

Bosch Brakes – European Applications Driven by **RELIABILITY**



BOSCH
Invented for life

Why Choose Bosch European Brake Applications?

► Global Trusted Brand

- Bosch is a renowned global automotive innovator with over 90 years of brake development

► Quality and Performance Guaranteed

- Bosch European brake applications are designed to meet the increasing demands of today's European vehicles
- Bosch Blue Line brake pads are vehicle match engineered to determine the best match of advanced friction formulations
- All Bosch European brake pads comply with ECE R90 regulation allowing them to be sold on the Open Global market



Best Brand 2018 - We take this approach because it is virtually impossible to provide vehicle owners with the best possible brake performance by using one design solution across all vehicles.

It is one of the fundamental reasons why Bosch brake pads have already been acknowledged by high profile automotive publications such as Germany's Auto Motor und Sport as the best brand in Europe.

Key Facts

- Applications cover all European Brands
- 1,159 Part number available covering over 15,000 vehicle application
- Pad Wear indicators are available as a separate range where required

General design elements and benefits



General design elements

Benefit

| | | |
|----------|---------------------------------------|---|
| 1 | Noise suppression shims*. | Smooth and quiet stopping. |
| 2 | Vehicle-matched friction formulation. | Reliable performance in all driving conditions. |
| 3 | Slotted friction material*. | Reduced noise for maximum driver comfort. |
| 4 | High strength back plate material. | Reduced pad flex. |
| 5 | Chamfered friction material*. | Reduced noise for maximum driver comfort. |
| 6 | Wear indicators*. | Warning for when to change pads. |

*This feature will vary based on the vehicle application.

| Test | Bosch | ECE R90* | MS1164 |
|--|----------|----------|---------|
| Shear strength | ✓ | | |
| Pressure sensitivity | ✓ | ✓ | ✓ |
| Speed sensitivity | ✓ | ✓ | ✓ |
| Temperature sensitivity | ✓ | ✗ | ✗ |
| Temperature change resistance | ✓ | ✓ | ✓ |
| Fading/loss of braking efficiency | ✓ | ✗ | ✗ |
| Thermal conductivity | ✓ | ✗ | ✗ |
| Brake vibration | ✓ | ✗ | ✗ |
| Noise characteristics | ✓ | ✗ | ✗ |
| Wear (pad) | ✓ | ✗ | ✗ |
| Wear (disc) | ✓ | ✗ | ✗ |
| Simulation of extreme braking situations | ✓ | ✗ | ✗ |
| Test duration | 6 months | 6 hours | 6 hours |

* Regulation ECE R90 specifies criteria that brake pads must meet before being offered for sale on the open market.

Brakes are permanently under stress

Vehicle brakes are subjected to extreme loads. For example, braking horsepower is about 10 times engine horsepower, which is why brake pads reach such high temperatures. During long mountain descents or when driving in stop-and-go highway traffic, temperatures can easily reach as high as 650°C. To ensure safety, brake pads therefore need to be regularly inspected and replaced only with high quality products such as Bosch brake pads.

Quality without compromise

Bosch brake pads have been developed to withstand extreme loads and are manufactured from especially high quality materials. Extensive performance and NVH dynamometer testing along with extreme environment testing ensures that Bosch brake pads demonstrate a high level of performance and service life before being approved for sale.

*Product images are for illustration purposes only. Actual image may vary in appearance.

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