NEATech

Magnetic Shielding 101

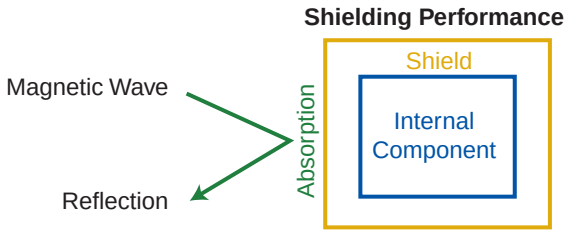
If you are not that familiar with magnetic interference, today's rapidly advancing society is forcing the introduction everyday. Technology today moves so fast, we are often left in the dust with outdated equipment, in only a few years. Our computers have become faster, our phones smarter, our TV's are bigger and with these advancements, comes more and more magnetic waves. The ever-evolving Wireless Era is a large contributor to moving magnetic waves through the air and we are finding out that our personal decisions of how and where we use these electronic devices, may lead to interference problems. Maybe you've experienced static while listening to the radio and your cell phone rings or your computer or TV screen receives static when you use your cordless phone…this is magnetic interference. In close proximity, stray electromagnetic waves can bombard sensitive equipment.

Fortunately the companies producing these electronic devices today are familiar with magnetic interference and have taken steps to avoid this problem yet all instances are not so easily fixed.

The aircraft industry is very familiar with magnetic interference. Magnetic waves are known to interfere with compass readings in airplanes. Since a compass operates by utilizing the earth's natural magnetism, direct shielding generally is not a solution however, steps are taken to shield other sensitive components in aircraft.

Whatever the situation, we know we cannot stop these waves from traveling through the air so precautions are taken to protect the sensitive equipment being effected by using select materials as a shielding device.

Electromagnetic waves come in varying degrees of severity, which make each particular situation, unique to itself. Regardless, shielding efficiency is based upon the strength of the field in connection to type of shielding being performed. Shielding performance can be defined generally in 3 degrees. Absorption, Reflection and Multiple Reflection.



Absorption happens at surface of the shield while Reflection and Multiple Reflection happen as a result. Shielding of low frequency waves can be more difficult. To help combat this, High Permeability Alloys were introduced which created better absorption and reflection characteristics. HyMu 80, Mu Metal2 and 49 Alloy are good alloys for these applications.

No matter what the application, the first approach is to understand the problem before deciding on your overall solution.

NATIONAL ELECTRONIC ALLOYS INC.

Specialty Metal Service Center
Dedicated to Customer Service & Quality

NEA

ISO 9001 Certified

NEA East
3 Fir Court • Oakland, N.J. 07436
(800) 524-4309
Fax: (201) 337-9698
Email: Sales@nealloys.com

www.nealloys.com

NEA West
1335 E. Warner Avenue • Santa Ana, Ca. 92705
(877) 632-9378
Fax: (714) 556-5562
Email: Sales@nealloyswest.com