

w w w . r p k . e s

Federn muelles ressorts springs molas





RPK Sociedad Cooperativa fue fundada en 1974.

Localización: Vitoria-Gasteiz, País Vasco, España.

Actividad: Dedicada a la fabricación de resortes de precisión, bobinas de cobre, formas de alambre y piezas de dobladoras y estampados.

Mercado: Desde las plantas de Vitoria y Tarragona atendemos al mercado Europeo, dando un servicio a los mercados Asiático y Americano desde nuestras filiales en México e India.

Sectores: Automotriz, eléctrico, electrónico y electrodomésticos.

Aplicaciones: Frenos, Amortiguación, Sistemas de seguridad, Válvulas EGR, etc..

Plantas productivas fuera de Europa: 2 (México e India)

Certificaciones: ISO/TS 16949, ISO 9001:2008, ISO 14001

RPK Sociedad Cooperativa was founded in 1974.

Location: Vitoria-Gasteiz, Basque Country, Spain

Activity: Compression, tension, torsion, double body springs, rings, wave springs, wire forms, flat springs & bending parts.

Markets: RPK is currently supplying mainly to the EU countries and also the rest of the world.

Sectors: Automotive, electrical, electronic and home appliances.

Applications: Brakes Systems, Shock Absorbers, Safety Systems, EGR, etc.

Production facilities: Mexico, India, Europe (2)

Certifications: ISO/TS 16949, ISO 9001:2008, ISO 14001

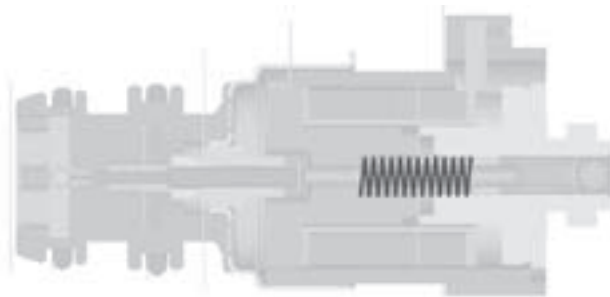




micro – compression

El Grupo RPK produce micro resortes de compresión para aplicaciones que requieren de la más alta precisión. Disponemos de Microscopios para las puestas a punto así como cámaras de control para verificar 100% las características del resorte en máquina.

The RPK Group has the capability to produce micro compression springs for the most demanding sectors. RPK devices are equipped with Microscopes for machine setting and Unitary Control Cameras to check 100% the outside diameter and Free Length.



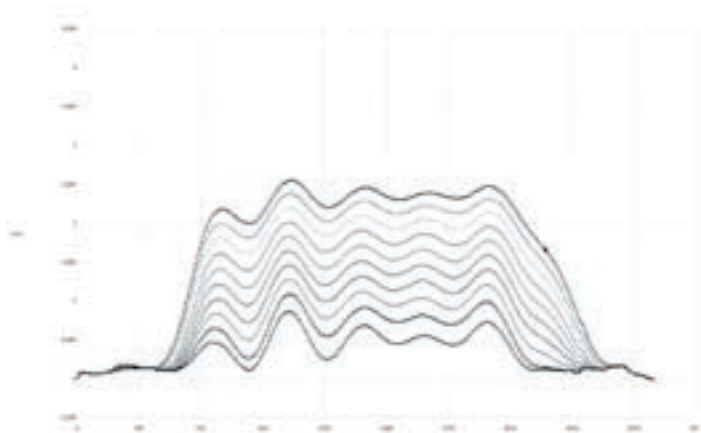
Spring forms:	cylindrical, conical, barrel-shaped, special forms
Spring ends:	Closed, Non-closed, ground, special forms
Product range:	Above 0.15mm.
Specials:	100% testing of Free Length & outside Diameter.

compression



El Grupo RPK dispone de la última tecnología para la fabricación de muelles de compresión con un rango de trabajo de 0.15mm hasta 8.00mm de diámetro de alambre.

The RPK Group has the latest technology to produce best quality compression springs; our product range is from 0.15mm to 8.00mm of round wire diameter or compression springs with shaped wire.



Compression per coil

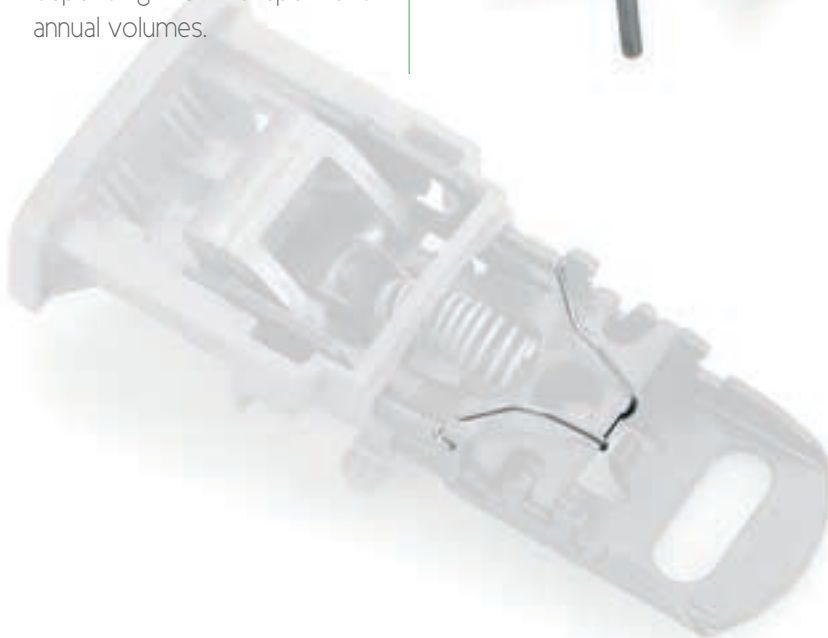
Non-Axial Forces. When a compression spring is deflected axially, it is usually assumed that the line of force and the geometric axis of the spring coincide. In reality this is not true because the geometry of a spring during compression does not remain symmetrical. Unfortunately, these unaccounted for non-axial forces can often cause a variety of problems such as premature mechanism wear, or failure.

RPK laboratory has a special load testing machine in order to measure the non-axial forces produced during the compression of the spring.

wire forms & spiral springs

La última generación de máquinas pueden producir **Muelles de espiral**, así como **formas de alambre** y **ensambles**. Estos productos pueden ser fabricados tanto en máquinas dobladoras como en máquinas de conformado dependiendo de la forma y el volumen anual.

The latest generation of machines can produce **Spiral Springs**, **wire forms** or even ready-made **assemblies**. These products will be produced in torsion spring machines or bending technology depending on shape and annual volumes.





El Grupo RPK cuenta con la última tecnología para fabricar los resortes de Torsión. Rango de Producción desde 0.20mm hasta 6.00mm.

The RPK Group has the technology to produce torsion Springs. Our product range is from 0.20mm to 6.00mm.

Spring forms:

Double body torsion springs.

Wire:

Round wire, and Shaped wire.

Specials:

Fatigue testing & Torque control devices.



Surface Coatings

- Zinc phosphating and Electroplating.
- Delta-Tone, Delta-Seal GZ, coatings
- Oiling spray & Immersion processes.
- Color painting for identification.

Finishing

- Deburring and Ultrasonic cleaning
- Shot Peening, mainly with Carbon Steel, Stainless steel or Glass beads.

rings

El grupo RPK tiene la tecnología para fabricar anillas de diversos tipos para los diferentes sectores los cuales nos demandan la más alta calidad en nuestros productos. Algunas de las anillas pueden ser fabricadas con extremos redondos.

The RPK Group has the capability to manufacture diverse kinds of rings for different sectors which demands the highest quality in our products. Some ring ends can be manufactured with round ends.



Retainer ring



Special shape ring



Seal retainer for injection system



Ring for ball-joint





Shim end crest to crest wave spring



Crest to crest wave spring



Single turn wave spring with round wire



Nested wave spring

Atendiendo la demanda de nuestros clientes, el Grupo RPK procura constantemente desarrollar nuevos productos. Es por ello que hace unos años comenzamos a fabricar **Muelles de Onda**.

Rango > 0.20X1.00mm

As an acknowledged industry partner, the RPK Group constantly endeavors to develop new products to satisfy our customers' demands. We started to manufacture **wave springs** in our facilities in recent years. Product range > 0.20X1.00mm.

Wave Spring Advantages

Wave springs reduce spring height by 50%. By reducing spring operating height, wave springs also produce a decrease in the spring cavity. With a smaller assembly size and less material used in the manufacturing process, cost savings are obtained.

No Tooling Charges on standard designs.

Non Axial Forces Reduction

copper coils

RPK cuenta con la tecnología para la producción de bobinas de cobre con los extremos pelados, así como formas de cobre. El rango para estos productos comienza en 0.20mm de diámetro de hilo.

RPK is equipped with the technology to produce high quality copper coils with stripped ends, and copper wire forms. The product range starts at 0.20mm of wire diameter.

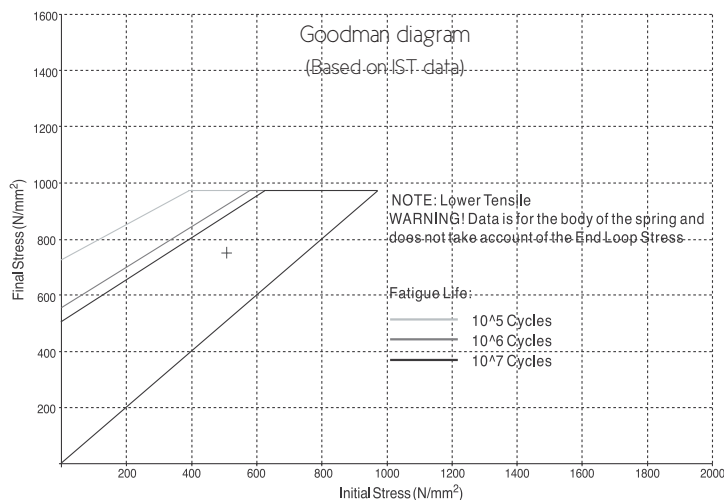


tension springs



Para resortes de tracción, El grupo RPK dispone de la más alta tecnología para trabajar con rangos que van desde 0.30mm hasta 6.00mm de diámetro de alambre. Siempre con la mejor calidad existente en el mercado.

For tension springs, the RPK Group has the technology to produce springs from 0.30mm to 6.00mm of wire diameter. Always with the best quality on the market.



The Goodman Diagrams should be read with caution. If the margin of safety on the diagram is small, endurance tests would always be recommended. This analysis does not take into account special conditions as work frequency, impact loading or environment conditions. The Torsion Springs almost invariably **interact** in some way **with adjacent components**; an internal mandrel, external tube, etc. The Extension Springs do not operate as well in fatigue applications as the compression spring, because many end loop designs incorporate stress due to their geometry. RPK recommends **test** the spring in the **assembly** within which they are to be used.

flat springs

El Grupo RPK está preparado para producir principalmente en Europa piezas estampadas o dobladas como abrazaderas, muelles planos, casquillos, anillos perforados, formas de alambre, guías para sector eléctrico, conectores, grapas, etc. RPK también puede producir una variedad de otros muelles planos de acuerdo a los requerimientos del cliente.

The RPK Group is able to produce in Europe Stamped or bent parts, hose clamps, bushings, field rings, wire forms, fitting for the electrical industry, connectors, locking systems etc. RPK can also produce with its Stamping/Bending technology, a variety of other flat springs according to customer specifications.



Electronic sector



Automotive sector



Industrial sector



Automotive brakes systems



stamped – bent parts



Electrical sector



Lighting systems, automotive



Electrical sector



Electrical sector

Espesor de chapa /
Strip thickness:
0,20 – 2,50 mm.

Ancho de banda /
Strip width:
1 – 80 mm.

Capacidad de prensa /
Punch-bending pressure:
100 Tn Max.



PROTOTIPO



Dynaform



Política de reinversión de beneficios. El grupo RPK hace un continuo esfuerzo en la reinversión de los beneficios en nuestro negocio. En los últimos 10 años el grupo RPK ha invertido el 17% de su volumen total de facturación. Durante este mismo periodo el grupo RPK ha instalado plantas productivas en dos nuevos continentes dotadas de los más avanzados equipos de producción.

Profit reinvestment policy. The RPK Group is making a continuous effort in reinvesting its profits back into our business. In the last 10 years the RPK GROUP has reinvested 17% of the Group total turnover. We have built new facilities in two continents with the most advanced production equipment.



The RPK Group **clean-rooms** are controlled according to the standard ISO-14644. The air cleanliness level of our cleaning rooms is between class 6 and class 7 according to ISO 14644-1.

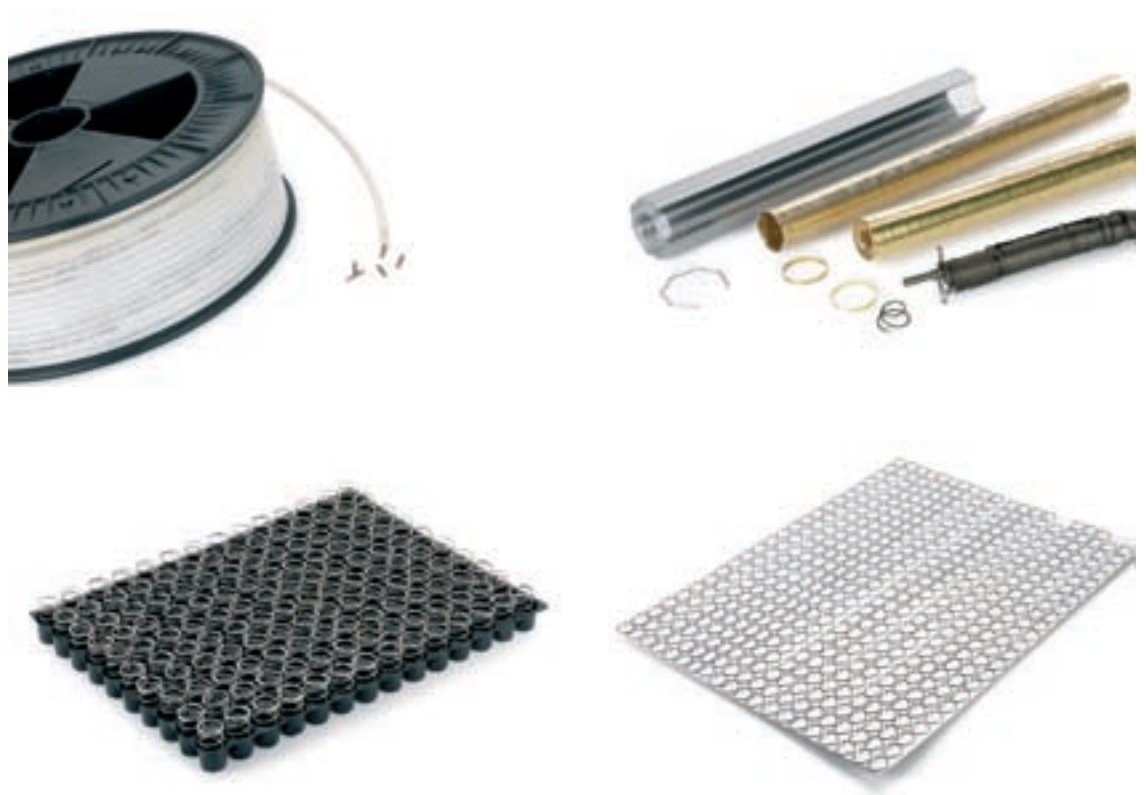
RPK uses **ultrasonic** and **spray cleaning technology** to meet the most demanding requirements from our customers.

Particle sizing and counting by microscopic analysis. The method for determining the size and number of contaminant particles is controlled according to the standard ISO 16232-6/7 which have been extracted from components according to ISO 16232-4. These particles have been deposited on the surface of a membrane filter, as determined by using **the microscope Olympus BX51** Powered by the new UIS2 optical system. It is the ideal system to obtain exact information on the nature of the contamination; such as number of particles, particle size distribution and particle composition in order to provide solutions to our customers.

logistics

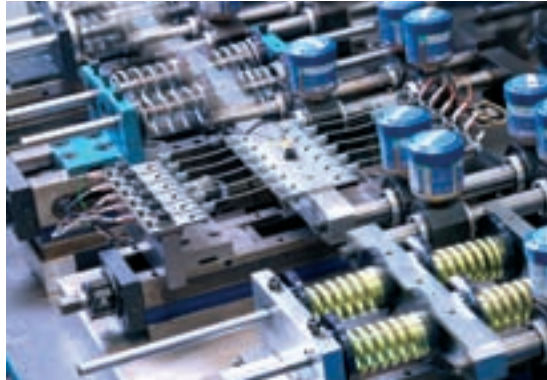
El Grupo RPK cuenta con la tecnología y el personal capacitado para ofrecer al cliente soluciones a medida en cuanto al empaque de sus productos.

The RPK group has the technology and skilled personnel to offer our customers packaging solutions.



DESIGN SOFTWARE:

- DYNAFORM "Die system analysis software" for stamping and flat springs.
- IST, Institute of Spring Technology, software for Springs.
- CAD 3D software Autodesk® Inventor® for machine, tooling, & Packing systems design.



Desarrollo, Diseño y Ensayo. En una cooperación cercana con los clientes colaboramos en la optimización de costes. Con la ayuda de Software de cálculo de muelles podemos optimizar los diseños del cliente. Finalmente estas soluciones pueden ser ensayadas en nuestros laboratorios.



Development, Design & Testing. In close cooperation with our customers new work lines are established for the **development** of new products and **solutions**. The use of **spring calculation software** allows us to optimize **spring designs** and find cost reducing solutions. Finally, these solutions **can be tested** in our own **laboratory**.

RPK offers the following analytic procedures and tests:

At IST Facility:

- Material mechanical properties, such as tensile, and torsion test.
- Failure analysis. This specialized service is covered by (ISO 17025) UKAS and ISO 9001 accreditation.

- Chemical element analysis, and Metallographic examination.

In-house:

- Corrosion tests e.g. salt spray test.
- Stress tests such as fatigue test.
- Cleanliness of springs.
- Loads, torque, and axial forces testing machine.

future



Collaboration between RPK and www.hiriko.com, a new project of electric car.

Image by William Lark Jr. Smartcities MIT

Vista en el futuro; nuevos productos en el mercado. Una cercana colaboración entre RPK y los centros de I+D y marketing de nuestros clientes nos ayuda a estar inmersos en nuevos productos para un futuro con éxito. RPK está participando en el desarrollo del nuevo coche eléctrico, nuevos productos industriales y nuevos conceptos incluso no testados en el mercado todavía... todo esto permite a RPK estar bien posicionado para la era posterior a los combustibles fósiles.

Eye on the future: new products in the marketplace. Early collaboration between RPK and customer R&D and marketing departments helps us to be involved in new products for future success. We are involved in new electric cars, new industrial products, and new concept products not even market tested yet... All this allows RPK to be well positioned for the post fossil fuel era.





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PROCESOS PRODUCTIVOS Y SERVICIOS

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