

performance specifications

The full potential of dual elastomer gasket technology is now being realized. Shielding effectiveness with an attenuation of 110dB in the frequency range of 30 MHz to 1GHz is attainable (MIL SPEC G-83528, para 4.6.12) (Figure 2).

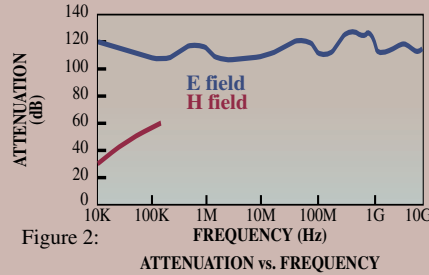


Figure 2:

Any design used to block the RF signal between its source and a receiver is an electromagnetic interference (EMI) shield. The measure of this ability to attenuate RF is shielding effectiveness (SE), which is expressed in decibels, (dB), the ratio of field strength on one side of the shield to the other side. Figure 4 shows the relationship between shielding effectiveness (in dB), the attenuation, and attenuation percentage.

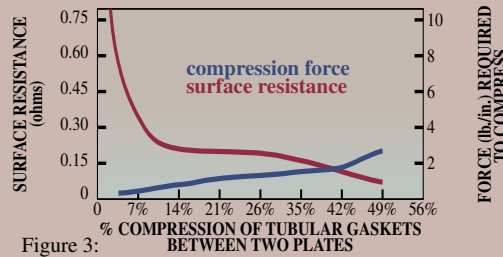


Figure 3:

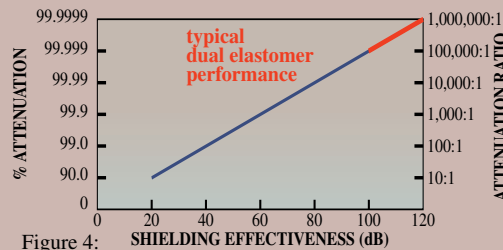


Figure 4:

ULTRA-VANSHIELD® dual elastomer gaskets typically exceed 110dB shielding effectiveness regardless of shape, size or compressed state beyond 10% of relaxed height. The silicone rubber foundation is most resistive to permanent deformation, contaminant's and other environmental influences.

The accelerated aging data on page 3, table 2, exhibits very high performance results at elevated temperatures and repeated compressions over extended time periods. The same continued performance under most application conditions can be expected. Due to the pliable properties of the unfilled elastomer core, these extrusions promise to have the best possible aging and long-term shielding properties (Figures 3 & 4).

minimizing the effects of enclosure openings

Anywhere high speed electronics are present, their operating frequencies usually must be controlled within specified government designated regulations. The radio frequencies emitted can interfere with other nearby electronic equipment as unwanted RFI/EMI, radio frequency interference / electromagnetic interference



Figure 5: TYPICAL ELECTRONIC ENCLOSURE INSTALLATION BETWEEN MATING PANELS

A proper gasket installation effectively reduces the slot length. Low compression force is very desirable to facilitate easy closing of mating surfaces.

When a solid enclosure is not practical, due to the need for access panels, controls, doors, vents or seams, RFI shielding gaskets are used to maintain electrical contact between mating surfaces. See figure 5.

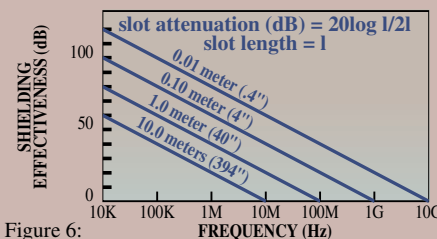


Figure 6:

Correct installation of the dual elastomer gasket between mating surfaces of an enclosure slot assures continuous electrical coupling along its axis, and long-term shielding effectiveness.

The shielding effectiveness of an enclosure is a function of the wavelength of the frequencies involved versus the length of the longest openings. See figure 6.

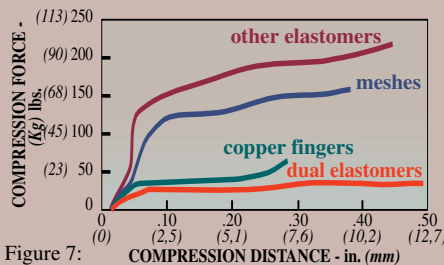


Figure 7:

Effectively, the shielding gasket is a connector of one mating surface to another. This permits the electronic enclosure to respond as one continuous absorber of the undesirable high frequency energy by limiting the passage of these radio waves.