

ElectroMagnetic Pulse (EMP) Shielded Cables

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With the rising chance of an accidental or terrorist detonation of a Nuclear Device, designers have to reconsider designing equipment to withstand an ElectroMagnetic Pulse.

We had produced these cables during the Cold War and are seeing an increased interest in these cables again.

- EMP shielding has superior attenuation that is effective from the Hz to GHz frequency range. EMP shielding assures that your electrical and electronic systems meet specifications relating to ElectroMagnetic Pulses and ElectroMagnetic Interference.

How does this EMP Shield work: A high and low permeable alloy material is used for each layer of the cable for maximum deflection?

As shown in Fig. 1, the input signal is interference-free until it comes in contact with the power line magnetic field (or other magnetic field), which then causes a distorted signal in the equipment.

FIGURE 1 EFFECTS OF MAGNETIC FIELD ON SIGNAL CABLE

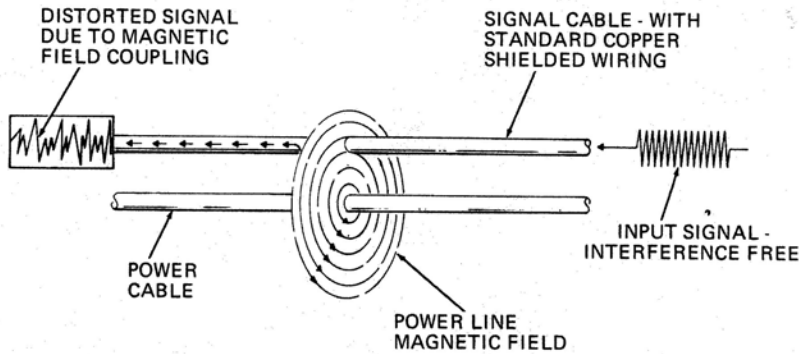
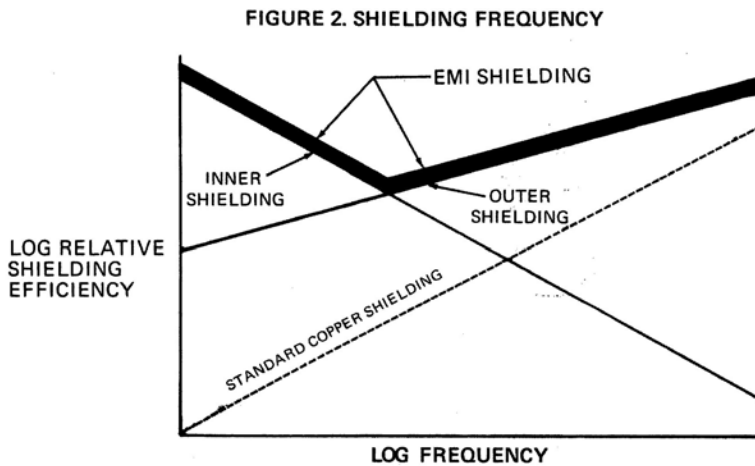
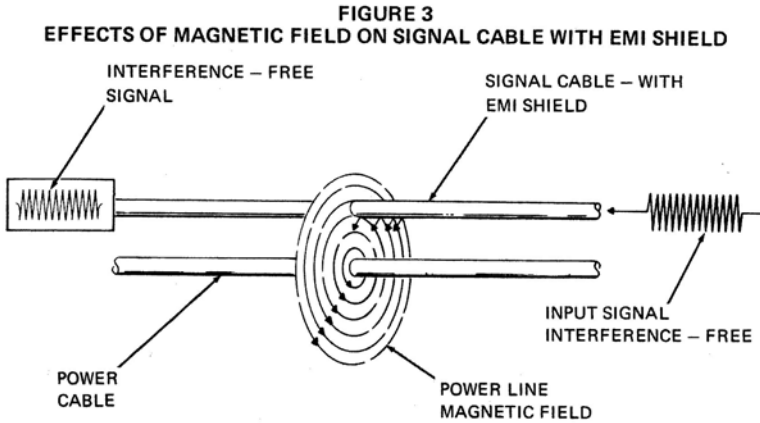


Fig. 2 illustrates that copper has very little shielding effect at low frequencies. Our EMP/EMI shielding outer braid provides moderate shielding at low frequencies and good shielding at high frequencies. The inner braid provides excellent shielding at low frequencies. The result is a shielding combination effective throughout a broad frequency range.

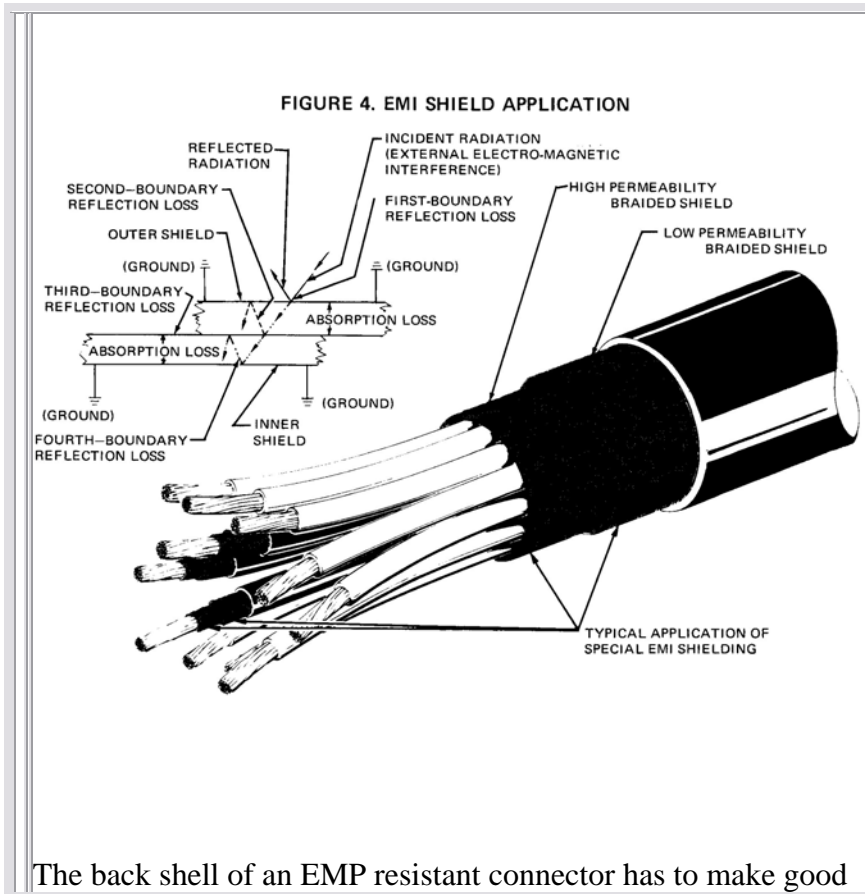


Electromagnetic frequency shielding provides protection for the input signal susceptible to magnetic field induction and electrical fields until the signal is safely within the

desired electrical or electronic equipment, as illustrated in Fig. 3.



As illustrated in Fig. 4, a cable whose conductors are to be protected from an external source of EMP/EMI has an outer low permeability shield braided over a high permeability shield. The incident radiation of external EMP/EMI strikes the outside surface of the outer shield (the first boundary reflection loss area) where some of the radiation is reflected. The radiation then penetrates the material, where it is absorbed.



EMP resistant contact with the shields. This will insure that the "Black Box", Connector and EMP Resistant cable will keep the ElectroMagnetic Pulse from interfering with the critical circuits with the total systems operation.