# lee Spring®

### Selection 25,000+ products available, plus custom products made to your specifications. = In Stock Springs ready to ship today. Support Engineering and customer service ready to assist. **Request** a **Free Catalog** Over 360 pages of Parts, Specs, and Pricing. C Lee Spring \* Ultem is a registered trademark of SABIC Innovative Plastics IP BV. Type 316 Stainless Steel Stock option only available on inch stock springs Elgiloy is a trademark of Elgiloy Ltd. Partnership. Elgiloy may be substituted with equivalent cobalt S alloy at Lee Spring's discretion.

### Stock Springs In-Stock, Ready to Ship

Call: 1-888-777-4647 (888-SPRINGS) Fax: 1-888-426-6655 Visit: leespring.com Email: sales@leespring.com

	Comments	Materials and Finishes
Bantam™ Mini Series Free Length: .039"625"	Ends Not Ground	• Elgiloy®§
Instrument Series Free Length: .039"-2.087"	Ends Square, Not Ground	Pre-coated Music Wire     Passivated Type 302/304 Stainless     Passivated & Ultrasonically Cleaned Type 3'     Stainless**
Lite Pressure™ Series Free Length: .313"-6"	Ends Square, Not Ground	Passivated & Ultrasonically Cleaned Type 3     Stainless**
Standard Series Free Length: .173"-11.417"	Squared and Ground Ends	<ul> <li>Plated Music Wire</li> <li>Passivated Type 302/304 Stainless</li> <li>Passivated &amp; Ultrasonically Cleaned Type 3 Stainless **</li> </ul>
MIL SPEC MS24585 Free Length: .250" – 1.5"	Squared and Ground Ends	Uncoated Music Wire     Cadmium Plated Music Wire     Zinc Plated Music Wire     Passivated Type 302 Stainless Steel
Heavy Duty Series Free Length: .875"-6"	Squared and Ground Ends Shot-Peened and Pre-Set	<ul><li>Plated Music Wire/Oil-Tempered Wire</li><li>Passivated Type 302/304 Stainless</li></ul>
High Pressure Series Free Length: .250"-2"	Squared and Ground Ends Shot-Peened and Pre-Set	Passivated Type 17-7 PH Stainless Steel
HEFTY™ Die Springs Free Length: 1"-12"	Squared and Ground Ends Shot-Peened and Pre-Set Powder Coated Five color coded versions in various strengths	Music Wire/Oil-Tempered Chrome Silicon
LeeP™ Plastic Composite Series Free Length: .375"-1.25"	Available in 6 Color-Coded Strengths	Ultem* Resin
REDUX™ Wave Springs	Comments	Materials and Finishes
REDUX™ Wave Compression Springs Outside Diameter: .210"−1.707" Free Height: .060"−2"		Passivated Type 17-7 PH Stainless Steel
Belleville Washers	Comments	Materials and Finishes
Belleville Washers Outside Diameter: .188"-3.75" Inside Diameter: .093"-2.06"		Passivated 300 Series Stainless Steel
Extension Springs	Comments	Materials and Finishes
Instrument Series Outside Diameter: .063"157" Free Length: .250"-1.181"	Loops in random position, full diameter machine or cross over center except those made to DIN 2097. Loop openings approximately one wire diameter	<ul> <li>Pre-coated Music Wire</li> <li>Passivated Type 302/304 Stainless Steel</li> <li>Passivated &amp; Ultrasonically Cleaned Type 3 Stainless **</li> </ul>
Standard Series Outside Diameter: .098"-2" Free Length: .311"-11.417"	Loops in random position, full diameter machine or cross over center except those made to DIN 2097. Loop openings approximately one wire diameter	<ul> <li>Plated Music Wire</li> <li>Passivated Type 302/304 Stainless Steel</li> <li>Passivated &amp; Ultrasonically Cleaned Type 3 Stainless **</li> </ul>
MIL SPEC MS24586 Outside Diameter: .120"-1" Free Length: 1"-5"	Loops inline position	Uncoated Music Wire     Cadmium Plated Music Wire     Zinc Plated Music Wire
rice Longin. 1 =0		<ul> <li>Passivated Type 302 Stainless Steel</li> </ul>
Torsion Springs	Comments	Passivated Type 302 Stainless Steel Materials and Finishes
-	<b>Comments</b> Available in 7 Free Positions: 90°, 120°, 180°, 210°, 270°, 300°, 360°	Materials and Finishes <ul> <li>Plated Music Wire</li> <li>Passivated Type 302/304 Stainless Steel</li> </ul>
Torsion Springs Torsion Springs Outside Diameter: .103"–2.141" Work Over Rod: .059"–1.656"	Available in 7 Free Positions: 90°, 120°,	Materials and Finishes Plated Music Wire Passivated Type 302/304 Stainless Steel Passivated & Ultrasonically Cleaned Type 3
Torsion Springs Torsion Springs Outside Diameter: .103"–2.141" Work Over Rod: .059"–1.656" Leg Length: .375"–4.25"	Available in 7 Free Positions: 90°, 120°, 180°, 210°, 270°, 300°, 360°	Materials and Finishes Plated Music Wire Passivated Type 302/304 Stainless Steel Passivated & Ultrasonically Cleaned Type 30 Stainless **
Torsion Springs Torsion Springs Outside Diameter103"-2.141" Work Over Rod: .059"-1.656" Leg Length: .375"-4.25" Constant Force Constant Force Constant Force Springs Load Range: .23 lbs16.5 lbs.	Available in 7 Free Positions: 90°, 120°, 180°, 210°, 270°, 300°, 360°	Materials and Finishes Plated Music Wire Passivated Type 302/304 Stainless Steel Passivated & Ultrasonically Cleaned Type 3 Stainless ** Materials and Finishes
Torsion Springs Outside Diameter: .103" –2.141" Work Over Rod: .059" – 1.656" Leg Length: .375"–4.25" Constant Force Constant Force Springs Load Range: .23 lbs. – 16.5 lbs. Material Widths: .25" – 1.25"	Available in 7 Free Positions: 90°, 120°, 180°, 210°, 270°, 300°, 360° <b>Comments</b>	Materials and Finishes Plated Music Wire Passivated Type 302/304 Stainless Steel Passivated & Ultrasonically Cleaned Type 30 Stainless ** Materials and Finishes Type 301 Stainless Steel
Torsion Springs Outside Diameter: .103" –2.141" Work Over Rod: .059" – 1.656" Leg Length: .375"–4.25" Constant Force Constant Force Springs Load Range: .23 lbs. –16.5 lbs. Material Widths: .25" – 1.25" Specialty Springs	Available in 7 Free Positions: 90°, 120°, 180°, 210°, 270°, 300°, 360° Comments AAA, AA, C and D Battery Sizes	Materials and Finishes         Plated Music Wire         Passivated Type 302/304 Stainless Steel         Passivated & Ultrasonically Cleaned Type 3: Stainless **         Materials and Finishes         Type 301 Stainless Steel
Torsion Springs Torsion Springs Outside Diameter: .103"-2.141" Work Over Rod: .059"-1.656" Leg Length: .375"-4.25" Constant Force Constant Force Springs Load Range: .23 lbs16.5 lbs. Material Widths: .25"-1.25" Specialty Springs Battery Springs	Available in 7 Free Positions: 90°, 120°, 180°, 210°, 270°, 300°, 360° Comments AAA, AA, C and D Battery Sizes Various Mount Types	Materials and Finishes         Plated Music Wire         Passivated Type 302/304 Stainless Steel         Passivated & Ultrasonically Cleaned Type 3' Stainless **         Materials and Finishes         Type 301 Stainless Steel         Materials and Finishes         Nickel Coated Music Wire         Silver Coated Beryllium Copper         Music Wire
Torsion Springs Torsion Springs Outside Diameter103"-2.141" Work Over Rod: .059"-1.656" Leg Length: .375"-4.25" Constant Force Constant Force Springs Load Range: .23 lbs16.5 lbs. Material Widths: .25"-1.25" Specialty Springs Battery Springs Continuous Length Extension	Available in 7 Free Positions: 90°, 120°, 180°, 210°, 270°, 300°, 360° Comments AAA, AA, C and D Battery Sizes Various Mount Types 12", 24", and 36" Lengths	Materials and Finishes         Plated Music Wire         Passivated Type 302/304 Stainless Steel         Passivated & Ultrasonically Cleaned Type 37 Stainless **         Materials and Finishes         Type 301 Stainless Steel         Materials and Finishes         Silver Coated Music Wire         Silver Coated Beryllium Copper         Music Wire         Type 302 Stainless Steel
Torsion Springs Torsion Springs Outside Diameter. :103"-2.141" Work Over Rod: .059" - 1.656" Leg Length: .375" - 4.25" Constant Force Constant Force Springs Load Range: .23 lbs 16.5 lbs. Material Widths: .25" - 1.25" Specialty Springs Battery Springs Battery Springs Continuous Length Extension Spring Kits Compression Spring Kit Free Length Ranges: .250"-2"	Available in 7 Free Positions: 90°, 120°, 180°, 210°, 270°, 300°, 360° Comments AAA, AA, C and D Battery Sizes Various Mount Types 12°, 24°, and 36° Lengths Comments	Materials and Finishes         Plated Music Wire         Passivated Type 302/304 Stainless Steel         Passivated & Ultrasonically Cleaned Type 3's         Stainless **         Materials and Finishes         Type 301 Stainless Steel         Materials and Finishes         Nickel Coated Music Wire         Silver Coated Beryllium Copper         Music Wire         Type 302 Stainless Steel         Materials and Finishes         Music Wire         Type 302 Stainless Steel         Materials and Finishes         Music Wire         Music Wire         Music Wire         Music Wire         Music Wire         Music Wire - Zinc Plated (or pre-coated Tin/Zinc)

1701-LCUSEN

## Custom Springs, Wire Forms, **Stampings and 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 for rapid turnaround
- Global supply chain network for both production and distribution
- Blanket agreement and consignment inventory management capabilities
- Short and long production run capabilities •
- In-house tooling production including EDM
- Proprietary integrated quality control system
- Extensive experience working with Aerospace/Military specifications (AS9100), automotive specifications (TS16949) and FDA Trial Support (21 CFR Part 820)
- ISO 9001 registered quality management system



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

Spring Types and Dimensions		
Compression Springs	<i>Outside Diameter:</i> 0.010" – 5.75"/0.25 mm – 146.1 mm	<i>Wire Diameter:</i> 0.002" – 0.625"/0.05 mm – 15.88 mm
Extension Springs	<i>Outside Diameter:</i> 0.010" – 5.75"/0.25 mm – 146.1 mm	<i>Wire Diameter:</i> 0.002" – 0.625"/0.05 mm – 15.88 mm
Torsion Springs	<i>Outside Diameter:</i> 0.010" – 5.75"/0.25 mm – 146.1 mm	<i>Wire Diameter:</i> 0.002" – 0.625"/0.05 mm – 15.88 mm
Wave Springs	<i>Outside Diameter:</i> 0.210" – 5.000"/5.33 mm – 127.0 mm	Inside Diameter: 0.150" – 4.54"/3.81 mm – 115.32 mm
Constant Force	<i>Min. Outside Diameter:</i> 0.340"/8.636 mm <i>Min Length:</i> 11.80"/299.72 mm	<i>Inside Diameter:</i> 0.280" – 1.97"/7.11 mm – 50.04 mm
Wire Forms	<i>Wire Diameters</i> : 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 mm Strip Thickness: 0.003" – 0.125"/ 0.08 mm – 3.18 mm	<i>Wire Diameter:</i> 0.005" – 0.187"/ 0.13 mm – 4.75 mm

Distinct Production Capabilities including: Plastic Compression, Drawbar, Cone, Double Torsion, Specialty Extension and more,

#### Materials

- · Beryllium Copper
- · Brass
- · Carbon Steel, Hard Drawn
- · Carbon Steel, Oil Tempered
- · Chrome Silicon, Oil Tempered
- Chrome Vanadium, Oil Tempered Elgiloy<sup>®</sup>\*
- Hastelloy<sup>®</sup>\*<sup>3</sup>
- Inquire regarding additional materials.

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\*\* Hastelloy is a registered trademark of Haynes International Inc.

§ Inconel & Monel are registered trademarks of Special Metals Corporation

- Inconel<sup>®</sup>§ Monel®§
- · Music Wire Phosphor Bronze
- Plastic Composites
- · Stainless Steel, 300 Series
- · Stainless Steel, 17-7
- · Stainless Steel, 316, 316L

#### Secondary Operations, Finishing and Services

- · Assembly
- Color Coding
- · Electropolishing
- Grinding
- Heat Treating
- · Looping
- - - Spring Setting

Passivation

· Powder Coating

Shot Peening

- · Plating: Nickel, Zinc, Cadmium · Special Finishes (e.g., Black Oxide)



Contact Us: USA and Canada: 1 888 SPRINGS (1 888 7774647) • sales@leespring.com • 140 58th Street, Unit 3C Brooklyn, NY 11220 International: United Kingdom: sales@leespring.co.uk • Germany: verkauf@leespring.de • India and Middle East: india-sales@leespring.com Asia: sales@leespring.cn • Mexico and Latin America: ventas@leespring.com