



GRANIT
QUALITY PARTS

CORDLESS DRILL

PRODUCT BENCHMARK

BLACK EDITION

CUSTOMER INFORMATION

THE FOLLOWING WERE COMPARED:

The **GRANIT BLACK EDITION Cordless Drill** with the order number **7306010** with a corresponding product of a competitor in the professional segment.

The scope of delivery of both devices is almost identical. Accessories for the GRANIT BLACK EDITION cordless drill.

Accessories (included):

- 1 x 18V cordless drill
- 2 x 18V 4.0 Ah lithium-ion - battery
- 1 x 18V battery charger
- 1 x GRANIT BLACK EDITION case

COMPARISON OF FEATURES:

- » System case and accessories
- » Ergonomics and workmanship
- » Functional and practical test

TEST RESULTS:

System case and accessories

This assessment makes a statement about the quality of the system case and the accessories supplied with it. A high-quality case suitable for the intended use, as well as quality accessories, significantly influences the purchase decision.

The cases of both manufacturers are made of a sturdy hard plastic. Both manufacturers use locking clips that snap securely and audibly into place, to ensure safe transport of the tools.

All system cases of the GRANIT BLACK EDITION Power Tools series can be stacked on top of each other. This stacking principle makes storage easier and helps when transporting several different tools at the same time.



Figure 1: GRANIT BLACK EDITION case. Transport of several cases.

The cases from both manufacturers have a folding carrying handle. The carrying handle of the GRANIT BLACK EDITION, unlike the competitor, is equipped with a soft rubber fitting on the handle, which noticeably increases the carrying comfort.

When you open the GRANIT BLACK EDITION system case, you notice how tidy it is. The included accessories fit exactly into the recesses provided.

This product comparison was carried out by the GRANIT PARTS in-house laboratory.





Figure 2: Foam insert. Precise recesses, soft plastic and storage options for various accessories with the GRANIT BLACK EDITION.

The integrated foam is very robust and yet flexible. The tools are thus securely fixed and protected.

In addition, individual compartments for assembly accessories, such as screws, bits or similar items, are integrated in the case.

The interior of the transport case of the compared product is made of plastic, which has a tendency to become brittle and break over time. Accessories, such as the spare battery, are not specially fixed in this case and can accidentally knock against each other in the case during transport. The unclear fixing options can quickly create a cluttered impression.

ERGONOMICS AND WORKMANSHIP

Ergonomics

In order to be able to work optimally, a hand tool must be designed to fit the body and be ergonomic. A high-quality and visually appealing finish is also not to be neglected.

When grasping the handle, the GRANIT BLACK EDITION cordless drill leaves a positive impression. The soft, yet sturdy, handle is easy to grip for both smaller and larger hands.

The start switch is easy to operate with the index finger. The slide switch for clockwise and counterclockwise rotation, located in the handle, is easy to reach with the thumb.

All features / operating components are conveniently arranged. Safe and untiring work is guaranteed by the excellent ergonomics of the GRANIT BLACK EDITION.

WORKMANSHIP

The workmanship of the BLACK EDITION cordless drill and its installed components are of very high quality and is in no way inferior to that of the market competitor.

FUNCTIONAL AND PRACTICAL TEST

Function

The functional test and the practical test provide information about the existing product features and their functionality. In addition, the load capacity of the tools is determined in the practical test.

The cordless drills from both manufacturers are powered by high-quality 18V/4Ah batteries, on which both manufacturers have easy-to-read charge indicators. The charging status can be quickly determined at any time.

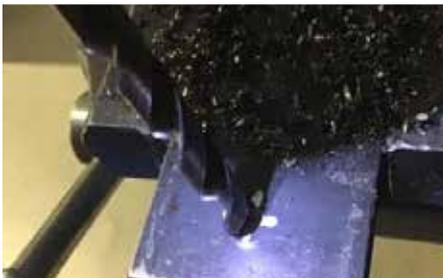


Figure 3: Integrated LED work light. The work area is brightly illuminated.

The integrated LED work lights on both cordless drills illuminate the work area well. A quick tap of the start switch is all it takes to activate the LED work light for a few seconds. Both manufacturers offer this feature and it helps a lot with the work preparation.

A two-speed gearbox with low and high speeds, or torque (high/low), is used as the drive for both devices. Several settings for screwing are available via the rotating ring on the drill chuck.

These different numerical settings cause the slip clutch to release differently when counterloaded.

An adjustment option for drilling into wood or metal, as well as other materials, is also available on both devices.

The bore setting causes the slipping clutch to remain without function during the drilling process. In this setting, very hard and resistant materials can be screwed or drilled.

ENDURANCE SCREW TEST

A screw endurance test was carried out, in order to test both cordless drills in practice and to subject them to technical/mechanical stress.

For the test, screws (Ø 6.0, length 80mm; drive Torx 30) were screwed into a hardwood oak beam over a length of 200 cm in several rows.

One beam was used for each cordless drill. The screwing took place "non-stop", without interruption. The first gear and the bore setting were selected on both cordless drills. The batteries had a charge status of 100%.



Figure 4: View of the various setting options of the BLACK EDITION cordless drill.



Figure 5: Drilling test The BLACK EDITION cordless drill made a hole up to 26mm in diameter. The market competitor drilled a diameter of up to 20mm.



Figure 6: BLACK EDITION cordless drill. High-quality, technically flawless workmanship and components.

The GRANIT BLACK EDITION cordless drill was able to drive 258 screws into the oak beam with a single battery charge.

The competitor's cordless drill only managed 208 screws before the battery gave up.

During the test series, the advantage of additional overheating protection on the GRANIT BLACK EDITION cordless drill became clear. This integrated safety feature protects the installed electronics and mechanics from overheating.

DRILLING TEST

In addition to the endurance screwing test, a drilling test was also carried out. A step drill (KS Tools 330.2304) up to Ø30mm was used for this purpose.

A square tube made of general structural steel with a material thickness of 2 mm served as the work piece.

The work piece was pre-drilled with a Ø 5mm drill bit, in order to be able to apply the step drill precisely.

For a step drill, the bore diameter depends on the bore depth of the step drill. The deeper, the larger the hole. This test was used to determine which hole size could be achieved with the GRANIT BLACK EDITION and competitor cordless drills.

The cordless drills were not set down or switched off during the drilling process. The drilling process was continued until the machines switched themselves off due to an excessive counterload or could no longer generate sufficient force to drill through the metal.

The cordless drill of the manufacturer used for the comparison test produced a hole diameter of up to 20 mm in one pass. The GRANIT BLACK EDITION cordless drill drilled a diameter of up to 26 mm into the square tube.

After completing the practical tests, the electronics and mechanics of both cordless drills were examined. During this assessment, the degree of manufacture, the quality and the wear of the installed technical components were examined.

Neither defects nor signs of wear could be detected in the technical components installed by either manufacturer after the extreme load tests. In both cases, great care was taken with the technical components / wiring and the processing inside the devices.

CONCLUSION:

- The two practical tests in particular clearly show the performance differences of the compared products. In the endurance test, the GRANIT BLACK EDITION drill achieved approximately 45% more power than the competitor's device. The GRANIT BLACK EDITION cordless drill even finished the drilling test with a six mm larger hole, which illustrates a significant difference in the performance capabilities of the devices.
- The ergonomic design of the GRANIT BLACK EDITION drill/driver and the optimal positioning of the control switches for the various machine settings ensure long-term body-friendly and intuitive work. The manufacturing process was based on the selection of high-quality materials.
- The GRANIT BLACK EDITION cordless drill scores with a very high-quality system case. The precisely fitting recesses for the working device and its supplied accessories are particularly noteworthy here. The GRANIT BLACK EDITION system case always guarantees a tidy condition.