

Advantages of Firestone Marsh Mellow® springs



Constant Vibration Isolation with Changing Loads

The variable spring rate allows for a nearly constant natural frequency with changing loads. This results in consistent vibration isolation with variable loading.

High Load Carrying Capacity

Due to the Marsh Mellow® spring's greater deflection capabilities and load carrying influences of the fabric reinforcement, it can carry a greater load when compared to an all rubber part of the same modulus and dimensions.

Excellent Vibration Isolation

Low natural frequencies provide excellent isolation of forced frequencies in the range of 800-1200 cycles per minute (13-20Hz).

Lateral Vibration Isolation

The lateral spring rate of a Marsh Mellow® spring can be less than the vertical spring rate, resulting in a lower lateral natural frequency. Marsh Mellow springs provide better vibration isolation in all degrees of freedom.

Compact Overall Size

The ability to support greater loads and maintain a cylindrical shape results in a smaller overall size of the Marsh Mellow spring compared to an all rubber spring with identical load capacity. This is important when considering an application with a small design envelope.

Corrosion Resistant for a Durable, Long Life

Due to its rubber and fabric reinforced construction, the Marsh Mellow spring has been proven in the damp and corrosive environments of mines and mills where a standard coil spring will fail.

Does Not Bottom-Out

Due to the rubber construction, Marsh Mellow springs do not bottom-out like coil springs. Bottoming-out under overload or surge load sends a large amount of stress to all of the machine's components.

Eliminates Downtime and Potential Damage to Machinery

When a coil spring fails, it will often crack allowing fragments of the coil to damage equipment. This problem is eliminated with the rubber construction of Marsh Mellow springs. Additionally, Marsh Mellow springs exhibit exceptionally high overload characteristics and usually do not fail catastrophically, offering some support even during failure.

Increased Stability at Higher Percentages of Compression

Rubber is an incompressible fluid which will flow to the path of least resistance. In a Marsh Mellow, as the height compresses, the fabric reinforced rubber plies pantograph and the diameter grows. This supports the rubber core laterally even at 30-40% compression.

Effective Noise Reduction

Marsh Mellow springs reduce structurally transmitted noise caused by vibration. Marsh Mellow springs are quiet, unlike steel springs which often suffer coil chatter and readily transmit high frequency structural noise.

Low Cost

The Marsh Mellow spring's high load capability means fewer springs may be needed in an application, resulting in less overall cost.

Maintenance Free

Marsh Mellow springs have no moving parts. No maintenance or lubrication is required.