



SPIDAN Suspension springs



SPIDAN[®]
Original GKN Parts

Ideas in Motion >

Noticeably better – SPIDAN suspension springs

A vehicle's ride and handling are significantly affected by its suspension springs. To retain original suspension performance and safety, replacement parts must therefore match OEM specifications exactly.

It's simply not enough to ensure the dimensional accuracy of the part used. The form, coil and material of the spring wire are key to guaranteeing safety under differing load conditions.

SPIDAN springs conform to all OE specifications

- Spring rate perfectly matched to each vehicle type
- Materials to OE specification
- Precision manufacture to OE standards



● Hydro-pneumatique sphere

Full range – from leaf springs to hydro-pneumatic spheres

GKN Automotive offers a wide range of different spring technologies for European and Asian cars and light commercial vehicles.

- 4,400 coil springs
- 130 hydro-pneumatic spheres
- 23 strut kits, pre-assembled spring struts (incl. shock-absorber) for straightforward repair

Covering up to 90% of the total vehicle fleet!



An intelligent spring yields – detailed expertise

Coil springs are the most common type of spring used in modern cars. Aside from their distinctive helical shape, there are substantial differences:

- Many vehicle models use springs made from inconstant wire, i.e. the diameter of the wire tapers towards the ends of the spring. These taper-wire springs come very close to the ideal – soft, comfortable characteristics under regular conditions that harden under high loads or poor road conditions. This sought-after progression has a distinctly positive impact on safety.

GKN Automotive is one of the few aftermarket providers to use this kind of spring wire.

- Side load springs are an increasingly popular choice and recognisable by their characteristic shape. The spring helix is bent into a banana shape, which improves shock-absorber responsiveness in front-wheel drive vehicles and reduces the steering force required at low speeds.

- Coil spring made from constant wire



SPIDAN miniblock springs – Always one jump ahead!

Miniblock springs are complex in design and production but increasingly in demand because of their space-saving geometry. Despite their compact dimensions, their varying coil diameter means they achieve the same performance as cylindrical springs. It means no coil-to-coil contact even when the spring is fully compressed and no coil stack-up. The increasing use of high-precision inconstant spring wire ensures the desired progression. Vans subject to heavy use, such as the VW T5, wear through springs particularly fast, which makes the least expensive product extremely attractive to the customer.

However, these products often don't feature inconstant spring wire, and it may be that the van's spring seats don't fit. Take it as a warning signal if new ones are present! The result is suspension that is too hard when the van is empty and that bottoms out when loaded, which compromises handling safety. A second replacement is far less economical than selecting a quality product in the first place.

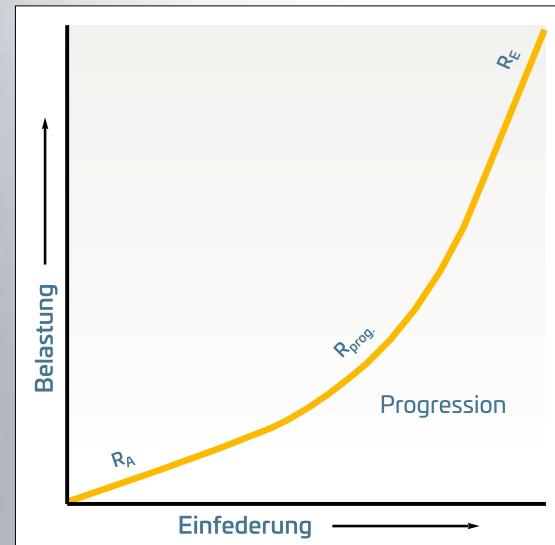
Our entire product range can be found in the TecDoc catalogue (GKN Automotive is a certified data provider). Colour coding on SPIDAN springs correspond to the standard coding.

- OE technology
Miniblock springs made of high-precision, inconstant wire describe a progressive spring rate.
- OEM quality level
Use of the entire spring travel in accordance with the regulations of the vehicle manufacturer.
- Unchanged driving characteristics
Very high ride comfort and perfect driving safety for all load variants.
- Optimised NVH performance and longer service life
Under normal operating conditions, the coils of the SPIDAN Miniblock spring do not touch each other.
- Maximum driving safety
Optimally matched end coils guarantee the perfect fit of the spring on the spring cup.





Under increasing pressure, the miniblock spring shows an increasing progressive response. In the maximum loading condition, the end coils lie flat on the spring cup. This reduces the number of active coils and increases the spring rate.



- Spring rate RA A for start
- Spring rate RE E for end
- Spring rate Rprog. Progression

Competence from original equipment manufacturer

- Efficient warehouse management
- Excellent delivery service
- Extensive marketing and sales support
- Constantly updated product catalogue
- Online catalogue
- Product tests
- Optimized packaging solutions save storage space and logistics costs
- Certified TecAlliance data supplier
- Use of TecCom



- Miniblock spring made of super-progressive, inconstant wire (top view). This design allows the spring to be pressed together without the coils coming into contact

Staying in contact is hard work – springs are high-tech products



- Cross-section through spring steel
- 1. High-strength spring steel
- 2. Hardened surface
- 3. Zinc-phosphate coating
- 4. Additional epoxy powder coating

The different designs and production processes associated with suspension springs are clear indicators that these are high-tech parts. The raw materials can only be top-quality, highstrength spring steels made from chrome vanadium or chrome silicon alloys. Sophisticated processing techniques give SPIDAN springs a longer service life:

- **Hardening**
Surface hardening by carefully controlled shot peening with steel beads. This technique guarantees the strength of the spring throughout its entire lifecycle.

- **Corrosion-Protection**
A specialist zinc phosphate coating reliably protects the spring steel from corrosion. Further coatings of epoxy powder protect the spring steel from mechanical and chemical damage (e.g. from stones and salt). Protective sleeves are applied to OEM specifications.
- **Precision**
Manufacturing using state-of-the-art CNC technology guarantees a constantly high product quality and perfect fit of the spring on the spring cup. In accordance with the regulations of the vehicle manufacturers, some SPIDAN coil springs are additionally equipped with a protective hose. Each spring is marked with the SPIDAN logo, part number and an indication of the correct installation direction.



Fast and safe: SPIDAN Strut Kits



The replacement of suspension springs is time-consuming and requires exact compliance with safety regulations, even when using special tools.

Depending on the vehicle type (e.g. Smart City Coupe, Ford Mondeo from 2000 or Mercedes-Benz A-Class upwards), it may make sense to use strut kits (struts in which the spring is mounted together with the shock absorber to form a single unit). This is safer and increases the efficiency of the repair. Replacing the complete shock absorber also makes sense economically, as the shock absorbers are often worn out when spring damage occurs.

The combination of new spring/shock absorber is also optimal for drivability. GKN Automotive supplies the strut kits complete with all components, including new shock absorbers, which exactly meet the vehicle manufacturer's specifications; type overview in the GKN Automotive catalogue (also on TecAlliance).

SPIDAN springs have the same colour code as in the series. The installation direction is also indicated. Details that are a great help during installation.





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– Find out first from our product newsletter.

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