

RETAINING RINGS



PSpring.com

21200 Telegraph Road

Southfield, MI 48033

Phone (248) 799-5400

Fax (248) 357-3176

Large Volume - Short Run - Prototype
- Custom Ring Orders -



PETERSON SPRING

MANUFACTURERS OF ENGINEERED METAL PRODUCTS

Ring Manufacturing and Engineering Locations

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Southfield, MI 48033
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**Peterson
Spring**

has over 50 years of experience in the design and manufacture of coiled retaining rings. Let us put our expertise to work for you.

THE ADVANTAGES

Coiled **FAC** retaining rings have obvious cost advantages over stamped rings; they avoid the tremendous amount of blanked scrap that stamped rings produce, and require neither expensive tooling or dies nor costly hardening processes. We can manufacture rings with a number of gap configurations to assist with assembly, disassembly, and identification. In addition, we can provide ground surfaces and a variety of notches or holes at the ring gap.

ENGINEERING

To meet your requirements, a resident engineer at each **FAC** retaining ring manufacturing location can provide engineering, technical, and design assistance for the development of special section coiled retaining rings. Also, a corporate-based staff of engineers and a metallurgist is at your disposal for design, value and application engineering, as well as laboratory analysis.

MATERIALS

Coiled retaining rings can be produced in many different materials, such as stainless, chrome silicon, and special nickel alloys as well as the standard grades of medium to high carbon steel. Starting from round wire, **FAC** ring plants shape their own wire ranging from 0.36 mm to 12.7 mm (.014" to .5") square. Rolling mills and shaping heads are used to form the precision toleranced materials required for quality finished rings.

MANUFACTURING

FAC retaining rings are produced at four of our locations in North America. Specialized equipment, much of our own design, contributes to maximum efficiency and cost-effective manufacturing. Our skilled operators produce over 100,000,000 coiled retaining rings a year on modern equipment. For high volume production runs, our product capability covers parts with inner diameters ranging from 12.7 mm to 305 mm (.50" to 12.0"). We can also make special production runs, or small lot quantities of parts with inner diameters ranging from 1.57 mm to 1830 mm (.062" to 72.0").

QUALITY ASSURANCE

Optimum product quality and reliability are inherent in **FAC** retaining rings. Quality control begins with the incoming inspection of raw material and proceeds with the use of statistical process controls during manufacturing. Continuous monitoring, both in the laboratory and on the production line, assures our commitment to achieve and maintain world-class quality.

For a **FREE** Technical Manual with retaining ring design data and engineering specifications,



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*Wave
Springs*



*Wave
Rings*



*Lock Rings
Snap Rings
Bearing Rings
Retaining Rings*



THE COMPANY

In 1914, a Norwegian immigrant named August Christian Peterson and his son, Alfred, founded the first mechanical spring factory in Detroit. Today Peterson Spring is an international group of companies manufacturing springs, rings, multi-slide clips and wire forms, hose clamps, and stampings.

② In a highly automated process, a keystone (trapezoidal) cross section is achieved by drawing the material through wire polishers and multi-staged rolling and shaping mills.



④ Keystone wire is fed through the ring coiling operation to form the proper finished ring diameter and resulting rectangular cross section. The coiled ring is then cut, giving a gap of the specified profile and width with minimal material waste.



⑥ Secondary processing is sometimes necessary for special applications. Shown is a double disc grinding operation used for rings requiring specialized incremental thickness tolerances in selective fit applications.

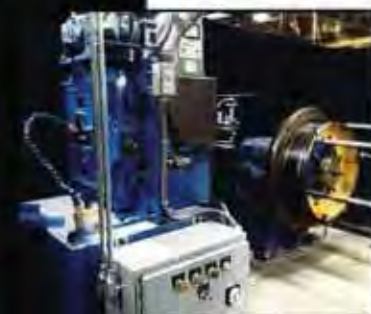


THE PROCESS



① Certified raw material is received in coils of round spring wire. These high carbon steel and alloy wires will be custom shaped to optimize the final cross sections required for each retaining ring application.

③ Keystone cross sections are carefully engineered and controlled to insure precision tolerances in the final ring forming operations.



⑤ Rings are then stress relieved at appropriate time and temperature settings to insure optimum performance characteristics and dimensional stability.



⑦ Each plant is staffed with its own quality department to insure the conformance of incoming and outgoing materials as well as in-house processes. PAC's metallurgical lab, located at corporate headquarters in Southfield, Michigan, is also available for more in-depth or specialized analysis as well as research and development activities.



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