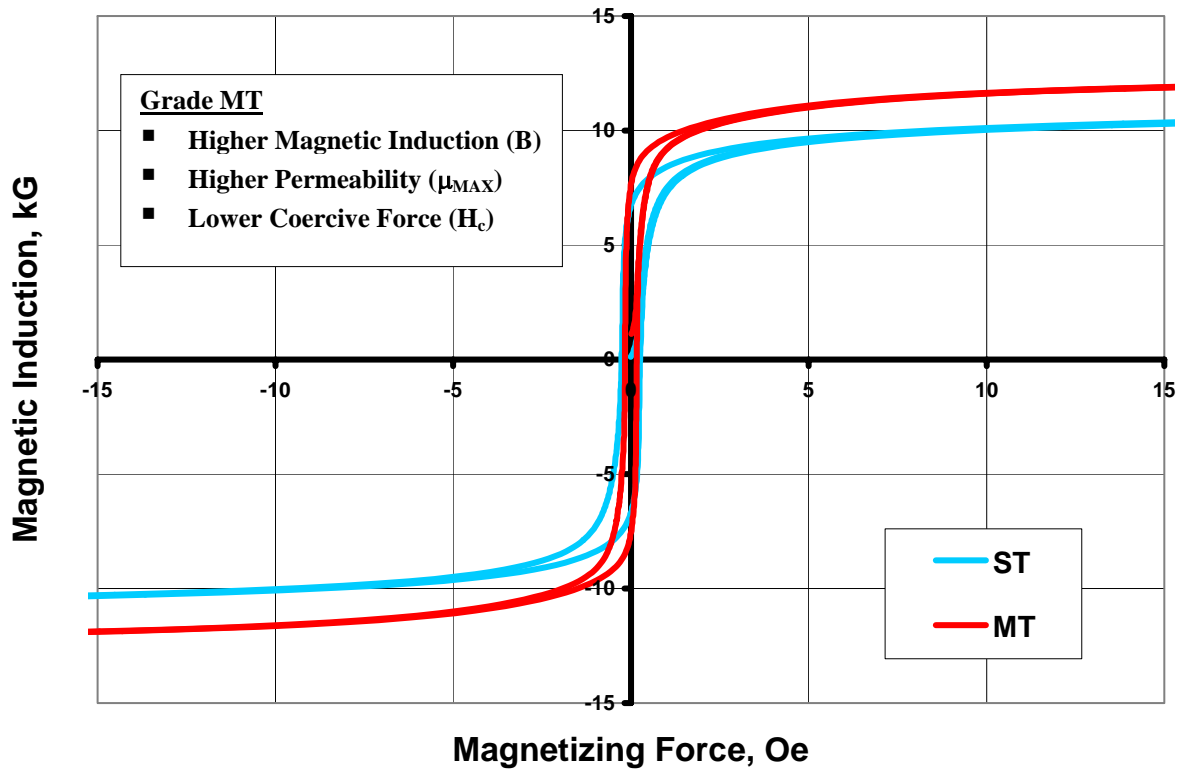
	Grade ST		Grade MT	
Density, g/cm <sup>3</sup>	7.10	7.25	7.25	7.40
Ultimate Tensile Strength, 10 <sup>3</sup> psi	40	41	51	54
Yield Strength (0.2%), 10 <sup>3</sup> psi	21	22	22	23
Elongation (in 1.0 in.), percent	10	11	21	22
Elastic Modulus, x10 <sup>6</sup> psi	13.3	14.5	14.9	16.1
Shear Modulus, x10 <sup>6</sup> psi	5.2	5.6	5.7	6.2
Poisson's Ratio	0.28	0.29	0.30	0.31
Impact Energy Charpy Unnotched, ft-lbf				
Macrohardness (Apparent), HRB	22	35	26	36

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The data presented in this bulletin are typical values, obtained from test specimens processed through production equipment. The data does not represent a guarantee of minimum or maximum values for the materials in actual parts, nor are they intended as warranties, express or implied, of fitness of material for use in any specific application.

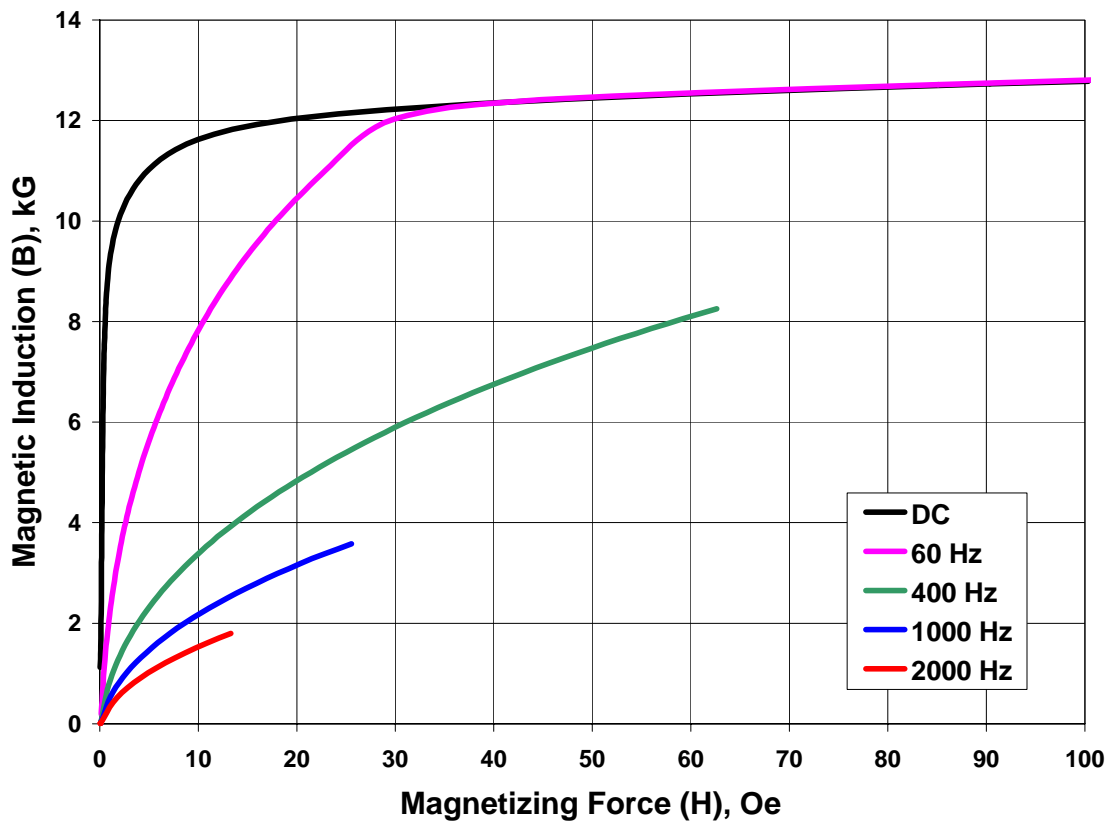
# The Advantage of High Temperature Sintering

## Grade MT vs. Grade ST



## DC vs. AC Performance

### Grade MT



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# Iron-Nickel: SSI-50Ni

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## Typical Magnetic Properties

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	Grade ST		Grade MT	
Density, g/cm <sup>3</sup>				
Resistivity, $\mu\Omega$ -cm	44	44	50	50
Maximum Induction ( $B_{100}$ ), Tesla				
$B_{15}$	0.95	1.03	1.13	1.19
$B_{100}$	1.10	1.17	1.22	1.28
$B_{500}$	-	-	-	1.32
Remanent Induction ( $B_r$ ), Tesla	0.63	0.67	0.76	0.78
Coercive Force ( $H_c$ ), A/m	21	21	14	14
Maximum Permeability ( $\mu_{max}$ )	11,100	11,700	19,800	20,600

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## Typical Mechanical Properties

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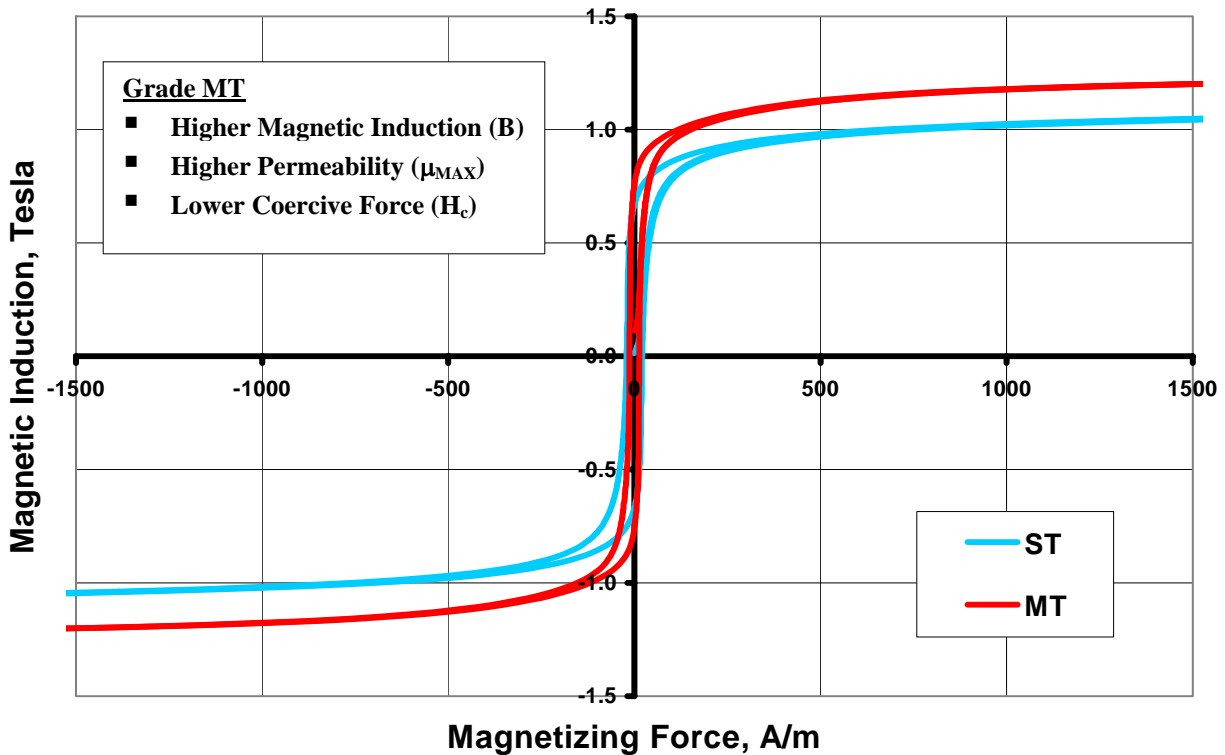
	Grade ST		Grade MT	
Density, g/cm <sup>3</sup>	7.10	7.25	7.25	7.40
Ultimate Tensile Strength, MPa	276	283	352	372
Yield Strength (0.2%), MPa	145	152	152	159
Elongation (in 25 mm), percent	10	11	21	22
Elastic Modulus, GPa	92	100	103	111
Poisson's Ratio	0.28	0.29	0.30	0.31
Impact Energy Charpy Unnotched, Joules				
Macrohardness (Apparent), HRB	22	35	26	36

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# The Advantage of High Temperature Sintering

## Grade MT vs. Grade ST



## AC vs. DC Performance

### High Temperature Sintering

