

COMPRESSION SPRING PRODUCT INFORMATION

Stock sizes in music wire and stainless steel ASRaymond provides design engineers, draftsmen, production, and maintenance departments with a broad variety of precision-engineered helical compression springs. They combination of reliability and efficiency not only make this product line and effective alternative, but its price keeps it a strong competitor in the market.

Materials

Part numbers starting with 1 in the following pages:

Music Wire: ASTM A228 or AMS 5112

Stainless Steel: Type 302 per ASTM A313 or

AMS 5688 spring temper (Chemical and Physical only)

Part numbers starting with 6 in the following pages:

Music Wire: DIN 17223 or EN 10270-1 or JIS

3522 SWP-A/B or AMS 5112

Stainless Steel: Type 301, 302 or 304 per DIN

17224 or EN 10270-3 or JIS G4314 SUS 302/304 or AMS 5688 spring temper (chemical and physical only).

Music wire springs are not recommended for applications where the temperature exceeds 121 degrees C. (250 degrees F.). Stainless steel is not recommended above 260 degrees C. (500 degrees F.).

Stainless steel is slightly magnetic due to cold working during manufacturing. Stainless steel springs may have a slight residue of nickel on the surface of the wire. This is normal and will not affect the function of the part.

Wire diameter is prior to forming.

Coil Direction (helix)

Right hand. Coil count is for reference only.

Free Length

Free length is reference only.

Ends

Part numbers starting with 1 in the following pages :

O.D. sizes from 0.057 -0.088in (1.45 -2.24mm):

squared not ground.

O.D. sizes from 0.120 -1.937in (3.05 -49.20mm):

squared and ground.

However springs with wire diameter

0.020”(5mm) may be squared not ground.

Part numbers starting with 6 in the following pages :

Wire up to and including 0.8mm (0.031in):

squared and not ground.

Wire greater than 0.8mm (0.031in): squared and

ground.

Loads & Spring Rate

Load and rate values are shown for both music wire and stainless steel in their respective columns.

Load P at L1 and spring rate (R) are no minal and for reference only.

For normal service , springs should not be compressed below L1 (may take set beyond L). Load values at lengths other than L, can be approximated by multiplying the proposed deflection by the rate R. $P = (L - L_x) \times R$ where Lx is the new load height. Load at Lx should be reference only. Contact our engineering department if more stringent requirements are needed.

Surface

Music Wire: oil

Stainless steel: Only part numbers starting with 1 on the following pages are passivated. All others are plain wire.

Packaging

Due to physical characteristics, tangling can occur during transit on wire sizes under .035" (.89mm).

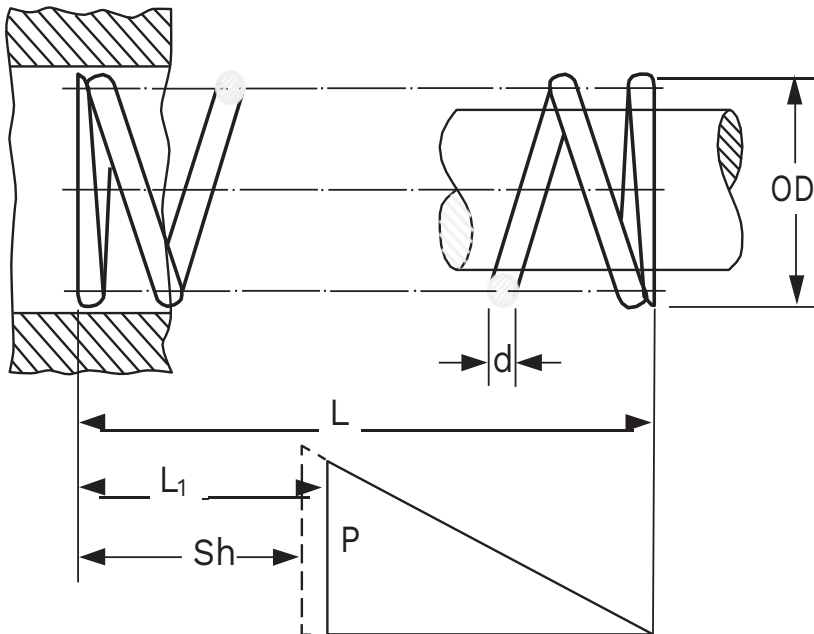


Illustration Key

- OD = Outside diameter
- d = Wire diameter
- Sh= Approx.Solid Height
- L = Free length (reference use only)
- L₁ = Loaded length (minimum working length)
- P = Load at L₁