

ZOOM

FOCUS ON TECHNOLOGY



PRODUCT COMPARISON

DAILY Brakes.

Safety First.



in collaboration with  **DEKRA**

Genuine Parts
HIGH PERFORMANCE

How it is made.

Main components of a disc braking system and technical features.



Brake Pad.

1 Metal support

It must be very resistant in order to withstand the pressure of the caliper pistons and treated against corrosion.

2 Underlayer

This element provides a secure mounting for the friction material, cuts down both noise and vibration, and contributes to heat dissipation.

3 Friction material

Its composition enables a good combination of effective braking action and driver's comfort. It is specific to each vehicle and is very different from one manufacturer to another.

Disc.

Heat Resistance

Just like the brake pad, a brake disc must withstand very high temperatures of up to 800 °C. The disc, therefore, has to be made from a superior grade of cast iron and to feature an appropriate ventilation system for the type of vehicle.

Ventilation

IVECO discs are equipped with a ventilation type specifically designed to dissipate heat and to prevent premature cracking. We use T-shaped pillars, but also standard ventilation systems, meeting regulatory requirements.

Patent

IVECO discs have been patented following an extensive series of tests that proved their braking effectiveness and outstanding durability.



How they are tested.

IVECO disc braking system comparative tests.

The combination of IVECO Daily original brake discs and brake pads was tested along two competitors by the independent German test institute DEKRA.

All tests were made in DEKRA's laboratories' network, according to the SAE J2522 Inertia Dynamometer Test procedure that assesses the effectiveness behaviour of a friction material with regard to pressure, temperature and speed for motor vehicles fitted with hydraulic brake actuation.

The main purpose of SAE J2522 is to compare friction materials under the most equal conditions possible. The SAE standard prescribes to run 25 cycle of tests including, among others, temperature-controlled fade sessions and sensitivity pressure/temperature sessions. Performing for each cycle up to 32 snubs or up to 18 stops at increasing speeds, working temperatures (up to 500 °C) and pressures.

Tests have involved two competitors of different quality levels with a special focus on 4 different parameters: **Safety, Performance, Comfort** and **Saving**.



About DEKRA.

DEKRA has been active in the field of safety for more than 90 years. Founded in 1925 in Berlin as Deutscher Kraftfahrzeug-Überwachungs-Verein e.V. (German Motor Vehicle Inspection Association), today it is one of the world's leading expert organizations.



The results.

The results of the tests show that IVECO Genuine Brakes perform better than the competitors in all the key areas:

Safety

(Less braking distance)

Performance

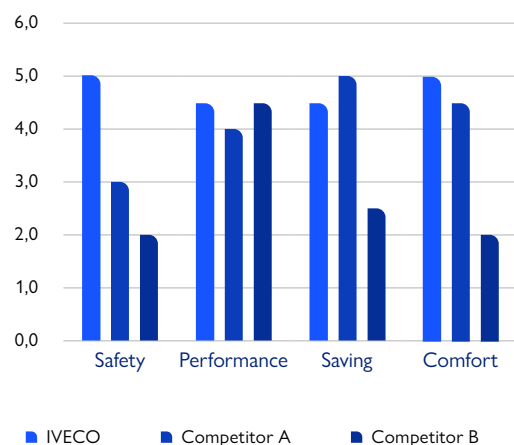
(Best braking effectiveness)

Saving

IVECO Genuine Brakes is close to the best in class, IVECO focuses on quality components to guarantee the best performance in TOP safety conditions at maximum comfort.

Comfort

(Less noise and vibrations)



IVECO Genuine Brakes, safety is always first.

Safety.

Emergency brake test:

high performance when it is most important.

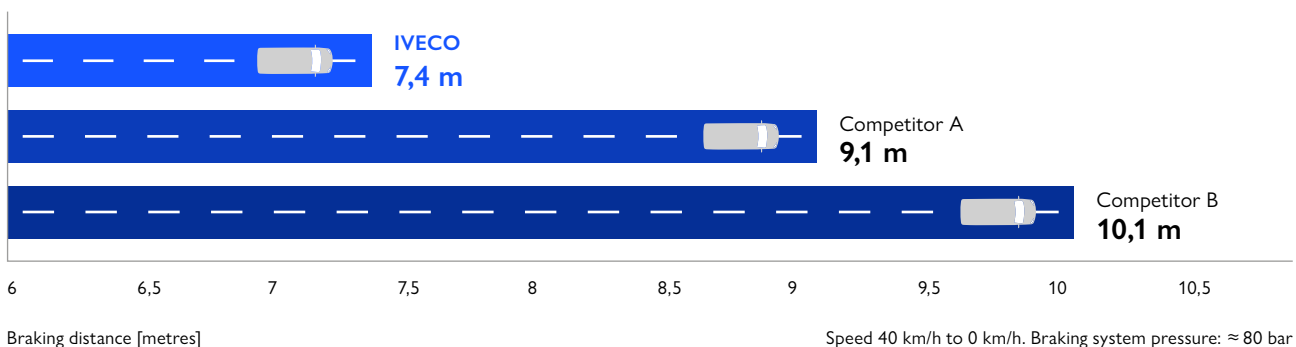
Quality of brake system directly affects driver's safety and vehicle's one too, as well as that of other road users, whether pedestrians or other vehicles' drivers.

Braking system must be perfectly adapted to the vehicle and its mission.

Choosing original components means safety, since the quality of materials used for both pads and discs grants a better braking performance.

The laboratory tests carried out by DEKRA reproduced a series of emergency braking from 40 km/h to 0 km/h (braking system pressure: about 80 bar). The results have shown that IVECO original components allow for a considerably shorter braking distance: **up to 2,7 metres.**

Braking distance.



We test right, you drive safely.

With IVECO, driver safety always comes first

That's why we didn't just carry out emergency braking in the laboratory but in collaboration with DEKRA, we performed a real emergency braking test in our IVECO test track in Turin (Italy).



The results? SAEJ 2522 laboratory test results confirmed: when it is a matter of safety, IVECO always comes first.

GENUINE BRAKES PROVIDE THE SHORTEST BRAKING DISTANCE.



Performance.

Braking torque test: effectiveness in all situations.

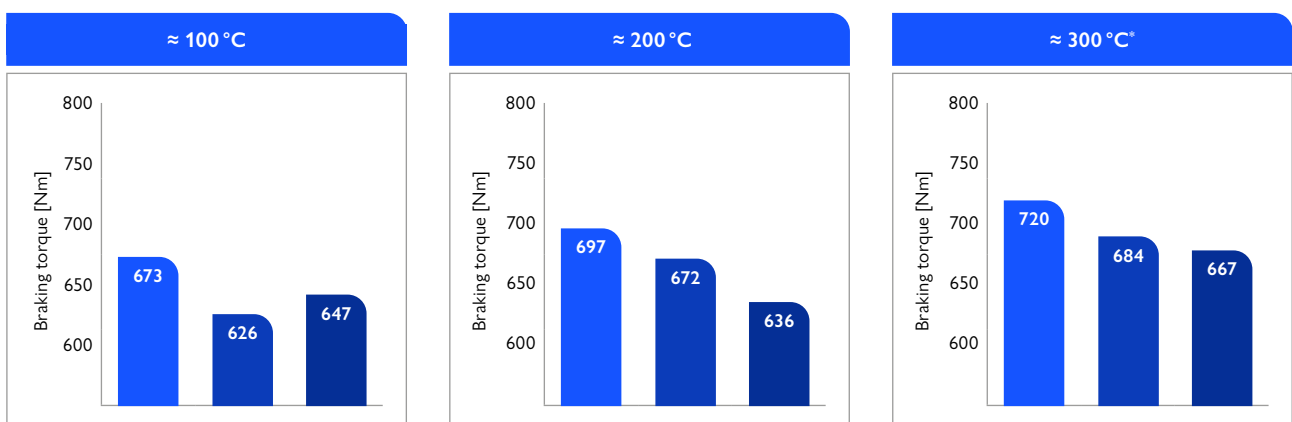
Brake torque is the force applied at the brake wheel in order to stop vehicle's motion, it gives an indication of braking effectiveness in different conditions. When the vehicle is braking, the pads compress the disc and generate a frictional force proportional to the pressure. The wheel consequently receives a torque which counteracts its rotation. **The higher the torque, the better the braking efficiency.**

During DEKRA tests, IVECO original brakes have shown the best braking force even at low temperatures (100 °C).

Furthermore, IVECO original brake system has proven:

- To be more performing than competitors up to over 300 °C
- To be able to maintain an always positive trend, guaranteeing reliability in all situations

Higher braking torque for a better performance.



■ IVECO ■ Competitor A ■ Competitor B

* (during an emergency brake on the highway at a speed of 100 km/h, IVECO pads reach 192,8 °C only)

GENUINE BRAKES OFFER THE HIGHEST BRAKING EFFECTIVENESS IN ALL DRIVING CONDITIONS.

Saving.

Pads and discs durability test: high performance made to last.

IVECO original components are designed not only to ensure the best performance but also to last over time and to reduce replacements. The choice of IVECO to focus on materials with high braking power, may result in a slight reduction in durability, but the balance between performance and durability for IVECO is the best solution.

Tests carried out on original IVECO products have shown that the combined use of original discs and pads ensures the optimal durability of all components.

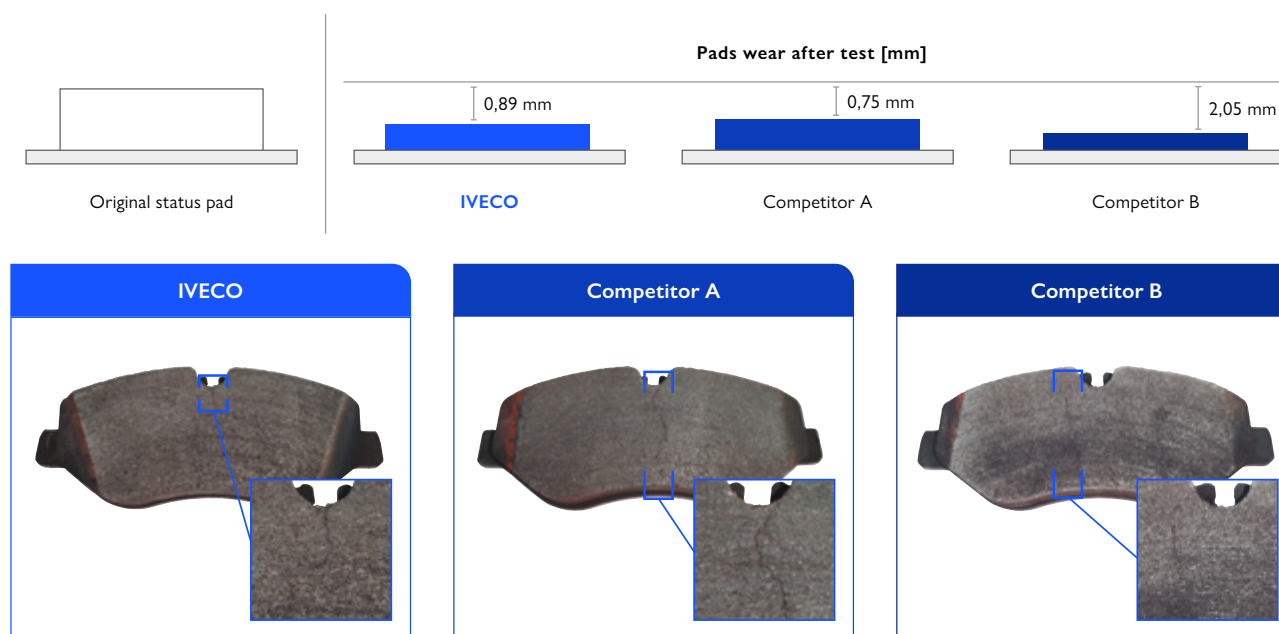


After 276 braking actions and an equivalent of 30 km braking space, IVECO original pads, achieved wear levels:

- In line with the high quality competitor
- 57% lower than the low quality competitor

A reduced consumption of the pad means also a lower release of polluting substances into the environment.

Pads wear.



**GENUINE BRAKES ENSURE THE BEST BALANCE BETWEEN
SAVING AND PERFORMANCE**



Comfort.

Uniform pads and discs wear test: less noise and less vibrations.

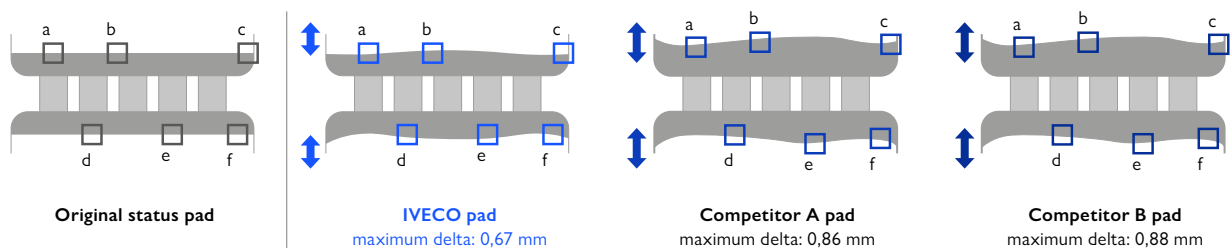
Optimal comfort and smooth driving feeling are essential for drivers: especially on long journeys. The quality of IVECO original materials provides homogeneous pads and discs wear, resulting in considerably less vibrations transmitted to both the steering wheel and brake pedal.

After the test, pads thickness has been measured in several critical points: the lower the difference in millimetres, the more uniform pads wear is.

On IVECO original pads, the maximum delta among thickness measurements was:

- 22% better than the Competitor A
- 24% better than the Competitor B

Pads do not all wear out in the same way: IVECO is the most uniform.



□ Measurement points

After 276 braking actions and an equivalent of 30 km braking space

**GENUINE BRAKES SHOW LESS NOISE ON BOARD, LESS VIBRATIONS
AND MORE DRIVING COMFORT**

IVECO

Drive the road of change

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