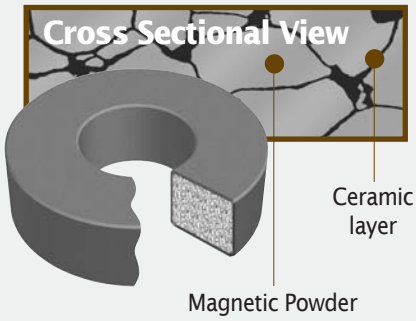
CSC's advanced technology enables to fulfill diverse needs of clients regarding soft magnetic powder cores.

Powder cores are distributed air gap cores made from ferrous alloy powders for low losses at high frequencies. Small air gaps distributed evenly throughout the cores increase the amount of DC that can be passed through the winding before core saturation occurs. Molybdenum permalloy powder (MPP) cores are excellent for low loss inductors such as switching regulators and noise filters.
High Flux, Sendust and Mega Flux® cores are better choice for the power factor correction(PFC), switching regulator inductors, in-line noise filters, pulse and flyback transformers, and many other applications required for low losses at high frequencies.



▼ Product Summary

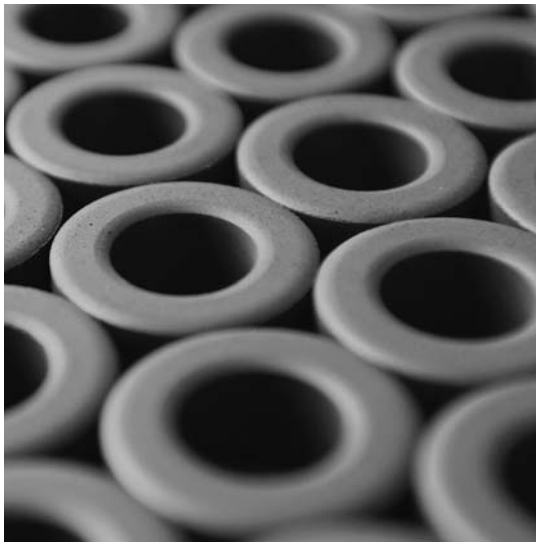
Core materials
- MPP Core : NI-Fe-Mo alloy
- High Flux Core : Fe-Ni alloy
- Sendust Core : Fe-Si-Al alloy
- Mega Flux®Core : Fe-Si alloy

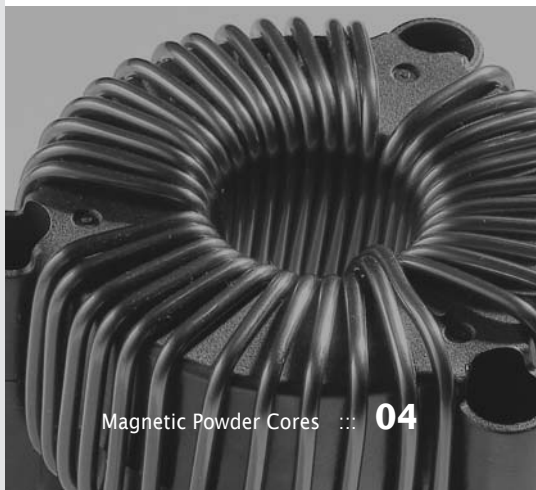
Core shapes
- Toroids : From 3.5mm to 165mm OD
- Block, EE, EER, EQ, U, UR, ER, Cylinder

Permeability
- MPP : 26, 60, 125, 147, 160, 173, 200μ
- High Flux : 26, 60, 125, 147, 160μ
- Sendust : 26, 60, 75, 90, 125μ
- Mega Flux®: 26, 60, 75, 90μ

Core Finishes
- Finish : Epoxy, Parylene-C, Plastic Case
- Color - MPP : Gray
  - High Flux : Khaki
  - Sendust : Black
  - Mega Flux® : Dark Brown

- Break-Down Voltage : 500V min.





Outstanding qualified products from standardized production line and strict quality control process

CSC manufactures four types of soft magnetic powder cores of the Molybdenum Permalloy (MPP), High Flux, Sendust and Mega Flux®, which are mainly used for inductors and transformers requiring the low losses and inductance stability under high DC bias conditions. The fully standardized production management under strict control from raw materials (nickel, iron, molybdenum, aluminum and silicon) enables CSC to guarantee stable quality in confidence to customers.

MPP

Ni-Fe-Mo alloy powder cores are made from an alloy powder of nickel, iron and molybdenum.

MPP cores exhibit highly approved stability in temperature, inductance under high DC magnetization or high DC Bias conditions. They offer the highest permeability among our materials and the lowest core loss than any other core material. MPP cores are also considered as a premium material for direct current output inductors for SMPS including high Q filter, Loading coil, EMI/RFI filter. Finished toroid cores are coated with a gray epoxy to provide dielectric protection and extra physical strength.

HIGH FLUX

Ni-Fe alloy powder cores are made from an alloy powder of nickel and iron.

The 15,000 Gauss saturation level of High Flux cores brings higher energy storage capability and more effective permeability than performance of gapped ferrite or powdered iron cores of a size. Excellent DC bias characteristics and low core losses of High Flux cores offer not only size and number of winding turns reduction but also good magnetic properties. CSC High Flux cores are excellent choices for applications such as PFC reactor, switching regulator inductor, in-line noise filter, pulse transformer, flyback transformer. Various shapes are availables. Finished toroid cores are coated with Khaki color.

SENDUST

Fe-Si-Al alloy powder cores are made from an alloy powder of iron, silicon and aluminum.

Near Zero magneto restriction makes Sendust cores ideal for eliminating audible noise in filter inductors. Core losses of Sendust core are significantly lower than those of powdered iron core's. Especially Sendust E shapes provide a higher energy storage capability than gapped Ferrite E cores'. Gap losses and eddy current losses are minimized with Sendust E cores as compared to Gapped Ferrite E shapes. Sendust cores would be smart choices in PFC circuit; major application is switching regulator inductor, In-line noise filter, pulse transformer and flyback transformer also. They are coated with black color.

MEGA FLUX®

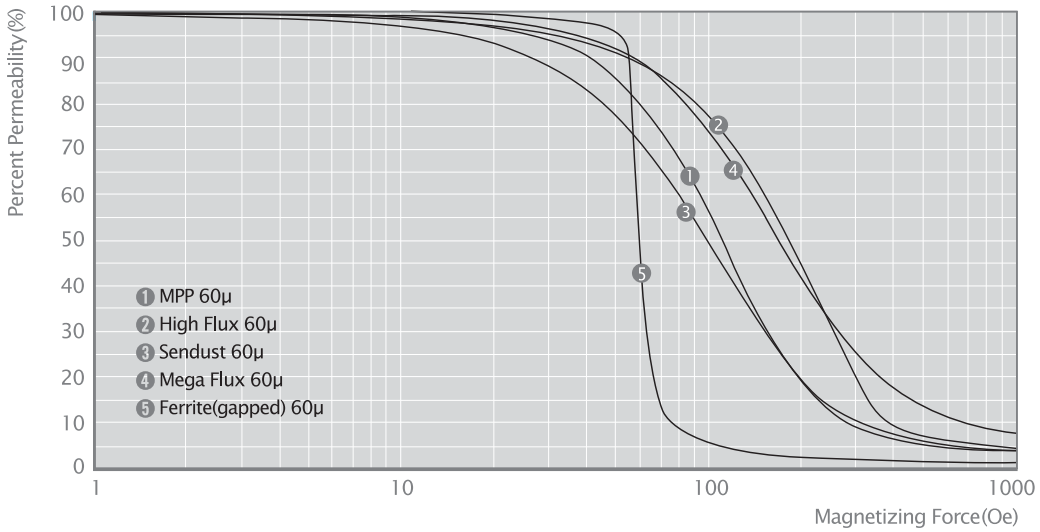
Fe-Si alloy powder cores cores are made from an alloy of iron and silicon.

CSC has developed new magnetic alloy powder cores for the first time in the world under the name of Mega Flux®. It is the sensational development in recent design, requiring a smaller size, higher current, higher energy storage capability. Mega Flux® cores have higher flux density of 16,000 Gauss than any other magnetic material, compared to 15,000Gauss for High Flux cores and 10,000 Gauss for Sendust cores. Extremely good DC bias characteristics give the best solution for high end applications such as buck/boost inductor for high power supply system, smoothing choke for inverter, reactor for electric vehicle. Mega Flux® cores pressed with no organic binder have significantly lower core losses than powdered iron cores and Fe-Si strip cores. They also present the good thermal properties with no thermal aging effects.

■ Comparison of core by material

Materials	Perm. (μ)	Bs(G)	Core Loss	DC Bias	Relative Cost	Temp. Stability	Curie Temp (℃)
MPP	14-200	7,000	Lower	Better	High	Best	450
High Flux	26-160	15,000	Low	Best	Medium	Better	500
Sendust	26-125	10,000	Low	Good	Low	Good	500
Mega Flux®	26-90	16,000	Medium	Best	Low	Better	700
Iron	10-100	10,000	High	Poor	Lowest	Poor	770
Fe-si (Gapped)		18,000	High	Best	Lowest	Good	740
Amorphous (Gapped)		15,000	Low	Better	Medium	Good	400
Ferrite (Gapped)		4,500	Lowest	Poor	Lowest	Poor	100~300

■ Permeability vs DC Bias



■ Core Loss (at 50kHz)