

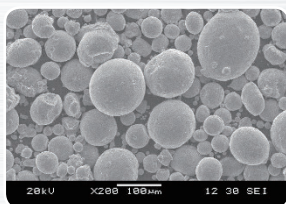
金属磁粉芯用粉末

Metal powder cores powder

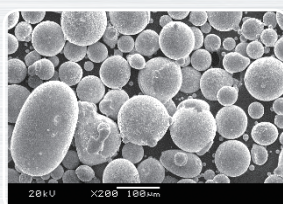
粉末参数 / Typical properties

| 产品 Products | 化学成份% Chemical Composition | | | | 生产工艺 Process | 氧含量 O.C. PPM | 松装密度 A.D. g/cm ³ | 常规筛分粒度 sieve size (mesh) | 激光粒度D50 Laser Particle size (um) |
|----------------|----------------------------|-------|---------|-----|-----------------|--------------------|-----------------------------------|--------------------------------|--|
| | Fe | Ni | Mo | Si | | | | | |
| Hi-Flux | bal. | 48~52 | | | 气雾化 Gas | <500 | >4.8 | -120/-200 | 30~55 |
| | | | | | 水雾化 Water | <2000 | >3.9 | -80/-200/-325 | 20~45 |
| MPP | bal. | 80~83 | 1.8~2.5 | | 气雾化 Gas | <300 | >5.0 | -80+400/-120 | 40~80 |
| | | | | | 水雾化 Water | <1800 | >4.2 | -80/-200/-325 | 20~50 |
| FeSi | bal. | | | 3~7 | 气雾化 Gas | <300 | >4.4 | -120 | 40~65 |
| | | | | | 水雾化 Water | <1500 | >3.6 | -120 | 30~55 |

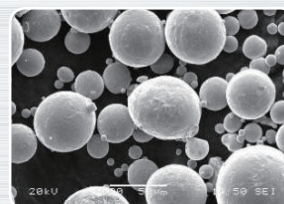
粉末微观形貌 / Particle Shape



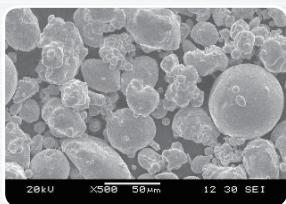
HF气



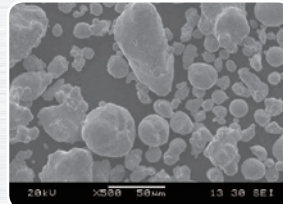
MPP气



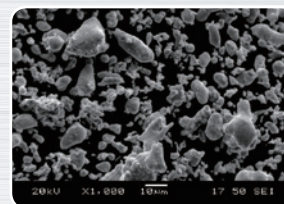
FeSi气



HF水



MPP水



FeSi水

磁粉芯参考特性比较 / Typical Powder Core Properties

| 产品 Products | 损耗① Core Loss mW/cm ³ | 直流偏磁性② DC Bias | 居里温度 Curie temperature | 饱和磁感 Bs | 磁导率 Permeability | 温度特性% u VS.T (-55~125°C) | 频率特性③ u VS.F MHz |
|----------------|--|-------------------|---------------------------|------------|---------------------|--------------------------------|------------------------|
| Hi-Flux (水) | 350 | 76% | 500°C | 1.5T | 60~160 | 1.6 | 1.2 |
| Hi-Flux (气) | 300 | 85% | 500°C | 1.5T | 60~160 | 1.6 | 1.2 |
| MPP (水) | 260 | 57% | 400°C | 0.75T | 60~300 | 0.6 | 2.7 |
| MPP (气) | 220 | 65% | 400°C | 0.75T | 60~300 | 0.6 | 2.7 |
| Fe-Si (水) | 800 | 65% | 700°C | 1.6T | 26~90 | 8 | 6.5 |
| Fe-Si (气) | 600 | 75% | 700°C | 1.6T | 26~90 | 8 | 6.5 |

测试条件 Testing Conditions: ①50kHz, 100mT; ②100Oe, 60u; ③↓90%μ

离合器磁粉

Magnetic clutch

粉末参数 / Typical properties

| 产品 Products | 化学成份% Chemical Composition | | | | | 氧含量 O.C. PPM | 松装密度 A.D. g/cm ³ | 流动性 Flowability s/50g | 粒度规格 (mesh) |
|----------------|----------------------------|-----------|---------|-------|------|--------------------|-----------------------------------|-----------------------------|----------------|
| | Ni | Co | Si | C | Fe | | | | |
| CF-1 | 8.5~9.5 | 22.5~23.5 | 0.2~0.5 | <0.03 | bal. | <200 | >4.4 | <16 | 各区间 |

一体成型用超细粉末及绝缘包覆粉

Molding Choke Powder

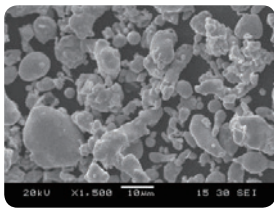
粉末参数 / Typical properties

| 产品 Products | 化学成份% Chemical Composition | | | | | 氧含量 O.C. PPM | 振实密度 T.D. g/cm ³ | 激光粒度um Laser Particle size | | |
|----------------|----------------------------|---------|---------|---------|---------|--------------------|-----------------------------------|-------------------------------|------|------|
| | Fe | Si | Cr | B | C | | | D10 | D50 | D90 |
| FeSiCr-A | bal. | 3~4 | 4~5 | | | 2400 | 4.02 | 3.5 | 10.1 | 24.2 |
| FeSiCr-C | bal. | 4.5~5.5 | 5~6 | | | 2200 | 3.98 | 3.6 | 10.1 | 24.2 |
| FeSiCr-D | bal. | 6~7 | 4.5~5.5 | | | 2200 | 3.95 | 3.5 | 9.9 | 24.2 |
| FeSiCr-E | bal. | 7.5~8.5 | 3.5~4.5 | | | 2200 | 4.10 | 3.5 | 10.2 | 25.6 |
| AP-01(非晶) | bal. | 5~6 | | 2.5~3.5 | | 1400 | 4.34 | 4.2 | 10.2 | 25.1 |
| AP-02(非晶) | bal. | 6~7 | 2~3 | 2~3 | 0.5~1.0 | 1000 | 4.58 | 10.2 | 24.8 | 50.2 |
| NP-01(纳米晶) | bal. | | | | | 1400 | 4.41 | 3.8 | 9.9 | 23.8 |

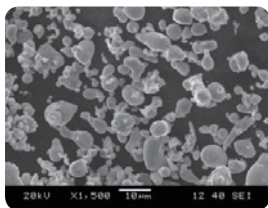
以上各牌号粉末均可提供裸粉和绝缘包覆粉

All the above grades of powder can be supplied with bare powder and insulation coating powder

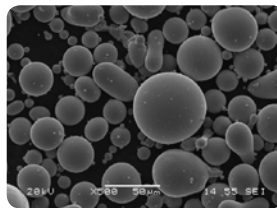
粉末微观形貌 / Particle Shape



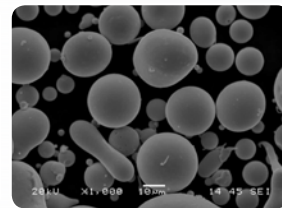
FeSiCr-A



FeSiCr-C



AP-02



NP-01

电感参考特性比较 / Reference Features of Inductance

| 材质 Materials | 磁导率 Permeability | 耐电压性 KV Voltage resistance | 防锈性能 Anti rust property | 饱和 (H20%) /Oe Bs | 损耗① Core Loss (mW/cm ³) |
|--------------------|---------------------|-------------------------------|----------------------------|---------------------|--|
| FeSiCr-A | 38.2 | 0.7 | Good | 130 | 4000 |
| FeSiCr-C | 36.2 | 0.9 | Good | 125 | 4200 |
| FeSiCr-D | 34.2 | 1 | Best | 120 | 4000 |
| FeSiCr-E | 34.2 | 1 | Better | 120 | 3800 |
| Amorphous-01 | 18.5 | 1 | Good | 130 | 3200 |
| Amorphous-02 | 17.5 | 0.9 | Better | 150 | 2800 |
| Nanocrystalline-01 | 19.5 | 0.9 | Better | 140 | 900 |

测试条件 Testing Conditions: ①50kHz, 100mT

磁粉系列产品应用

Applications

- Powder Cores 磁粉芯
- Inductance 电感
- Magnetic Clutch 磁粉离合器

