PERFORMANCE CHARACTERISTICS

LOAD vs. DEFLECTION DATA:

L/D Data, along with maximum deflection capability, provides the basis for selecting the correct isolator for the job. Due to their non-linear nature, two different spring rates (or K values) are used to define Cable mounts. Kv (vibe) is the spring rate near the origin and is used for calculations involving vibration. Ks (shock) is the linearized spring rate for the complete isolator stroke and is used for calculations involving shock. Below are two typical L/D curves; compression ("softening") figure 1 & tension ("stiffening") figure 2 with the different K values defined.

Figure 1

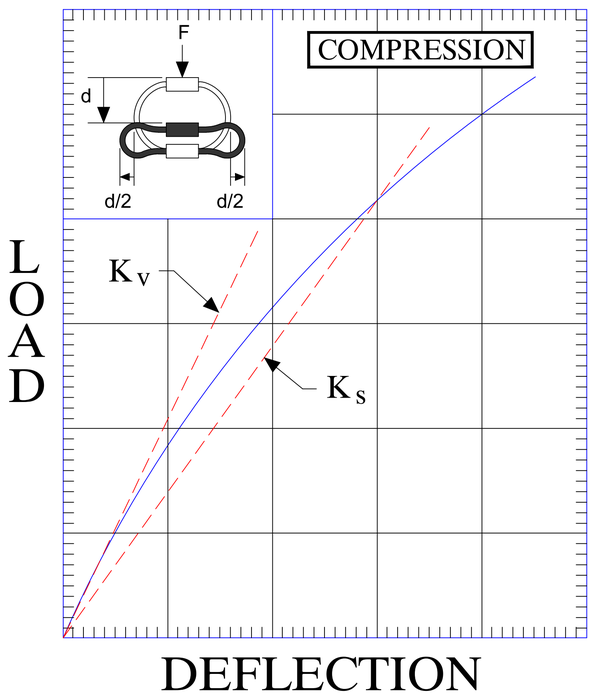
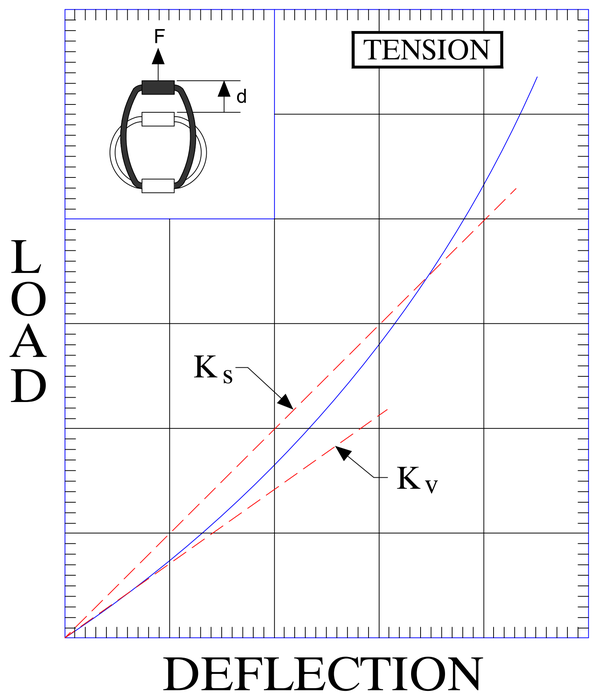


Figure 2



DAMPING & TRANSMISSIBILITY:

Damping is the ability of an isolator to dissipate energy in the form of heat. For Cable Isolators, this dissipation is due to the Coulomb friction resulting from the individual strands of cable rubbing together as the mount deflects. Figure 3 shows a typical isolator load vs. deflection cycle with the loading and unloading curves. The area between the two curves is the energy dissipated through damping.
Transmissibility is defined as the ratio of output excitation to input excitation (in acceleration, displacement, etc...). Figure 4 shows a typical Transmissibility curve with a maximum amplification of about 2.5 occurring at resonance. This low transmissibility can be attributed to the high degree of damping in the isolator (C/Cc~.2). Transmissibility and damping are related by the following equation: $TR \sim \frac{1}{2\frac{C}{Cc}} \sim 2.5$.

Figure 3

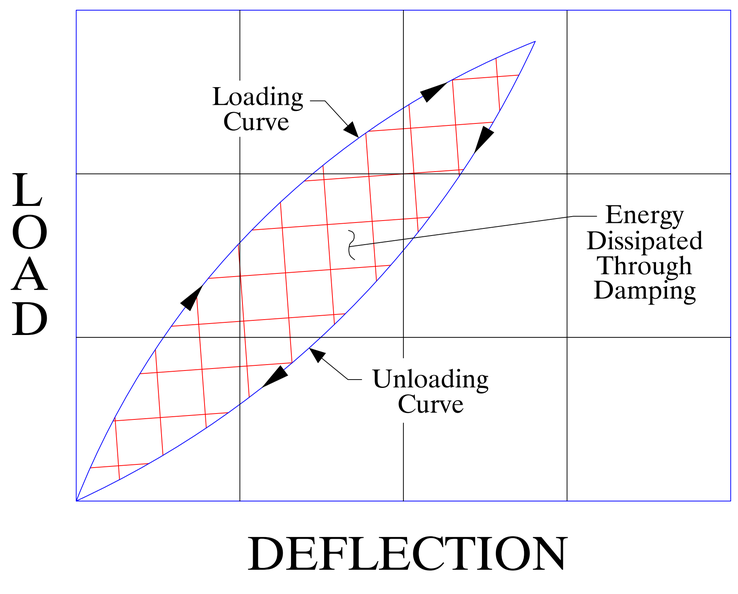


Figure 4