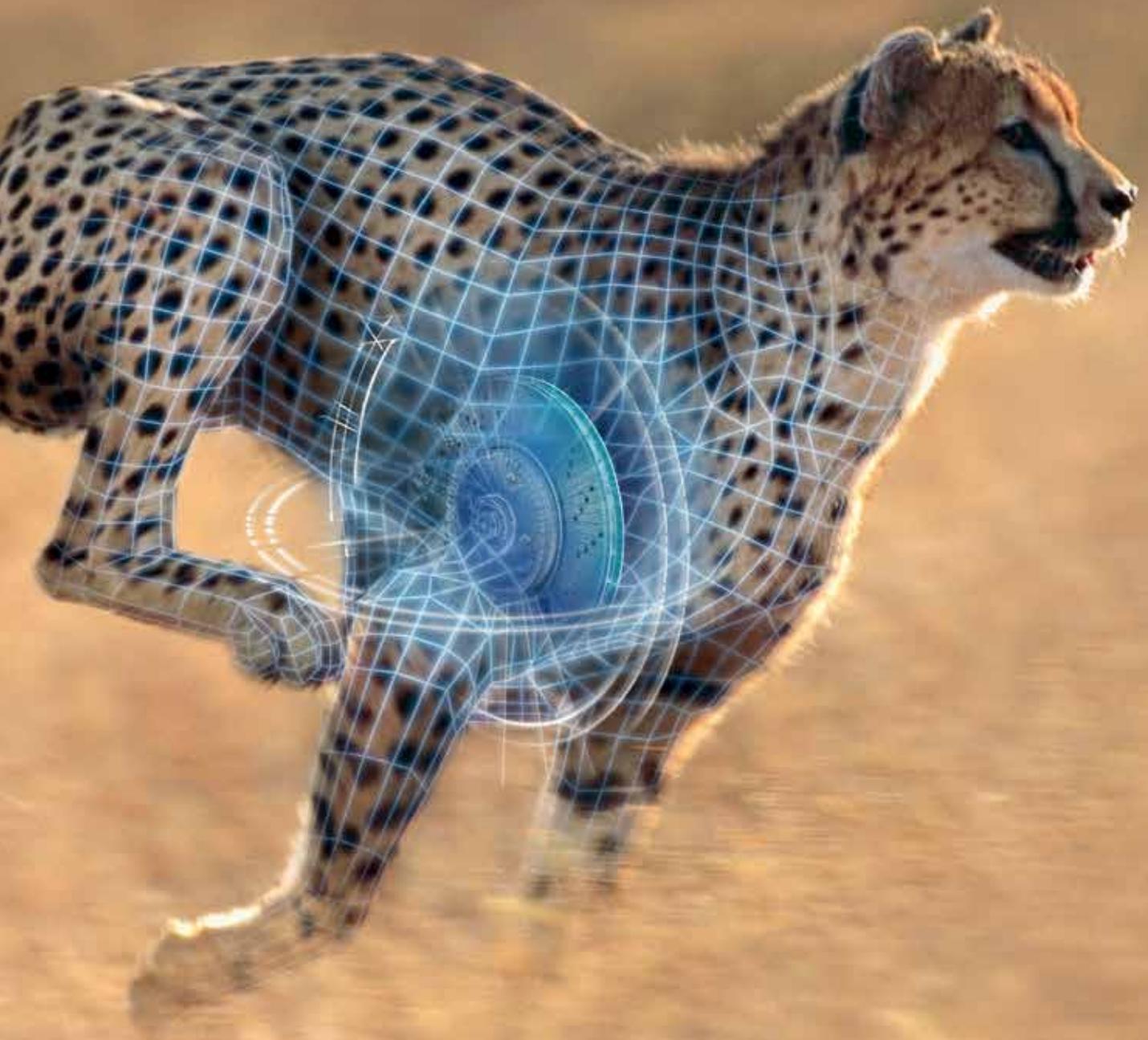




PAGID

BRAKE SYSTEMS

■ BRAKING IS OUR NATURE.



| Our Nature

BRAKE. SERVICE. PROFESSIONALS.





**Responsive, fast and powerful: nature shows us how.
A global player, HELLA PAGID is a leading supplier of
innovative brake systems in the independent aftermarket.**

Our company dates back to 1899 and we are very proud of its long and successful history, a testament to the continuity, experience and entrepreneurial vision which it represents.

Wholesalers and garages associate our brand with expertise, unceasing development and reliability. Our logistics are outstanding, our service first-class and our portfolio is as impressive as the quality of our brand products.

We have over 10,000 articles in our range which includes wearing parts, brake hydraulics, clutch hydraulics plus fluids and accessories. Even the most discerning customers are impressed by the breadth of and quality of the product ranges we offer.
BRAKING IS OUR NATURE!

| Quality promise

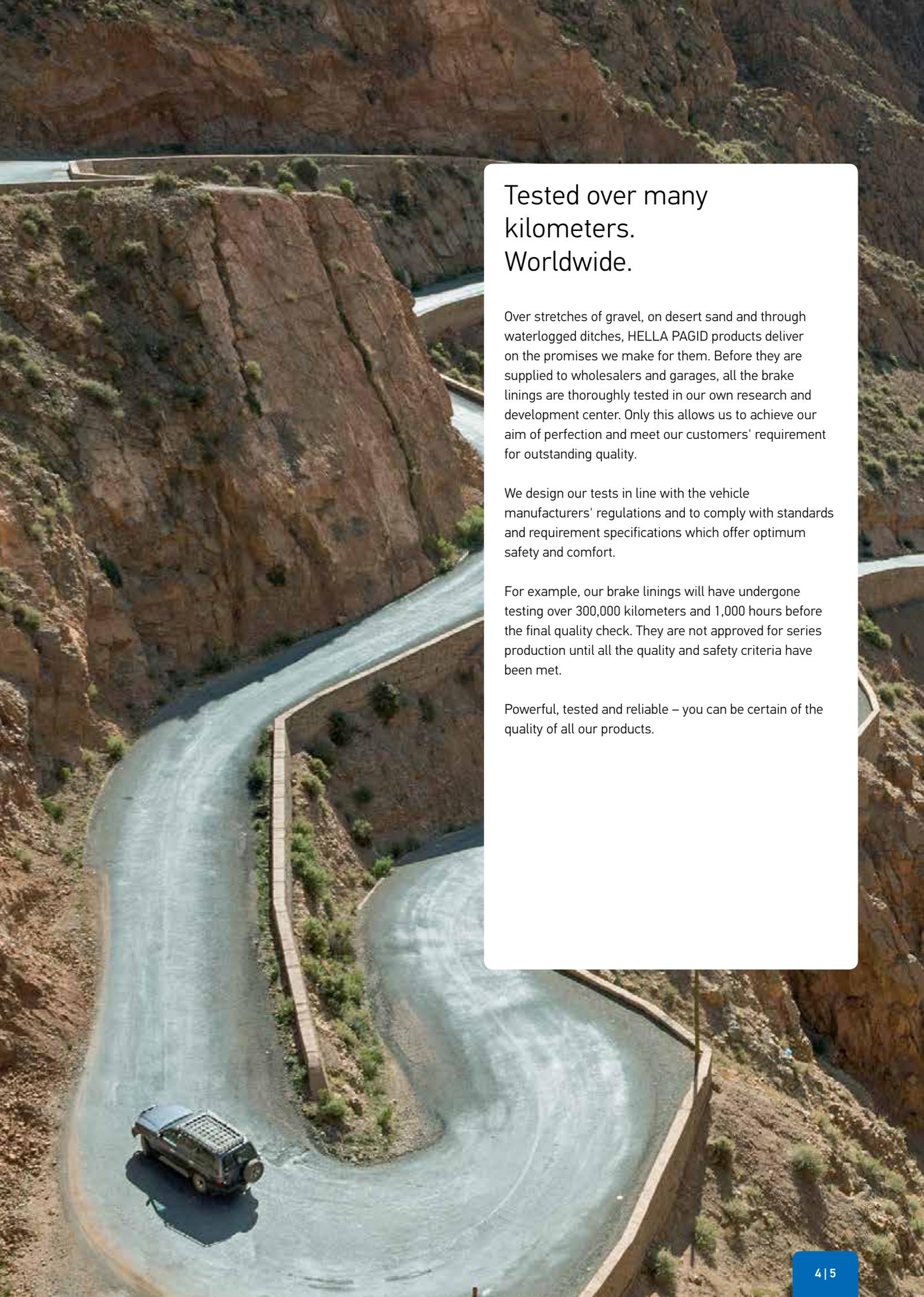
WE ASPIRE TO PERFECTION



We want to achieve perfection. We have speed as an advantage. For us, the challenge is not just to respond to the requirements of a changing market, but always to be one step ahead of them.

By working constantly on developing and promptly updating our product range, we not only meet a wide range of requirements but can also react swiftly to requests from our customers and to market demand.

Our products comply with the OE quality norms and fulfil the highest safety, quality and sustainability standards, Not least because our brand articles are manufactured in accordance with defined specifications in carefully chosen, high-performance factories, for example in Germany, France and England.



Tested over many kilometers. Worldwide.

Over stretches of gravel, on desert sand and through waterlogged ditches, HELLA PAGID products deliver on the promises we make for them. Before they are supplied to wholesalers and garages, all the brake linings are thoroughly tested in our own research and development center. Only this allows us to achieve our aim of perfection and meet our customers' requirement for outstanding quality.

We design our tests in line with the vehicle manufacturers' regulations and to comply with standards and requirement specifications which offer optimum safety and comfort.

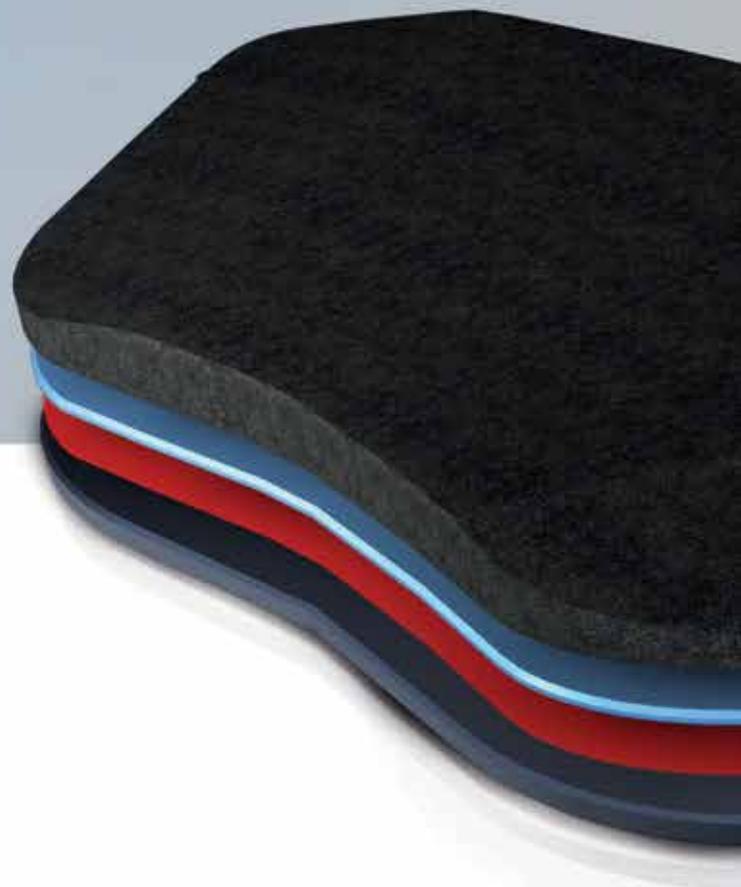
For example, our brake linings will have undergone testing over 300,000 kilometers and 1,000 hours before the final quality check. They are not approved for series production until all the quality and safety criteria have been met.

Powerful, tested and reliable – you can be certain of the quality of all our products.

THE PERFECT FRICTION SURFACE

As good as it gets: the HELLA PAGID range of brake linings includes more than 1,400 articles made from 50 different formulations. All the products are precisely engineered for specific vehicle types, brake systems, engine performance, loads and brake properties and have been made ready for the market with testing over 300,000 kilometers at our research and development center.

Research and practical experience both play a part. Thanks to in-depth consultation between our parent companies, our suppliers and the automobile industry, the design and development of our brand products takes account of the experience the industry has gained in brake technology, wear and tear, and comfort.



01 FRICTION MATERIAL

The friction material has to fulfil extremely demanding tasks and therefore needs to be precisely tailored to the relevant area of use. The competitive advantage here is provided by the 50 different formulations mentioned above.

02 INTERMEDIATE LAYER

The intermediate layer possesses almost universal properties. It improves hardness, crack resistance and the comfort-related properties of the brake linings and also reduces heat transfer, ensures a high degree of shear protection and even optimizes noise behavior.

ADHESIVE

03

The specially developed adhesive permanently connects the lining material to the carrier plate and also guarantees particularly high shear resistance.

04 CARRIER PLATE

Not one-size-fits-all but brake-specific designs in different grades of steel determine the quality of our carrier plates. In every case their quality, strength and tolerances fulfil the extremely high requirements of the particular braking system: the best conditions for trouble-free operation and a long lifetime.

POWDER COATING

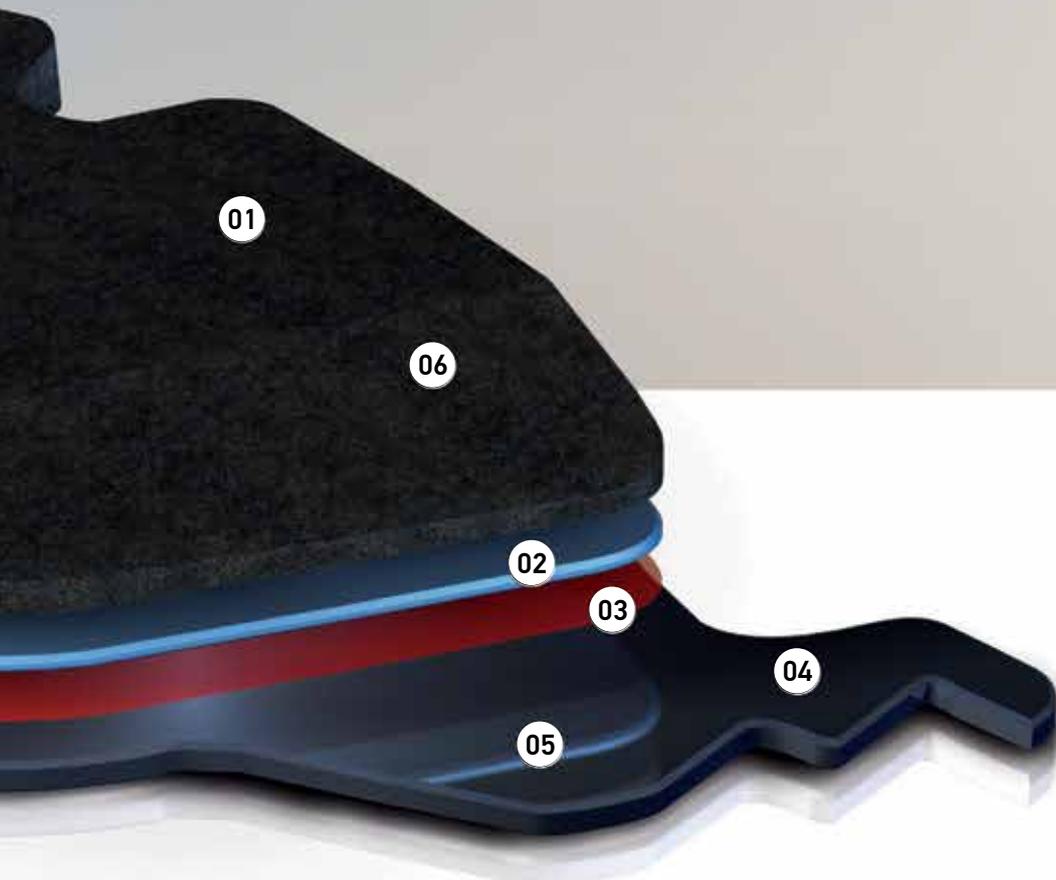
05

The final touch for our brakes is the powder coating. It gives the finished product a spotless finish as well as reliable corrosion protection.

SECONDARY MEASURES

06

These measures and devices effect a further improvement in overall braking performance and driving comfort. They include, for example, the angled friction material and the attenuation plates attached to the carrier plate.



VERY WIDE RANGE – WITH OVER 10,000 ARTICLES!

We are certain to have a suitable product for every application. With over 10,000 articles, we are reliable partners for:

WEARING PARTS

- A total of more than 4,400 products
- Very high market coverage in OEM quality
- Fast inclusion of new products
- High-quality data used throughout our catalogs and technical documentation

BRAKE HYDRAULICS

- A total of more than 3,400 products
- Good market coverage in OEM quality
- High quality data used throughout our catalogs and technical documentation

CLUTCH HYDRAULICS

- More than 750 items in total
- Clutch components in OEM quality
- Rubber formulations designed precisely to meet the requirements of the vehicle components

FLUIDS AND ACCESSORIES

- The range of fluids includes brake fluid, brake cleaner and assembly paste offered in various quantities
- THE HELLA PAGID RANGE offers over 550 accessories for brake linings, brake calipers and brake shoes



WEARING PARTS

BRAKE DISCS

- **More than 1,450 brake discs**
(of which over 720 are coated)
- Coverage: > 98% of existing vehicles*
- Mostly coated brake discs
- PRO: no rusting and easy installation

BRAKE LININGS

- **More than 1,400 brake linings**
- Coverage: > 99% of existing vehicles*
- More than 35 different noise reduction techniques

BRAKE DRUMS

- **Over 220 brake drums**
- Extraordinarily powerful
- Particularly long service life
- Made of high grade castings

BRAKE SHOES

- **More than 400 brake shoes**
(of which 195 are pre-assembled)
- Coverage: > 95% of existing vehicles*
- More than 230 brake shoe kits

BRAKE HYDRAULICS

BRAKE CALIPERS

- **More than 1,850 brake calipers**
- Replacement brake calipers as an eco-friendly, cost-effective alternative
- General replacement of all safety-related elements and rubber parts

BRAKE HOSES

- **More than 900 brake hoses**
- Outstandingly shockproof
- Long service life
- Rugged hose-fitting assemblies
- Far exceeds the SAEJ1401 specification

WHEEL BRAKE CYLINDERS

- **More than 370 wheel brake cylinders**
- Aluminum wheel brake cylinders: lighter and longer lasting
- Excellent corrosion resistance
- Wheel brake cylinders with or without integrated pressure controllers

MASTER BRAKE CYLINDERS

- **More than 550 master brake cylinders**
- OE quality
- Latest generations available
- High efficiency, short closure and low volume

PARKING BRAKE CABLES

- **More than 1,000 parking brake cables**
- The parking brake cables are designed for specific vehicles and braking systems



* in Western Europe

CLUTCH HYDRAULICS

CLUTCH CABLE

- **More than 230 clutch cables**
- Clutch cables are designed for specific vehicles and braking systems

CLUTCH HOSES

- **More than 15 clutch hoses**
- Long service life with OE quality

CLUTCH MASTER CYLINDER

- **More than 250 clutch master cylinders**
- Perfectly matched clutch master and clutch slave cylinders

CLUTCH SLAVE CYLINDERS

- **More than 140 clutch slave cylinders**
- Perfectly matched clutch master and clutch slave cylinders

CENTRAL CLUTCH RELEASE

- **More than 95 central clutch releases**
- Produced to the highest OE standards
- Manufactured from modern high-strength plastics

CLUTCH LINES

- **More than 10 clutch lines**
- Highest quality standards for the central component of the clutch system

FLUIDS AND ACCESSORIES

BRAKE FLUID

- Extremely high boiling point
- Available as DOT 3/ DOT 4/ DOT 4, PRO LV, low viscosity)/ DOT 5.1
- Far exceeding DOT specifications

BRAKE CLEANER

- Eliminates oil, grease, dirt and brake fluid without residue
- Cleans all components of brakes, clutches and gears, starters and dynamos, carburetors, fuel pumps and motor parts
- Leaves no residues and is free of chlorinated solvents
- Binds brake dust

ASSEMBLY PASTE

- Non-conducting
- Suitable for ABS
- Simplifies assembly

WARNING CONTACTS

- Over 220 articles
- Program development to harmonize with disc brake linings
- High heat resistance

ACCESSORY KITS

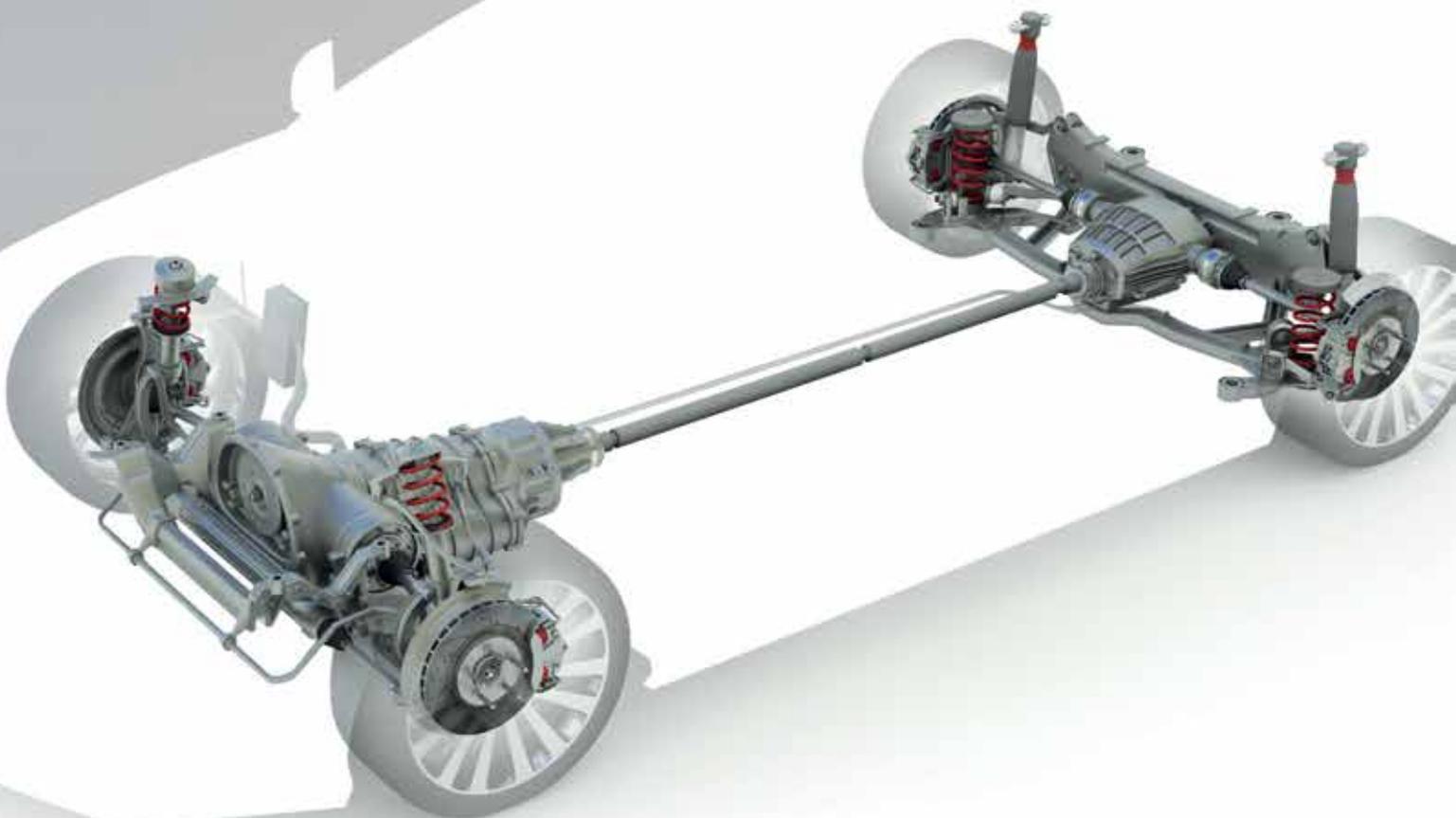
- Over 550 articles for disc and drum brakes
- Range developed to harmonize with brake linings
- High fitting accuracy



An exceptionally wide range of products in five areas – brake hydraulics, wearing parts, clutch hydraulics, fluids and accessories – sets HELLA PAGID apart. All the articles are notable for their high level of safety, comfort and durability. Almost 100% of existing European vehicles are covered by HELLA PAGID disc brake linings – a clear indication of our aspiration to achieve perfection and of the quality of our products.

HELLA PAGID disc brake linings and brake discs are, in our view, the ideal friction combination for automobiles of every type and class. Brake shoes and drums apply perfectly judged force to the back wheels. Our pre-assembled brake shoe kits save you maximum time and money. Lubricant and brake cleaner, warning contacts and a range of accessories complete the worry-free package for our dealers and for independent garages.

And because safety is paramount in braking systems, we work constantly to continually update our range of products, anticipating technological development well in advance.



| HELLA PAGID – garage professionals

YOUR PARTNERS FOR THE FUTURE!

Partnerships that can endure long into the future are the basis for corporate growth and success. HELLA PAGID partners benefit from the quality of our products, the wide range and a fully comprehensive service with which we aim to strengthen their competitiveness in a dynamic market environment.

For example, our special **concept for garages HELLA TechWorld** offers an extensive knowledge database with fully up-to-date technical data, practical training and a hotline to expert advice. Our online "Brake Guide" portal helps you to search quickly and efficiently for the products you need. We also offer our dealers and garages strong sales support in the form of professionally designed information material and highly effective creative campaigns.





| HELLA PAGID – worldwide

UNBEATABLE. RELIABLE.

HELLA PAGID offers a fully comprehensive range of brake products and services with excellent solutions and the quality of a strong brand. OE expertise combines with experienced and skilled aftermarket and service capabilities. Our services are comprehensive and always fulfil the high standards that are characteristic of today's automotive market.

Dealers and independent garages trust us because they can rely on us, because we maintain close dialogue with them and understand their requirements, which are fully met by the sophisticated solutions of our range, and because we offer brand quality at a fair price.





Original equipment expertise

- + Excellent brake technology
- + Reliable quality
- + Comprehensive product range



Aftermarket and service expertise

- + Outstanding logistics
- + Professional sales support
- + First-class technical service (concept for garages and hotline)

| Guarantee

WE DELIVER
PROMPTLY.
THAT'S A
PROMISE.





HELLA PAGID is part of one of the world's largest aftermarket organizations. Thanks to our global network with many storage depots throughout the world and our excellent logistics, we can cut delivery times to a minimum. Our products are permanently available and our speed, careful approach and reliability are convincing arguments for our business partners. To meet the requirements of our customers and the market, we offer flexible and individual delivery arrangements.



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