BRAKES

Discs and pads

Renault Trucks offer

Renault Trucks brake discs and pads are **designed to work together** to ensure optimal braking performance; **tests are carried out on bench and in the field** .

Developed for each vehicle model according to its use, the pads have a perfect geometry to adapt to the brake calipers. **They prevent vibrations, thermal cracks and premature wear of the brake disc.**

To ensure braking performance, all pads should be changed at the same time. It also **reduces the number of visits to the repairer** .

CHARACTERISTICS	BENEFITS
Grooved discs.	Radial expansion, no coning.
Adapted material.	For better resistance in the most extreme conditions.
Multiple disc sizes.	Uses a common hub.
Pad friction material compliant with manufacturer specifications.	Maximum braking efficiency and optimal service life.
Manufacturer specifications developed considering vehicle type, weight, and usage.	Appropriate pads for each vehicle type.
Manufacturer characteristics meeting all Renault Trucks braking test criteria, ensuring all braking components work together.	Longer service life for disc and pads: reduced operating costs.
Pad carrier design specially conceived to extend their service life.	Pad carriers don't deform and prevent diagonal wear that reduces their service life.
Pad friction material incorporating central groove and chamfered edges (T, C and K).	Smooth friction – reducing vibrations and noise – and extending disc life (prevents cracking).
No loss of efficiency.	Maintained braking torque.
Environmentally friendly materials used.	Compliant with workshop use (health and safety).
Patented design.	Renault Trucks expert in brake parts design.
Renault Trucks investment.	The Renault Trucks braking system required many years of studies and testing.

Key arguments

Optimized materials

- Compliance with strict specifications.
- Regular checks during the manufacturing process.
- Reduced risk of formation and propagation of cracks on the brake discs.
- "Drag-free" technology patented by Renault Trucks since February 2024, designed to eliminate residual friction that may persist between brake pads and discs after braking.

The materials of each component have been carefully chosen:

- too soft friction material will cause premature pad wear;
- too hard a friction material will prematurely wear the brake disc.

Following analyzes carried out on the brake discs, it was shown that 8 out of 9 adaptable discs did not comply with the Renault Trucks specifications. The low carbon and silicon levels observed on certain competing parts lead to poor conductivity and thermal instability: adaptable discs do not have ***alloy elements*** and are therefore more sensitive to heat than Renault Trucks discs; they also have ***sand residues*** which can interfere with their cooling. It is these ***variations in thickness*** in the materials of the adaptable discs that cause thermal instability.

Pièces d'origine Renault Trucks	Pièces adaptables	Commentaires
		ÉLÉMENTS D'ALLIAGE Les disques adaptables ne disposent pas d'éléments d'alliage et sont donc plus sensibles à la chaleur que les disques Renault Trucks.
		RÉSIDUS DE SABLE Contrairement aux disques Renault Trucks, les disques adaptables présentent des résidus de sable qui peuvent perturber leur refroidissement.
		VARIATIONS D'ÉPAISSEUR Les variations d'épaisseur dans les matériaux des disques adaptables entraînent une instabilité thermique.

A specification that is stricter than the ECE R90 regulation

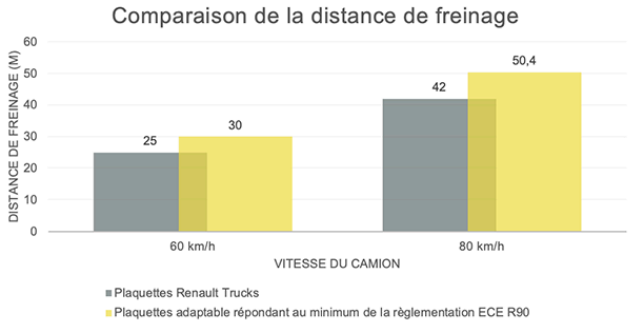
- Optimization of the elements of the system according to the use.
- Improved driving comfort.
- Braking distance reduced by up to 16% compared to adaptable parts.

The ECE R90 regulations specify that after-sales, brake pads can only be sold if they are at least 85% as resistant as original pads.
The Renault Trucks specifications require a *deceleration greater* than that required by the ECE R90 regulations in order to increase safety.

What is the risk of having 15% less resistance?

1. *Premature wear* of brake pads and / or adaptable brake discs. From 300 ° C, wear is ten times faster, while a Renault Trucks brake pad can reach 700 ° C.
2. Appearance of *noises* .
3. *Risk of* increased dispersion between the sets of pads fitted to the same vehicle (overall performance not homogeneous from one axle / wheel to another).

WARNING !
The EBS system has been calibrated with Renault Trucks brake pads. Using any other brake pad can result in even longer braking distances.

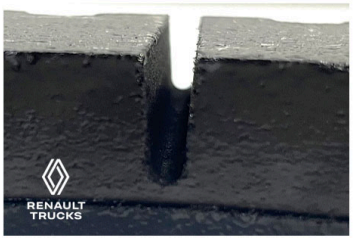


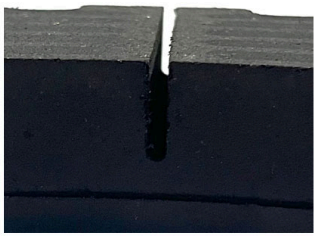
A specific design for each vehicle

- Less noise.
- Less vibrations.
- Better braking efficiency.

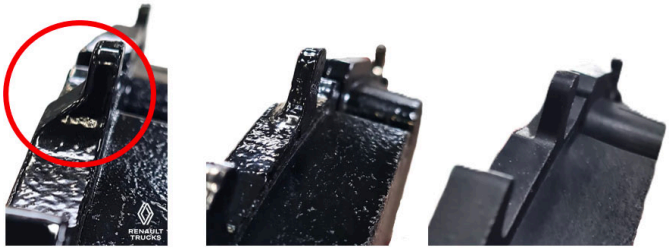
With adaptable parts, there is a high risk of having brake asymmetries over time and noise. Deformations of the pad appear, causing imbalances and vibrations at the brake pedal. Road holding becomes hazardous, with the risk of shifting when braking.

The groove in the middle of the pad prevents cracks from appearing on the friction material. The deeper it is, the longer it will last despite the wear of the friction material.





It was also noted that the ears of some adaptable parts are less strong and therefore would break more easily. This would lead to more noise / vibration, increased risk of parts breaking and reduced service life.



The service in addition

- 2 year warranty (parts, labor, repair, towing).
- Start & Drive Excellence contract for worry-free maintenance.
- Packages to offer turnkey solutions to customers.

A wide range of services is available:

- the Start & Drive Excellence contract: efficient and tailor-made maintenance;
- the personalized and scalable maintenance plan: to consider vehicle maintenance with complete peace of mind;

- maintenance packages: packaged interventions with a price fixed in advance for billing without surprises;
- 24/7: for permanent mobility.

Customer benefits

Comfort

- Less vibrations and noise for better driving comfort.
- Optimal braking because there is no ovalization of the disc.

The joint design of the brake system's disc and pad elements ensures that the design and friction materials are suitable for the use of the vehicle.

The chamfers and grooves also allow smoother braking and reduced vibrations. This gives greater driving comfort and less noise related to braking.

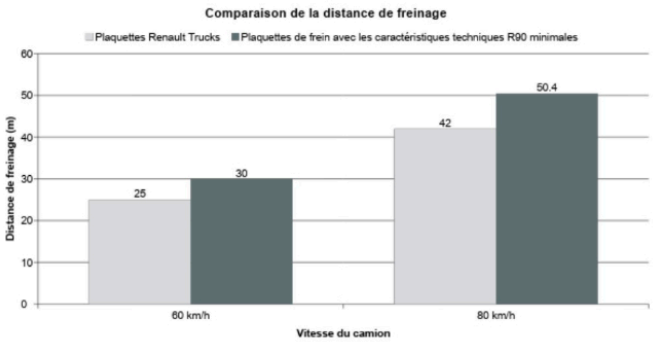
As the pads remain in perfect contact with the brake disc, braking performance and driving comfort are thus guaranteed whatever the temperature levels.

security

- High temperature performance.
- Braking distance reduced by up to 16% compared to adaptable parts.
- EBS system calibrated with Renault Trucks brake pads.

Renault Trucks brake pads are very insensitive to temperature, which gives them very high friction coefficient stability when heated. Brake discs also see the risk of crack formation and propagation reduced. This guarantees ***better elasticity and braking safety*** .

The Renault Trucks specifications require a deceleration greater than that required by the ECE R90 regulations in order to increase safety.



In addition, the EBS system has been calibrated with Renault Trucks brake pads. Using any other brake pad can result ***in even longer braking distances*** .

Savings

- Up to 45% longer life compared to competitors.
- Controlled maintenance intervals for less downtime and costs on the vehicle.
- Optimized braking performance through the combination with new drag-free brake pad technology.
- Fuel consumption reduction or electrical consumption of up to 0.5% for a 4x2 tractor with a trailer equipped with the new drag-free brake pad technology.

In the case of adaptable parts and knowing that the temperatures reached by the brake discs can be extreme, the pads may be charred and the discs may crack.
From 300 ° C (normal temperature on a disc brake), ***wear is 10 times faster*** .

Renault Trucks engineers observed that a ***difference of 1 mm*** in the thickness of the brake pad (adaptable parts) ***reduced the service life by 6%*** .

It is essential to choose the original part in order to optimize component replacement and reduce maintenance costs.