



BRAKE SYSTEMS

**RELIANCE. TRUST.  
PERFORMANCE.**



# WORLD CLASS QUALITY AND SERVICE COMBINED

HELLA PAGID BRAKE SYSTEMS is the result of a joint venture between two of the world's leading Original Equipment suppliers: HELLA and TMD Friction, the driving force behind leading European brake friction brand, PAGID.

TMD Friction is part of the Nisshinbo Group, the world's largest manufacturer of brake friction, with vast technical expertise and a commitment to R&D that has led to PAGID's unparalleled reputation within the global automotive industry, and with motorsport teams around the world.

Each day, over one million brake pads are manufactured at TMD Friction's European production facilities, which include its state-of-the-art production plant in Essen, Germany.



## The perfect fit

PAGID's commitment to performance, innovation and safety makes it the perfect fit within the HELLA aftermarket product portfolio. Combined with HELLA's global infrastructure, with local distribution and service in more than 35 countries, the result is HELLA PAGID – a formidable partnership.

HELLA PAGID offers a comprehensive range of replacement braking components for the growing number of European passenger cars on Australia's roads, backed by the local knowledge and expertise of HELLA Australia's dedicated team.



# EUROPEAN BRAKE FRICTION FOR EUROPEAN VEHICLES

European vehicle manufacturers favour low-metallic brake friction materials, which contribute to the driving dynamics that characterise their cars.

Low-metallic friction formulations have a lower metal content than semi-metallic friction. Their ability to dissipate heat results in more consistent braking performance and better durability than the semi-metallic and non-asbestos organic (NAO) materials widely used across America and Asia.

*Using semi-metallic or NAO friction materials on a European vehicle may alter the characteristics of the vehicle under braking and can result in increased vibration, noise and reduced braking performance.*

## Available for 99% of European passenger cars

The number of vehicles on Australian roads grew by just 2.1% in 2017-18, yet since 2013 the number of European vehicle models sold in Australia has increased by as much as 13% year on year.

Manufacturers like Volkswagen consistently feature within the top selling 10 brands and, according to the most recent Motor Vehicle Census, 13 of the top 30 makes of passenger cars in Australia were European – a figure that is only set to increase due to the growing desirability of European marques.

The HELLA PAGID BRAKE SYSTEMS product range covers 99% of European passenger cars and light commercial vehicles, including all the top selling European models in Australia and New Zealand, such as the VW Amarok, Skoda Octavia and Volkswagen Golf, and performance cars such as the Audi R8 and Porsche 911.





# DESIGNED AND ENGINEERED FOR EUROPEAN VEHICLES, FROM CITY CARS TO SUPERCARS

From city cars like the Audi A1 to performance cars such as the Porsche 911, TMD Friction's extensive Original Equipment programme means that many European cars roll off the production lines equipped with PAGID brake friction as standard.

However, there's nothing standard about HELLA PAGID. It takes an average of 24 months and a significant investment in research, development and tooling to create the perfect friction components for each new vehicle model, and this upfront investment enables HELLA PAGID to be first to market with replacement parts which, unlike other brands, are manufactured to the same high specification as the original part.

## Optimum braking performance for every vehicle

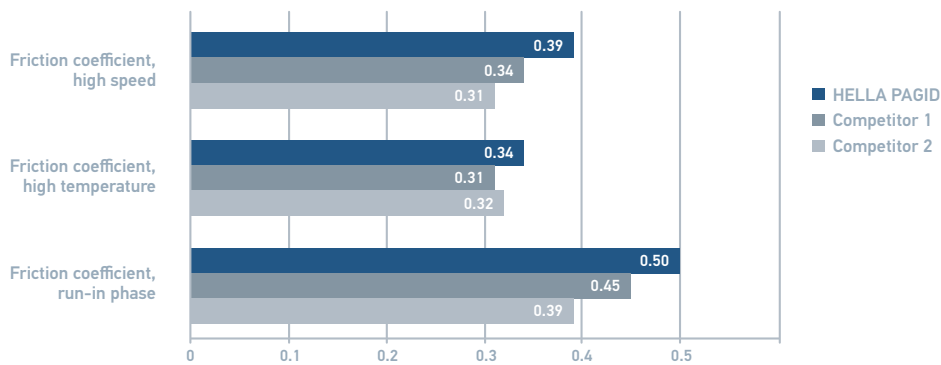
HELLA PAGID friction components use more than 50 individual friction formulations. During the development of any new friction product, our engineers select the most appropriate formulation to provide the optimum levels of braking performance, comfort and durability required for the vehicle type and model.

In simple terms: city cars are typically small and have a low mass, and will record a high number of low-speed braking episodes during each journey. A brake friction material with a low coefficient of friction, yet high durability, will best suit these characteristics. In contrast, high performance sports sedans have a much greater mass and usually spend much of their life on longer journeys, often on the freeway. They require a friction material with a far higher coefficient of friction to be able to stop their heavier load from much higher speeds.

There are of course many other factors that determine which friction formulation is chosen for each specific vehicle model.



FRICITION COEFFICIENT OF LOW-MET MATERIAL



Performance data based on VW Passat B6 (~2010) - BB (2010-) front, part number T1376

## Quality, safety and performance, assured

All HELLA PAGID brake friction pads and discs comply with the European standard ECE Regulation 90 (ECE R90), which sets minimum standards that suppliers must meet to be able to sell such safety-critical components in the European market.

To be ECE R90 compliant, brake pads and discs must match the performance of the Original Equipment part within a tolerance of just 15% in tests carried out at different speeds and loads.

Whilst meeting ECE R90 is essential, our own standards are even higher. For example, HELLA PAGID brake pads are tested far beyond the scope of ECE R90 to ensure that they match the performance and quality of the Original Equipment part.

### HELLA PAGID TESTING PROGRAMME

Braking performance	ECE R90	HELLA PAGID	Loading testing	ECE R90	HELLA PAGID
Speed friction coefficient	✓	✓	Compressibility (hot + cold)	✓	✓
Friction coefficient for temperature loading	✓	✓	Shear strength	✓	✓
Friction coefficient, static (hand brake)	✓	✓	Passage of heat	✓	✓
AMS braking distance	-	✓	Corrosion resistance	-	✓
High temp./speed tests	-	✓	Paint strength	-	✓
Cold friction coefficient	-	✓	Expansion and shrinkage	-	✓
Friction coefficient stability	-	✓	Alps vehicle test	-	✓
Comfort	ECE R90	HELLA PAGID	Service life	ECE R90	HELLA PAGID
Noise test	-	✓	Service life of lining	-	✓
Pedal feel	-	✓	Service life of disc	-	✓
Actuation force	-	✓	Disc fracture formation behaviour	-	✓
Odour	-	✓			
Smoke development	-	✓			
Environmental impacts	-	✓			



# THE HELLA PAGID RANGE: A COMPREHENSIVE BRAKE SERVICE SOLUTION

The HELLA PAGID range comprises of all the core service components of the braking system: brake pads and discs, brake shoes and drums, wear indicators and fitting accessories.

All are manufactured to the same high standards, minimising the risk of customer returns which represent a significant cost in time, money and reputation for wholesalers and workshops.

## Brake pads

HELLA PAGID brake pads are made to the very highest quality standards.

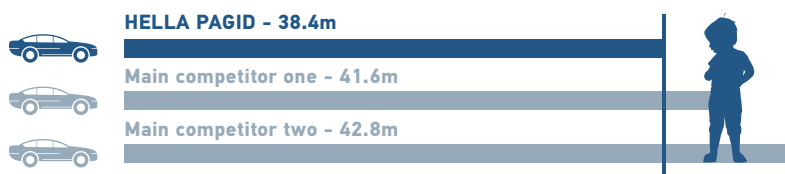
They are designed and engineered for maximum safety, and more than 50 individual friction formulations are used across the HELLA PAGID brake pad range to ensure the optimum combination of performance, comfort and durability for each vehicle model.

Where the OE part features chamfers and slots in the friction surface for improved performance, noise dampening shims or clips, you'll find the same on HELLA PAGID brake pads. A black powder-laquered coating protects the back plate from corrosion.

The brake pad range covers more than 99% of European passenger cars and light commercial vehicles, including all of the most popular European models.



## 3 METRES CAN SAVE A LIFE: Braking distance matters



Braking distance (cold) from 100km/h using VW Passat B6 (-2010) – BB (2010-) front, part number T1376

## Brake shoes and drums

Manufactured to OE specifications, HELLA PAGID brake shoes and drums provide the optimum balance of high performance and low wear.

Ease of fitment is also taken into account: HELLA PAGID brake shoe kits are supplied with all the necessary mounting accessories and, on specific references, HELLA PAGID brake drums include integrated wheel bearing and ABS sensors in accordance with the OE specification.



## Brake discs

HELLA PAGID brake discs are manufactured to OE specifications and cast from high-end alloys to ensure optimum performance and life, without the issues of vibration and overheating commonly experienced with inferior products.

HELLA PAGID brake discs are tested just as rigorously as our brake pads to ensure that they perform to OE standards, with a range of tests designed to measure durability, tensile strength, thermal conductivity and thickness within precise tolerances. Each HELLA PAGID brake disc is also subjected to a visual inspection at the end of the production process.

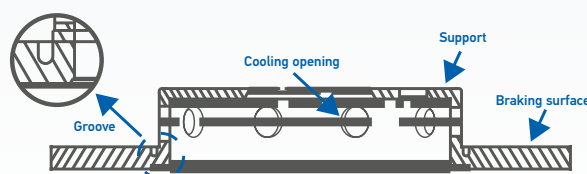
Our coated discs feature a chrome-free GEOMET® coating for extended corrosion protection, removing the need for degreasing before fitment, ensuring optimum performance and enhancing the appearance of the disc well in to its service life.

In Australia, the HELLA PAGID brake disc range also includes uncoated discs, for price-sensitive customers and older vehicles; as well as high carbon discs for premium and high-performance vehicles, and two-piece composite discs (for certain BMW applications).

### BRAKE DISCS: OEM specifications

Outstanding braking performance and safety can only be ensured when all OEM specifications, including those pertaining to design, are fully maintained.

HELLA PAGID brake discs therefore always correspond with OEM specifications in all respects (1:1 compliance).



Available for 99% of European vehicle models, range coverage is exceptionally high and growing, due to our commitment to continual range expansion.

### THE HELLA PAGID BRAKE DISC RANGE



Uncoated



Coated



High Carbon



Two-Piece Composite

## Wear indicators, sensors and accessory kits

For the complete service solution, HELLA PAGID offers a range of 200+ sensors – including ABS sensors and wear indicators – as well as over 500 vehicle-specific accessory kits containing replacement bolts, springs and clips, which are vital to the correct operation of the braking system.



# HELLA AUSTRALIA PEOPLE DRIVEN

HELLA has been established in Australia since 1961.

Today we employ more than 80 people at our headquarters and 7,000sqm distribution centre in Mentone and across Australia, offering professional sales and technical support, nationwide.

Whilst we are part of the global HELLA family, we have complete autonomy and an organisational structure designed to ensure that we deliver world class products in a way that best meets the needs of wholesalers and workshops across Australia, backed by professional technical support, marketing support and training.

## Find the right part, first time and fast

Using both global and local electronic catalogue data, at HELLA we make it easier to find the right part, first time and fast.

In addition to *OSCAR*, *BrakeGuide* is HELLA PAGID's global electronic parts database, which enables customers to find components from the HELLA PAGID range easily and intuitively, with vehicle search, article search and the ability to create bespoke catalogues.

Visit [brakeguide.com.au](http://brakeguide.com.au)

**BrakeGuide** 

 **OSCAR**  
Automotive Aftermarket Electronic Parts Catalogue  
powered by  
AUTON-0

 **TecAlliance**  
Certified Data Supplier

### HELLA AUSTRALIA PTY LTD

4 Hargrave Place,  
P.O. Box 89,  
Mentone, Victoria, 3194,  
Australia

Techline: 1800 061 729

[custservice@hella.com](mailto:custservice@hella.com)

[hella.com.au](http://hella.com.au)