



Lamina INC

Marsh Mellow Springs

The Lamina Marsh Mellow rubber spring is a proven cost saver for the metal stamping industry. Marsh Mellows can be used as a maintenance free replacement for costly self contained nitrogen cylinders. The unique construction elements are the secret of the spring design flexibility.

The solid rubber core with hollow center and bias-ply fabric wrap are combined to meet special load and performance requirements. When designed into proper applications Marsh Mellows can give up to and greater than 1 million cycles of life.

Marsh Mellow springs may be safely compressed to 40% of their free length. However, operating within a 30% compression range will increase the life of the springs.

To select the proper diameter, free length, and quantity of Marsh Mellow springs required for your application, refer to the following examples or contact a Lamina representative.

Cycle Rate

Marsh Mellow Springs may be compressed up to 40% of their free height based upon the following C.P.M. chart.

Maximum Percentage Compression (%)

1 1/8" thru 2 1/2" O.D.	10	15	20	25	30	35	40
C.P.M.	200	150	125	100	75	65	50
3 1/4" thru 6" O.D.	10	15	20	25	30	35	40
C.P.M.	100	75	55	45	35	25	20

Marsh Mellow Selection

Most important in selecting desired diameters, close attention must be given to bulge curve chart. Marsh Mellow springs expand cylindrically and must not come in contact with sharp surfaces (sub plates, etc.) that could cut or tear the bias ply cord. The same attention must be placed upon the surface on which the springs contact top and bottom. Marsh Mellow springs free length should not be more than 2.5 times the diameter. For added length, springs may be used with a guide rod or stacked with locators. (Stacking of springs does not increase pressure). See Fig. 3 and 4 on page 11.

Temperature Range

Marsh Mellow springs should be limited to use in the range: -35°F (-32.5°C) to +140°F (+63°C). Temperatures above 145°F (63°C) will reduce the part life.

Fluid Compatibility

Water Based Lubricants — Marsh Mellow springs are compatible with most water based fluids. Certain additives, however, can attack the compound and shorten life.

Petroleum Based Lubricants — Marsh Mellows are resistant, but not 100% compatible with petroleum based fluids. Occasional contact should not affect the part.

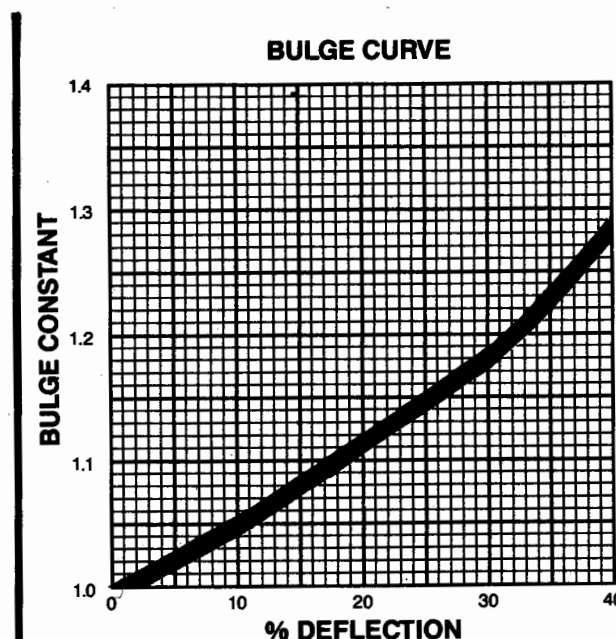
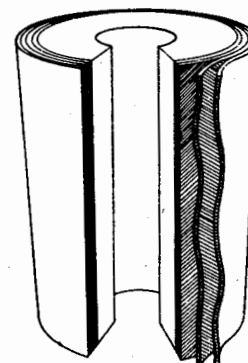
With either type lubricant, drains should be used to prevent fluids from pooling around parts.

NOTE: A compression set of up to 9% may occur over the life of the part when operated at high deflections and/or cycle rates.

TO DETERMINE MAXIMUM FREE HEIGHT:

$$1\frac{1}{8}'' - 2\frac{1}{2}'' \text{ diameter} \times 2$$

$$3\frac{1}{4}'' - 6'' \text{ diameter} \times 2\frac{1}{2}$$



TO USE CHART:

- 1.) FIND MAX. % DEFLECTION
- 2.) READ UP TO CURVE AND OVER TO BULGE CONSTANT.
- 3.) MULTIPLY NOMINAL O.D. BY BULGE CONSTANT TO FIND O.D. AT MAX. STROKE.

EXAMPLE: 6" SPRING @ 25% COMPRESSION

- 1.) FIND 25% DEFLECTION.
- 2.) READ BULGE CONSTANT AT 1.15.
- 3.) MULTIPLY 6" x 1.15 = 6.9" MAX. DIA.

Marsh Mellow Springs may be ordered in lengths not shown in this catalog.