



VOLVO GENUINE BRAKE PARTS

PRODUCT INFORMATION



VOLVO GENUINE BRAKE DISCS

The brake disc is a part of the complete braking system and contributes to vehicle braking by transferring kinetic energy into heat via friction between the disc and brake pad material.

The parts are assembled to the drive flange or axle and function by becoming clamped during braking by the brake pads in a brake caliper to reduce wheel rotation. The front brake discs are often more worn due to brake force bias and distribution during deceleration.

The brake system must be able to withstand high temperature differences and extreme weather conditions. The brake pads are developed together with the brake disc. This combination ensures that Volvo Genuine brake components will deliver superior braking performance with minimal occurrences of comfort issues such as brake noise, vibration and distortion.



1.

When you buy Volvo genuine brake discs, you know they are developed and tested specifically for your Volvo.

- By utilising the same parts that the car was built with, you can rest assured that the original safety, performance and quality is retained.
- Volvo Genuine brake discs have been extensively tested and are manufactured to exact tolerances. The centre hole of the brake disc is the exact dimension of the hub for perfect centring. This is important to give maximum comfort and eliminate vibrations.
- Genuine discs are the perfect size and swept volume, maintaining all of the friction capacity that the brake pads can create when braking heavily. This is critical to maintain high performance.

2.

Sophisticated software controls the braking system in your Volvo. Volvo Genuine brake discs are designed to react exactly as the software expects.

- The braking system is a sophisticated system controlled by advanced software. With the wrong physical brake parts you cannot trust the system to work in an ideal fashion.
- With more advanced braking technology in the car, such as City Safety, Pedestrian Detection and Auto Brake functions, it's important that the brakes react exactly as the controlling software expects them to in order for these systems to provide effective collision avoidance.
- Buying Volvo Genuine brake discs is an investment in safety and quality.
- Never risk poor brake performance because of non-genuine brake discs in your Volvo!

HIGH DEMANDS

BRAKE DISC PRODUCT FEATURES

The brake discs are designed with high requirements in areas such as run-out, thickness variation and balance in order to minimize disturbances such as brake vibration and brake noise. Brake discs turn at the same speed as the wheels and an unbalanced brake disc can vibrate significantly, accelerating wear and reducing comfort and braking performance.

The brake disc size is determined by the vehicle performance and weight. Today, all Volvo brake discs on the front axle are ventilated and in some cases this is also carried out on the rear axle. The advantages with ventilated discs are that they are cooled down much faster than a massive disc, which gives them a higher braking capacity without adding sprung weight.

Ordinary metals would easily be deformed or melted at high temperatures, but the brake discs are made to be highly resistant to extreme temperatures. Volvo Cars specifies materials that provide the best performance for your Volvo, so we design the brake discs in-house. Engineered at our plant in Floby, Sweden the discs are manufactured into perfection.

Volvo tests brake performance in multiple scenarios including performance driving and trailer towing which can put extreme stress on the braking system. Brake components must perform flawlessly to be a Genuine Volvo replacement part.

THE CUSTOMER AND THE PRODUCT

Brakes are important products for your safety – they interact with sophisticated computer systems to ensure the safety performance of your Volvo. The best way to survive an accident, is to avoid it in the first place. The braking system in your Volvo is the first line of defence against collision. Never risk compromised braking performance by utilising after-market brake parts which were not engineered along side your Volvo!

With so many technical features, it is crucial to use Volvo Genuine parts. With the wrong hardware you can't trust the advanced software engineered to keep you safe!

PRODUCT TEST BRAKE DISCS

Every Volvo model has unique braking properties. Volvo Cars spends significant resources to develop and test every individual component in the braking system.

Volvo Genuine brake discs have been extensively tested and are manufactured with exact tolerances. Volvo Cars tests brakes first in a test rig, then in special cars full of test equipment and finally in field tests in different climates. The toughest field test is the Alpine test, in which a car pulling a trailer uses its brakes all the way down a several kilometer long Alpine road.



VOLVO GENUINE BRAKE PADS

Brake pads are complex parts which play a crucial role in braking performance. The demands to meet the specification for Volvo Genuine brake pads are very stringent.

The brake system must be engineered to withstand high temperature differences and extreme weather conditions. Volvo Genuine brake pads are developed together with the brake disc in order to ensure that solid braking performance is always offered without brake noise, and vibration.

The brake pad is a part of the complete braking system and contributes in the function of transferring kinetic energy into heat via friction between the disc and pad material. The front brake pads are often more worn due to the brake force bias and distribution during deceleration.



1.

When buying Volvo Genuine brakes, you know they are developed and tested for your Volvo.

- With the same parts as the car was built from, you can rest assured that the original safety and quality is retained.
- With the precision of Volvo Genuine brake pads, you won't have to worry about poor performance, excessive noise and vibrations.
- The pad material is carefully selected to ensure that the optimal amount of friction material is available every time. This minimizes pedal effort, and ensures the shortest stopping distances.
- Pad size and fit is perfect for your Volvo. Unlike after-market pads, which can compromise size and fit, Genuine Volvo pads operate in their retainers perfectly and utilise the discs entire available swept area.

2.

With the wrong hardware you cannot trust the controlling software.

- The braking system on your Volvo is controlled by a sophisticated electronic computer system employing advanced software to maximize performance.
- With the wrong brake parts you cannot trust the system to work properly.
- With more advanced braking technology in the car, such as City Safety, Pedestrian Detection and Auto Brake functions, its important that the brakes react exactly as the controlling software expects them to in order for these systems to provide effective collision avoidance.
- Never risk the brake performance because of non-genuine brake pads in your Volvo!

HIGH DEMANDS

BRAKE PAD PRODUCT FEATURES

The friction material in the brake pads consist of five main components, and the exact combination is adapted to match the vehicle model. Unlike after-market solutions which have to be engineered to fit various models and makes, Volvo can look at factors such as vehicle weight, engine performance and market conditions and fine tune each Volvo brake pad to provide optimal performance in all conditions.

The brake pads are developed to work in perfect harmony with the brake system. Brake parts must work in close cooperation with Volvo's Active Safety systems such as:

- Anti-lock Braking System (ABS) with Electronic Brake Distribution (EBD)
- Electronic Brake Assistance (EBA),
- City Safety
- Collision Warning with Auto Brake
- Pedestrian Detection

BRAKE PAD PERFORMANCE TEST

Brakes are important products for your safety– they interact with sophisticated brake control systems and their controlling software to ensure the safety performance of your Volvo. Often this performance is overlooked in every day driving, but it is important that the brakes on the car perform perfectly when they are needed most: during collision avoidance manoeuvres. This is especially important when the collision avoidance manoeuvre is triggered by one of the vehicles autonomous safety systems.

Tested on torturous test tracks to ensure performance, ensure that you choose only Genuine Volvo quality. Backed-up with a lifetime warranty against defect, why choose anything other than genuine Volvo brake components?

PRODUCT TEST BRAKE PADS

During 2012, Volvo tested Volvo Genuine Brake Pads against competitors in three different areas; brake noise, braking friction and brake force distribution. Below you can find summaries from these tests.



1. Summary from the test report: "Brake noise comparison".

The purpose with this test was to compare Volvo Genuine brake pads with two different after-market competitors' brake pads. The test was executed in a S60 car with 16" brakes front and rear.

From the result it was easy to see that the Volvo Genuine pads are the best from a noise point of view. The competitors' pads reached a level of noise where customers could complain and demand improvement.

2. Summary from the test report: "Brake force distribution & friction behaviour" This test was executed between Volvo Genuine brake pads and two competitive brake pads.

The competitor's pads had lower friction during the part of the test with high speed and high deceleration force. When braking from a higher speed and with a fully loaded vehicle, the driver will have to use a higher pedal force to achieve the desired deceleration.

During high speed braking with a lightly loaded car, the test showed stable friction for the Volvo Genuine pads but found reductions in stability for the competitive pads. This will lead to the driver having to increase the pedal force between 15–20% to achieve the desired deceleration.

The results from the test with the fully loaded car show that the difference between Volvo Genuine brake pads and the competitor brake pads performed with up to 20% lower friction for the competitor pads. This will be noticed by the driver during normal driving and braking. One of the competitor's pads needed a 50% higher braking force compared to Volvo Genuine pads! This is an example of where City Safety would not perform as intended as the hardware didn't react as the software anticipated.

Conclusion: The competitive pads have lower friction during high speed and high deceleration. This results in the driver having to use a noticeable higher pedal force, and reduced braking performance.