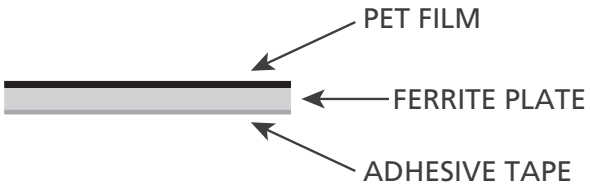
FLEXIBLE FERRITE SHEETS

RoHS compliant sheets are offered in six material grades and four standard ferrite plate thicknesses. The sheets are manufactured with 0.01 mm thick PET film on one side of the ferrite material and 0.02 mm thick adhesive tape on the opposite side.



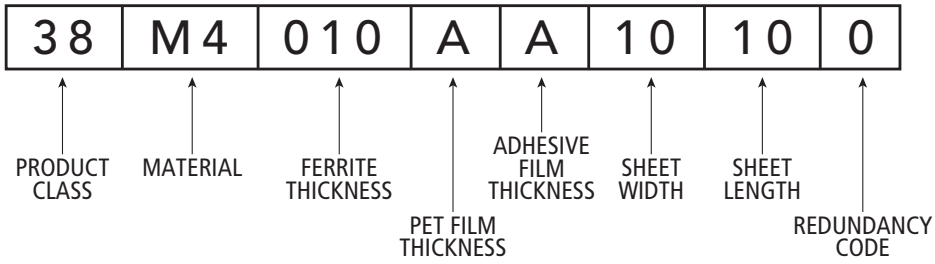
The plate is "scored" in a rectangular grid (2 mm x 2 mm); the PET film allows bending without impacting effectiveness. Materials are all NiZn, which display high volume resistivity. This, along with the PET film, provides high surface resistivity.

These ferrite sheets function primarily as suppressors, blocking EM noise at lower frequencies and absorbing at higher frequencies. The degree of absorption will be proportional to the resistive component of the material permeability (μ") in higher frequency bands. Material choice depends upon the frequency of the signal to be suppressed.

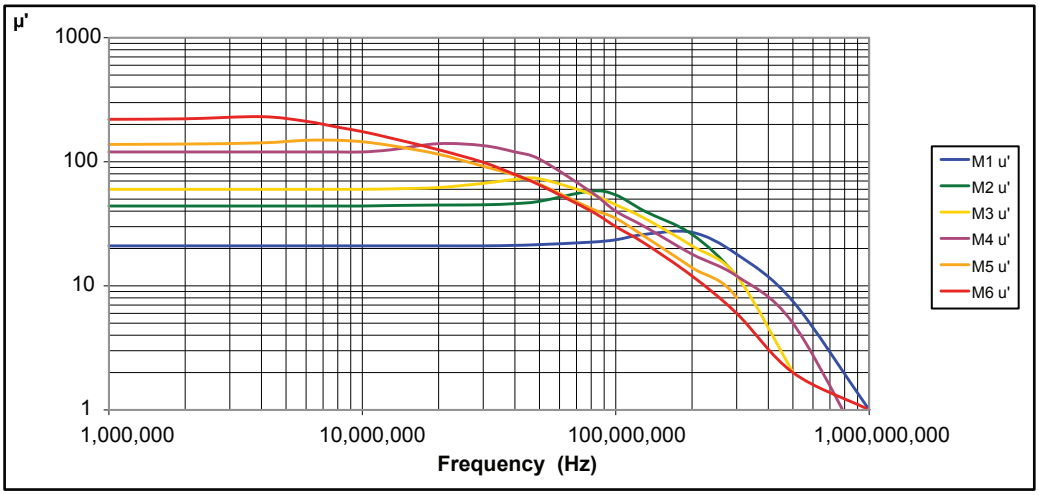
APPLICATIONS

- Improved performance of RFID/NFC Antennas in mobile devices, such as smart phones, notebooks and tablet PC's.
- Suppression of radiated noise on PCB's and IC's from both internally and externally generated sources out to the GHz band.
- Improved performance of Wireless Charging Antenna Systems in both the stationary charging station and mobile devices.
- Effective shielding of antennas and RF circuits from the reflection and eddy currents induced by metal surfaces.

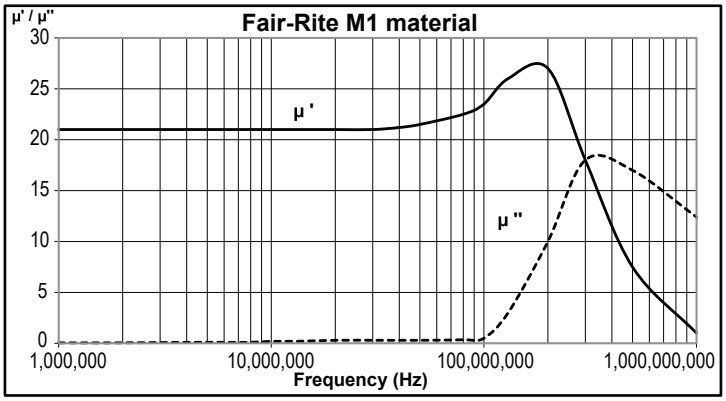
PART NUMBERING CODES

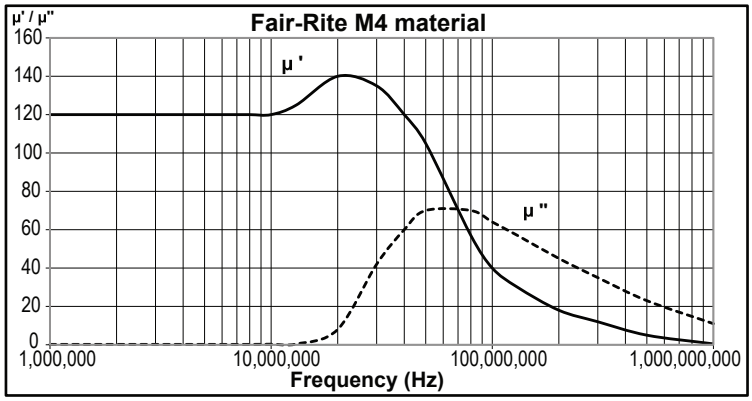


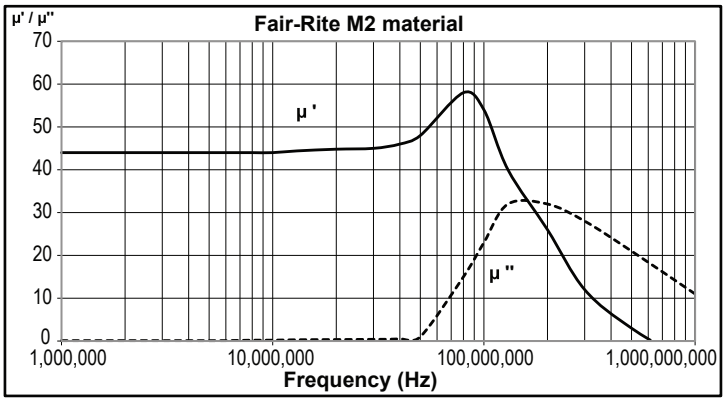
Fair-Rite PN	Material Permeability	Ferrite Thickness	PET Thickness	Tape Thickness	Sheet Size*	Total Thickness
38M1010AA1212	20	0.1 mm	0.01 mm	0.02 mm	120 x 120 mm	0.13 mm
38M1020AA1212	20	0.2 mm	0.01 mm	0.02 mm	120 x 120 mm	0.23 mm
38M1040AA1010	20	0.4 mm	0.01 mm	0.02 mm	100 x 100 mm	0.43 mm
38M1050AA0606	20	0.5 mm	0.01 mm	0.02 mm	60 x 60 mm	0.53 mm
38M2010AA1212	45	0.1 mm	0.01 mm	0.02 mm	120 x 120 mm	0.13 mm
38M2020AA1212	45	0.2 mm	0.01 mm	0.02 mm	120 x 120 mm	0.23 mm
38M2040AA1010	45	0.4 mm	0.01 mm	0.02 mm	100 x 100 mm	0.43 mm
38M2050AA0606	45	0.5 mm	0.01 mm	0.02 mm	60 x 60 mm	0.53 mm
38M3010AA1212	60	0.1 mm	0.01 mm	0.02 mm	120 x 120 mm	0.13 mm
38M3020AA1212	60	0.2 mm	0.01 mm	0.02 mm	120 x 120 mm	0.23 mm
38M3040AA1010	60	0.4 mm	0.01 mm	0.02 mm	100 x 100 mm	0.43 mm
38M3050AA0606	60	0.5 mm	0.01 mm	0.02 mm	60 x 60 mm	0.53 mm
38M4010AA1212	120	0.1 mm	0.01 mm	0.02 mm	120 x 120 mm	0.13 mm
38M4020AA1212	120	0.2 mm	0.01 mm	0.02 mm	120 x 120 mm	0.23 mm
38M4040AA1010	120	0.4 mm	0.01 mm	0.02 mm	100 x 100 mm	0.43 mm
38M4050AA0606	120	0.5 mm	0.01 mm	0.02 mm	60 x 60 mm	0.53 mm
38M5010AA1212	140	0.1 mm	0.01 mm	0.02 mm	120 x 120 mm	0.13 mm
38M5020AA1212	140	0.2 mm	0.01 mm	0.02 mm	120 x 120 mm	0.23 mm
38M5040AA1010	140	0.4 mm	0.01 mm	0.02 mm	100 x 100 mm	0.43 mm
38M5050AA0606	140	0.5 mm	0.01 mm	0.02 mm	60 x 60 mm	0.53 mm
38M6010AA1212	220	0.1 mm	0.01 mm	0.02 mm	120 x 120 mm	0.13 mm
38M6020AA1212	220	0.2 mm	0.01 mm	0.02 mm	120 x 120 mm	0.23 mm
38M6040AA1010	220	0.4 mm	0.01 mm	0.02 mm	100 x 100 mm	0.43 mm
38M6050AA0606	220	0.5 mm	0.01 mm	0.02 mm	60 x 60 mm	0.53 mm

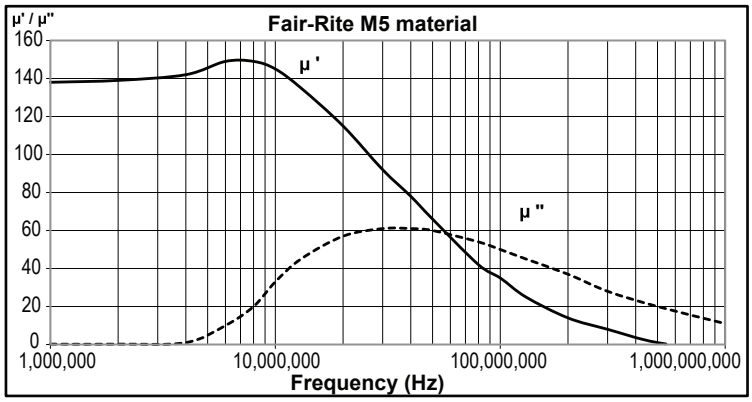


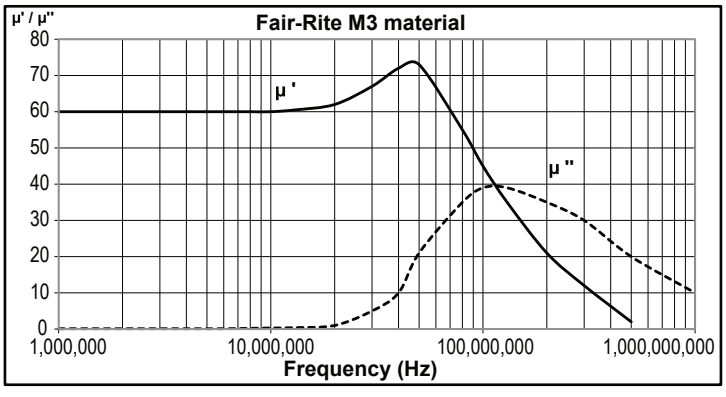
M1	20 permeability (μ')
M2	45 permeability (μ')
M3	60 permeability (μ')
M4	120 permeability (μ')
M5	140 permeability (μ')
M6	220 permeability (μ')

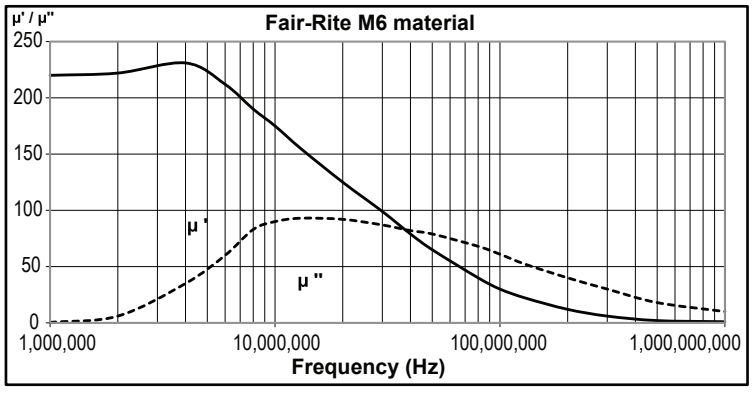


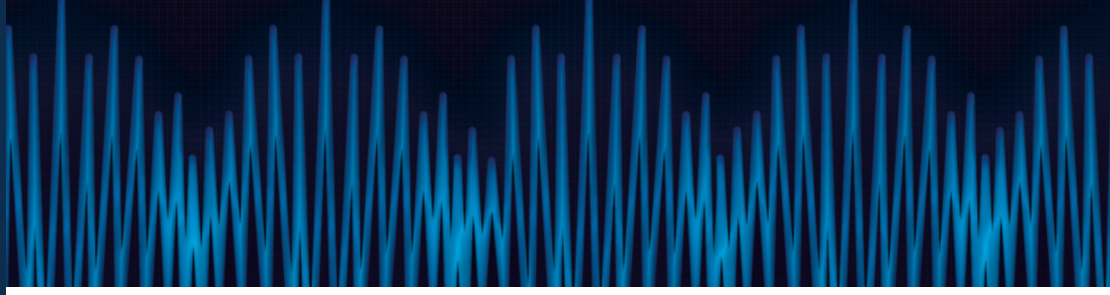








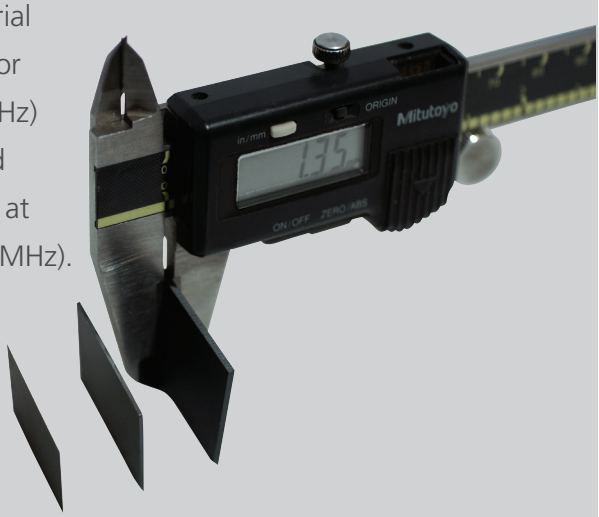




RIGID FERRITE PLATES

Rigid and flexible ferrite plates can improve performance of RFID and NFC antennas, as well as noise suppression on PCB's and IC's from internal and external sources. Additionally, performance improvement can be seen in reception and transmission on wireless charging applications. The use of ferrite plates can prevent batteries from overheating, and unintended current circulation in parts outside of the charging circuit.

NFC applications benefit most from the use of our rigid 61 material plates, and our M4 flexible plates. Wireless charging will see performance improvements through the use of our 78/79 material in the form of rigid plates. Fair-Rite's 78 material will yield the best results for low frequency (120-150 kHz) applications. While 61 and 67 material will serve best at higher frequencies (13.56 MHz).



APPLICATIONS

- NFC (Near Field Communication)
- RFID (Radio Frequency Identification)
- Wireless Charging
- Shielding

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