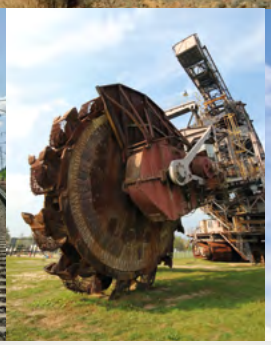
DUREL SPRINGS FOR COUPLING SYSTEMS – SIMPLY STRONGER



Coupling systems are complex assemblies – they are used in public transport, freight transportation and for switching. They are designed for the automatic or semi-automatic coupling and decoupling of individual rail cars or vehicles.

During train operation, coupling systems have to absorb a wide range of tractive and compressive forces simultaneously. At the same time, they provide the required traveling comfort and contribute to the safety of passengers and goods in the long run.

Due to their unbeatable energy absorption and their outstanding properties, DUREL polymer springs for coupling systems excel in meeting all of the above requirements. When used in combination with mechanical friction or hydraulic systems, energy values can exceed 90 kJ. DUREL high-performance polymer springs have been successfully used in coupling systems of heavy-duty freight trains with a high cargo capacity and an overall weight of up to 20,000 tons.

DUREL SPRINGS FOR COUPLING SYSTEMS – FOR A WIDE VARIETY OF INDUSTRIES

EXTREME RESILIENCE AND MAXIMUM TRAVELING COMFORT FOR HEAVY-DUTY APPLICATIONS

DUREL®

YOUR POLYMER SPRING EXPERTS

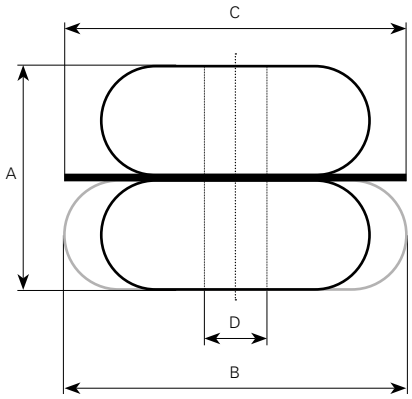
TECHNICAL SPECIFICATIONS

- Suitable for all types of coupling systems
- Superior energy absorption, vibration and noise damping for increased safety and traveling comfort
- For use at ambient temperatures between –76°F and 122°F (–60°C and +50°C) in appropriate material selection

SPRING COMPOSITION

Individual spring assemblies consist of polymer pads and intermediate discs, respectively, shown in the corresponding product pictures.

A Installed height
B Pad diameter at full stroke
C Diameter of intermediate disc
D Diameter of guiding rod



- Springs must be protected from continued sun exposure.
- Product specifications valid at the time of printing.
- The contents of this brochure and technical data are subject to change.
- The data shown in the relevant property charts apply.

DUREL DC45/44

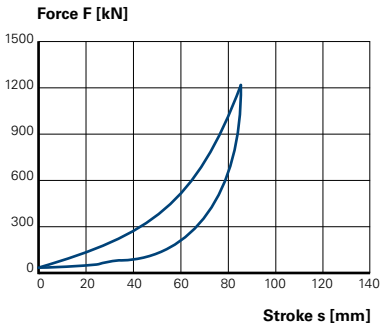
Spring for coupling systems

- For use in freight cars, locomotives and special rail cars

- Energy absorption: ≥ 32 kJ
- Damping: > 50 %
- Pre-tension force: ≥ 30 kN
- Max. end force: ≤ 1,200 kN
- Stroke: ≤ 85 mm
- Weight: 12 kg

A 293 ±2 mm **C** 180 mm
B 180 ±2 mm **D** 44-1 mm

Static properties



DUREL DC75

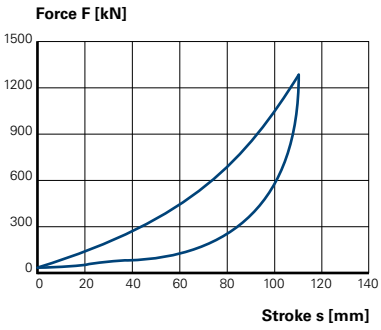
Spring for coupling systems

- For use in freight cars, locomotives and special rail cars

- Energy absorption: ≥ 50 kJ
- Damping: > 50 %
- Pre-tension force: ≥ 30 kN
- Max. end force: ≤ 1,300 kN
- Stroke: ≤ 110 mm
- Weight: 16 kg

A 420 ±2 mm **C** 185 mm
B 185 ±2 mm **D** 45-1 mm

Static properties



WE DEVELOP **CUSTOMIZED** SPRING SYSTEMS FOR A WIDE VARIETY OF INDUSTRIES

Innovative applications require individually-tailored solutions and professional service. Are you looking for design specifications that are not met by our standard offering? DUREL develops and manufactures custom springs – even in small quantities.

We offer solutions that are tailored to your needs. We design a variety of products according to customer specifications, significantly contributing to the success of their products. In doing so, we focus on the same high standards of quality that apply to volume production in terms of design, production and quality control.

Talk to us about your ideas and business goals. We would be happy to develop a custom design.

Would you like to learn more?
Our competent and dedicated team would be more than happy to address any questions or design specifications you may have with regard to individually-tailored solutions. We are looking forward to hearing from you.

DUREL POLYMER SPRINGS – YOUR ADVANTAGE AT A GLANCE

- Under quasistatic conditions the damping of over 50 % in the third stroke even exceeds the relevant EN norms
- Unrivaled energy absorption despite reduced weight and compact volume
- Exceeds the performance of traditional metal, rubber and/or hydraulic-based springs in terms of reliability and durability
- Progressive spring curve
- Maintenance-free over the entire lifetime of the rail car and therefore the most affordable option
- Excellent creep resistance and flexural fatigue endurance
- No stick-slip effect or noise emissions
- Excellent resistance to chemicals, grease, oils, and solvents prevents material degradation and loss of material properties under typical operating conditions
- Broad operating temperature range from –76°F to 122°F (–60°C to +50°C)* to ensure the performance of the products under extreme climate conditions (*with appropriate material selection – we will be happy to advise you).

DURABLE. RELIABLE. SAFE.

DUREL®

YOUR POLYMER SPRING EXPERTS