

# 19,000+ stock springs

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# LeeP<sup>™</sup> Plastic Composite Compression Springs

#### Size Range:

Fit in Hole: .375" - 1"/ 9.53 mm - 25.4 mm Free Length: .375" - 1.25"/ 9.53 mm - 31.75 mm

- · Six Color-Coded Strengths
- Ultem\* Resin

# **Stock Compression Springs**

#### Size Range:

Outside Diameter: .025" - 1.937"/.64 mm - 49.20 mm Free Length: .025" - 6"/ .64 mm - 152.40 mm Wire Size: .0040" - .177"/.10 mm - 4.50 mm

#### **Products and Materials:**

#### **Bantam Mini Compression Springs**

Elgilov®†

#### **Instrument Compression Spring (Inch and Metric)**

- Ends square, not ground
- Pre-coated Music Wire or Passivated Type 302/304 Stainless
- Passivated & Ultrasonically Cleaned Type 316 Stainless\*\*

#### Lite Pressure Compression Spring Series (Inch)

Passivated & Ultrasonically Cleaned Type 316 Stainless\*\*

#### **Standard Compression Springs** (Inch\* and Metric)

- · Squared and Ground Ends
- Plated Music Wire or Passivated Type 302/304 Stainless
- Passivated & Ultrasonically Cleaned Type 316 Stainless\*\*

#### **Heavy Duty Compression Spring (Inch)**

- · Squared and Ground Ends
- · Shot-Peened and Pre-Set
- Plated Music Wire/Oil Tempered MB Wire or Passivated Stainless

# REDUX™ Wave Springs

#### Size Range:

Outside Diameter: .224" - 1.688"/ 5.69 mm - 42.88 mm Free Height: .075" - 1.75"/ 1.90 mm - 44.45 mm

Material:

Passivated 17 - 7 PH Stainless Steel

# HEFTY™ Die Springs

#### Size Range:

Fit in Hole: .375" - 2"/ 9.53 mm - 50.80 mm Free Length: 1" -6"/ 25.40 mm - 152.40 mm

#### **Products and Materials:**

Five Color Coded Series Reflecting Increasing Strengths

- · Medium: Medium Plus
- Medium Heavy, Heavy, Extra Heavy
- Round Music Wire or Chrome Silicon
- Squared and Ground Ends
- Powder Coated
- · Shot-Peened and Pre-set

# Notes:

- \* Ultem is a registered trademark of SABIC Innovative Plastics IP BV.
- \*\* Type 316 Stainless Steel Stock option only available on Inch Compression Stock Springs.
- † Elgiloy is a trademark of Elgiloy Ltd. Partnership. Type 302 may be substituted with Type 304 at Lee Spring's discretion.

# Stock Extension Springs

#### Size Range:

Outside Diameter: .063" - 2.0"/1.60 mm - 50.80 mm Free Length: .250" - 10.0"/6.35 mm - 254.00 mm Wire Size: .007" - .207"/.18 mm - 5.26 mm

Loop Configuration:

- · Random position, full diameter machine or crossover center
- Loop openings approximately one wire diameter
- Direction of wind optional

#### **Products and Materials:**

**Instrument Extension Spring Series** (Inch and Metric)

Pre-coated Music Wire or Passivated Stainless Steel
 Standard Extension Spring Series (Inch and Metric)

Plated Music Wire or Passivated Stainless Steel

# Stock Torsion Springs

#### Size Range:

Outside Diameter: .105" - 2.141"/ 2.667 mm - 54.38 mm Work Over Rod: .062" - 2.141"/ 1.58 mm - 54.38 mm Leg Length: .375" - 4.25" / 9.53 mm - 107.95 mm

#### **Products and Materials:**

- Free Position of Legs: 90°, 180°, 270°, 360°
- · Choice of Left hand wound or Right hand wound
- Plated Music Wire or Passivated Stainless Steel

#### Belleville Washers

#### Size Range:

Outside Diameter: .188" - 2.500" / 4.78 mm - 63.50 mmInside Diameter: .093" - 1.25" / 2.36 mm - 31.75 mm

Material:

Passivated 300 Series Stainless Steel

# **Specialty Products**

#### **MIL-SPEC Springs**

- 24585 Compression
- 24586 Extension

#### **Battery Springs**

- Nickel Plated Music Wire or Silver Coated Beryllium Copper
- Multiple configurations to fit AA, AAA, C or D

**Stainless Steel Constant Force Springs** 

#### **Contact Information**

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# Custom Springs, Wire Forms, Stampings & Fourslide Parts

# Lee Spring offers support for every stage of custom design, manufacturing and distribution:

- Application/Concurrent Engineering staff
- Regulatory expertise including RoHS, REACH and DFARS
- Proof of concept methodologies
- CAD assisted product design, drawing and modeling
- In-house prototype production services (rapid turnaround)
- Factories outfitted to effectively accommodate both short and long production run
- In-house tooling production including EDM
- Extensive experience working with Aerospace/Military specifications (AS9100), Automotive Specifications (TS16949) and FDA Trial Support (21 CFR Part 820)
- Proprietary integrated quality control system
- State of the art computerized spring testing equipment
- · Global supply chain network for both production and distribution
- Blanket agreement and consignment inventory management capabilities
- Pull/Kanban capabilities
- · Ongoing Customer/Supplier improvement initiatives
- ISO 9001 Registered Quality Management System

# From Start to Finish, Lee Spring Has the Custom Capabilities You Need!

#### **Compression Springs:**

Outside Diameter: 0.025 - 5.75"/0.64 - 146.1 mm Wire Diameter: 0.004" - 0.625"/0.10 mm - 15.88 mm

#### **Extension Springs:**

Outside Diameter:  $0.025 - 5.75^{\circ}/0.64 - 146.1 \text{ mm}$  Wire Diameter:  $0.005^{\circ} - 0.625^{\circ}/0.13 \text{ mm} - 15.88 \text{ mm}$ 

#### **Torsion Springs:**

Outside Diameter: 0.025 - 5.75"/0.64 - 146.1 mmWire Diameter: 0.005" - 0.187"/0.13 mm - 4.75 mm

#### **Wave Springs:**

Outside Diameter: 0.200" - 8.000"/5.08 mm - 203.2 mmInside Diameter: 0.150" - 4.54"/3.81 mm - 115.32 mm

#### **Constant Force Springs:**

Min. Outside Diameter: 0.340" – 8.636 mm Inside Diameter: 0.280" – 1.97"/7.11 mm – 50.04mm

Min Length: 11.80"/299.72 mm

# **Distinct Production Capabilities:**

- . Plastic Compression Springs . Drawbar Springs . Cone Springs . Double Torsion Springs . Extension Springs with Swivel Hooks
- Wire Forms: Wire Diameters: 0.010" 0.24" /0.25 mm 6 mm Maximum Finished Length: 60"/ 1524 mm
- Stampings: Strip Width: up to 3" / 76.20 mm Strip Thickness: 0.005 to 0.062" /0.13mm 1.57 mm
- Fourslide Parts: Strip Width: 0.010" 0.500"/0.25 mm 12.70 mmStrip Thickness: 0.003" - 0.125"/0.08 mm - 3.18 mm • Wire Diameter: 0.005" - 0.187"/0.13 mm - 4.75 mm

# **Secondary Operations and Finishing:**

- Assembly Color Coding Electropolishing Grinding Heat Treating Looping
- Passivation
   Powder Coating
   Shot Peening
   Spring Setting
   Plating: Nickel, Zinc, Cadmium
- Special Finishes (e.g., Black Oxide)

#### **Materials:**

- Beryllium Copper Beryllium Copper, Silver Coated Carbon Steel, Hard Drawn
- Carbon Steel, Oil Tempered Chrome Silicon, Oil Tempered Chrome Vanadium, Oil Tempered
- Elgiloy®\* Hastelloy®\*\* Inconel®† 600, 718 & x750 Music Wire Phosphor Bronze
- Plastic Composites Stainless Steel, 300 Series Stainless Steel, 17-7
   Please inquire regarding other materials.
- \*Elgiloy is a trademark of Elgiloy Ltd. Partnership.
- \*\*Hastelloy is a registered trademark of Haynes International Inc.
- † Inconel is registered trademark of Special Metals Corporation.





