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DD 100 MEC

Operating instructions

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ORIGINAL OPERATING INSTRUCTIONS: Important safety instructions

Warning: The following safety precautions must always be observed when using electric tools to reduce the risk of electric shock, personal injury and fire.

READ ALL INSTRUCTIONS

Keep these safety precautions in a safe place!

1 Keep Work Area Clean

Cluttered areas and benches invite injuries.

2 Consider Work Area Environment

Don't expose the tool to rain. Don't use power tools in damp or wet locations. Keep work area well lit. Do not use tool in presence of flammable liquids or gases.

3 Guard Against Electric Shock

Prevent body contact with grounded surfaces. For example: pipes, radiators, ranges, refrigerator enclosures. Use only power supply matching the requirements listed on the tool rating plate. Do not core into electrical, gas or water lines.

4 Keep Children Away

Do not let visitors contact tool or extension cord. All visitors should be kept away from work area.

5 Store Idle Tools

When not in use, tool should be stored in dry, and high or locked-up place-out of reach of children.

6 Don't Force Tool

It will do the job better and safer at the rate for which it was intended.

7 Use Right Tool

Don't force small tool or attachment to do the job of a heavy duty tool. Don't use tool for purpose not intended.

8 Dress Properly

Do not wear loose clothing or jewelry. They can be caught in moving parts. Rubber gloves and non-skid footwear are recommended when working outdoors. Wear protective hair covering to contain long hair.

9 Use Safety Glasses

Also use face or dust mask if cutting operation is dusty.

10 Don't Abuse Cord

Never carry tool by cord or yank it to disconnect from receptacle. Keep cord from heat, oil, and sharp edges.

11 Secure Work

Use clamps or a vise to hold work. It's safer than using your hand and it frees both hands to operate tool.

12 Don't Overreach

Keep proper footing and balance at all times, and work from a secure position.

13 Maintain Tool & Bits With Care

Keep bits sharp and clean for better and safer performance. Follow instructions for lubricating and changing accessories. Inspect tool cord periodically and if damaged, have repaired by authorized service facility. Inspect extension cords periodically and replace if damaged. Keep handles dry, clean, and free from oil and grease.

14 Disconnect Tools

Unplug tool when not in use, before servicing, and when changing accessories, such as blades, bits, cutters.

15 Remove Adjusting Key

Form a habit of checking to see that chuck key is removed from tool before turning it on.

16 Avoid Unintentional Starting

Don't carry plugged-in tool with finger on switch. Be sure switch is off when plugging in.

17 Outdoor Use Extension Cords

At all times use only extension cords intended for use outdoors and so marked.

18 Stay Alert

Watch what you are doing. Use common sense. Do not operate tool when you are tired

19 Check For Damaged Parts

Check the tool daily for proper operation and damage. If the tool is damaged or does not operate properly, discontinue use until it has been repaired by an authorized service center.

20 Replacement Parts

When servicing, only authentic Hilti replacement parts should be used. Replace cord only with HILTI DD 100 GFCI cord. Test after replacement.

21 Wear Ear Protectors

Wear ear protectors when using for extended periods or in confined areas.

22 Make sure side handle is secure and use both hands while using the tool

Only the insulated handles of the tool should be contacted when coring.

23 Secure Core

When coring through floor, the core must be secured to prevent it from falling. Otherwise, prevent access to this part of the jobsite. Check the rear side of walls to be cored through. If you are coring through into a locked room, have it opened before starting to core. There may be live electric equipment in the room.

24 Overhead with DD 100 MEC wet

Safe operation of the DD 100 can only be provided as long as moisture is prevented from entering the motor. DD 100 motor which has become wet must be serviced by the electrical specialists at a Hilti center.

25 GFCI Testing

Before each day's use, test the GFCI for proper operation (See instructions below). If a GFCI is supplied with the power tool, never operate the power tool without the GFCI.

Save these instructions

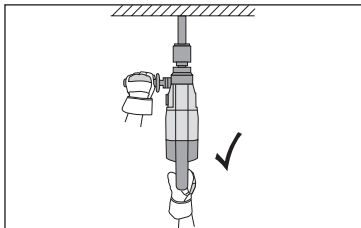
Technical data

Voltages:	115 V
Power input:	1600 W
Current input:	15 A
Frequency:	50/60 Hz
No-load speed:	1 st speed: 1200 r.p.m. 2 nd speed: 2400 r.p.m. 3 rd speed: 3900 r.p.m. (operate the speed-change switch only when motor has stopped)
Coring bit diameter range:	Wet 1 ⁵ / ₃₂ "–3 1 ¹ / ₂ "
Weight:	12.6 lbs.
Dimensions (Unit without head):	20" x 4 1 ¹ / ₂ " x 6"
Chuck for core bits:	Hilti quick-change DCI
Depth gauge	
Electronic speed regulator for constant no-load speed (nominal speed)	
Overload current regulator and integrated starting current regulator	
Thermal / mechanical motor protection	
Electric protection class 1 (electric supply with earth / ground connection necessary)	
DD 100 Motor includes in line ground fault interruptor GFCI.	

Do not use this product in any way other than as directed by these operating instructions.

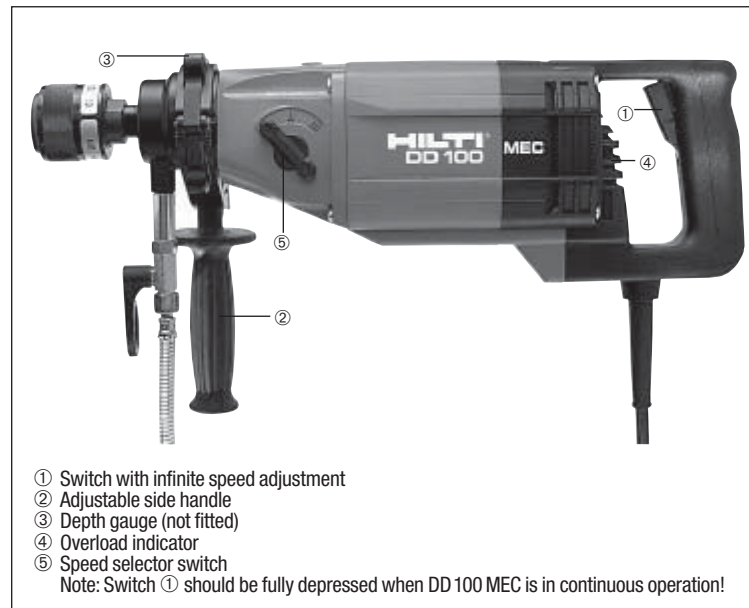
Before beginning work

Please observe the enclosed safety precautions!



When working with the machine, it must be held with two hands. Always make sure that you have a safe stance/ foothold.

DD 100 MEC



Standard equipment

- DD 100 MEC tool with built-in ground fault interruptor
- BI-chuck
- Depth gauge
- Hilti spray
- Operating instructions



Always wear ear protectors.



Always wear protective gloves.



Always wear safety glasses.

This Product is
UL listed and CSA certified



Grounding

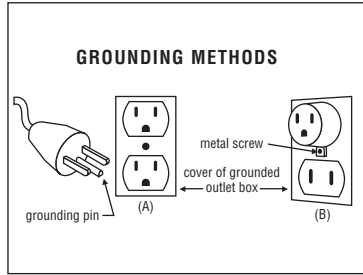
This tool should be grounded while in use to help protect the operator from electric shock.

The tool is equipped with a three-conductor cord and three-prong grounding type plug to fit the typical grounding type receptacle (figure A). The green (or green and yellow) conductor in the cord is the grounding wire. Never connect the green (or green and yellow) wire to a live terminal. An adapter (figure B) may be used for connecting the plug to a two prong receptacle.

The green-colored rigid ear or lug extending from the adapter must be connected to a permanent ground, such as a properly grounded outlet box.

Caution

The metal parts of the tool may be made live if the tool cores into wiring. Only the insulated handles of the tool should be contacted when coring.



Overload Protection

The DD 100 MEC is equipped with electronic and thermal overload protection devices.

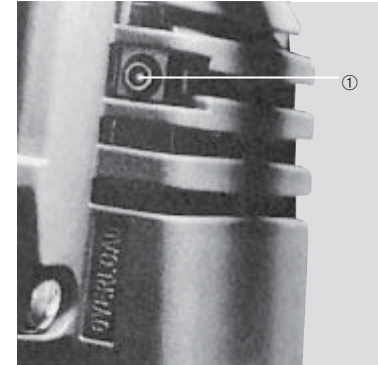
Electronic

If the tool is overloaded due to excessive pressure being applied, the current is reduced so that the core bit only rotates slowly. After releasing pressure on the core bit, full current is again supplied to the motor and the coring speed returns to normal.

Thermal

The motor is protected additionally against continuous overloading by a temperature sensor which automatically reduces current input. Once activated the DD 100 MEC can be made to operate at normal speed by pressing the switch after the temperature of the motor windings has dropped sufficiently. Cooling of the motor windings can be assisted by allowing the tool to run without load. The motor speed necessary for effective cooling can be reached more quickly by depressing the switch several times.

Overload Indicator



If the overload indicator lights up, it is an indication that you are approaching the limit of thermal overload. It is recommended that the DD 100 MEC is operated in such a way that the overload indicator lamp does not light up (if the indicator remains on, the normal motor protection will be activated). After the tool has been allowed to cool, work can continue normally (cooling at no-load speed approx. 20 seconds).

Extension Cords

Use only three-wire extension cords that have three-prong grounding-type plugs and three-pole receptacles that accept the tool's plug, and are intended for outdoor use and are so marked.

Use an extension cord heavy enough to carry the current your tool will draw. An undersized cord will cause a drop in voltage, resulting in loss of power and overheating.

Grounding Fault Circuit Interruptor (GFCI)

The DD 100 MEC comes equipped with a GFCI included in the power cord. The GFCI must be tested according to the following instructions.

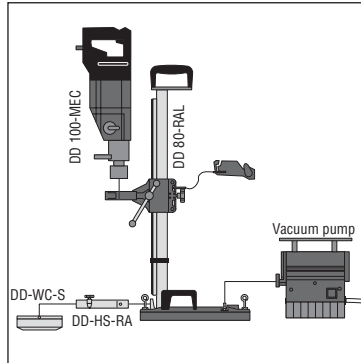
1. Plug the GFCI into a 120 VAC grounded receptacle.

2. Press "Test" button. "Fault Light" should come on.
3. Press "Reset" button. "Fault Light" should go off.
4. Do not use the DD 100 MEC if the GFCI fails this test. Return to Hilti for servicing.

Selecting the system

The DD 100 MEC is designed for wet coring:
Up to $\frac{5}{8}$ " dia. = hand-held coring
Up to $3\frac{1}{2}$ " dia. = stationary coring with drill stand

When stationary coring, please also observe the operating instructions for the drill stand.



Preparations before beginning work

In addition to the safety precautions, the following preparations at the jobsite must be made.

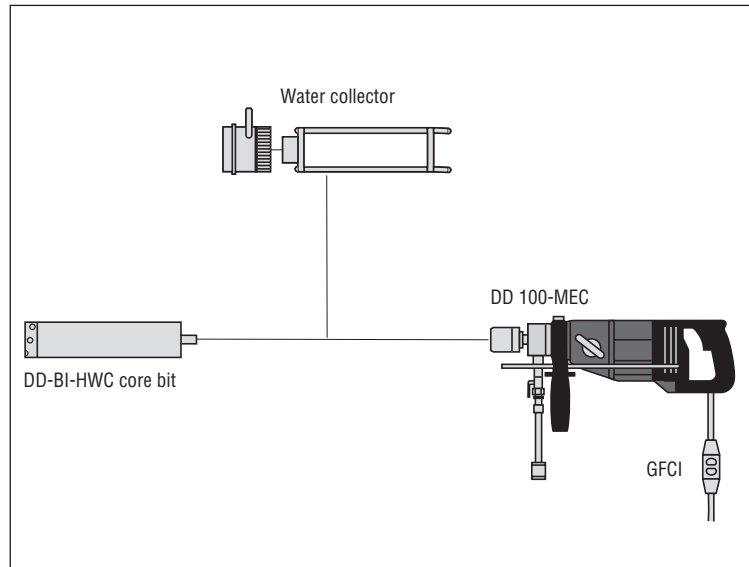
- Make sure that a water connection or pressurized container with continuous water flow is available.
- Make preparations for the flow of water. If necessary, install water removal equipment. When coring into hollow building components, find out where the coring water is likely to flow, in order to avoid damage.
- A power supply with earth/ground connection must be available for use.
- Lay out and mark holes to be cored.

All electrical safety precautions can only reduce the consequences of allowing water to enter a DD 100 MEC motor, but not eliminate them. A DD 100 MEC motor which has become wet must be serviced by the specialists at a Hilti centre.

Warning: A properly functioning water collector must be used for overhead coring. A leaky extraction device or sealing disc must be replaced immediately. Failure to observe this point could present a risk of fatal accident. Use of wet vacuum cleaner is absolutely essential for overhead coring.

Additional safety precautions

- When coring, make sure you have a secure position to work from.
- Hold the DD 100 MEC firmly with both hands.
- Pay attention and concentrate on the job when working.



Safety precautions on the jobsite

Before beginning work with the coring system, read the operating instructions carefully and ensure that the safety precautions listed below are observed.

Please also note that permission to begin drilling work must be obtained from the site engineer or other authorised person.

- Ensure that no electric cables, gas or water pipes etc. are situated where holes are to be cored.
- Make sure cables, pipes or other supply lines situated in close proximity to where holes are to be cored are switched off.
- The coring work must not have a negative effect on the structural design of the building (drilling through steel reinforcement!).
- Cordon off areas where coring work is taking place, particularly behind/below walls or ceilings which are being cored through.
- Wear a helmet, safety shoes, gloves and ear protectors.
- Tidiness and good organisation on the jobsite helps to prevent accidents.
- Use only original Hilti parts.
- Protect the motor unit from water spray and rain.
- For overhead coring, the water collector and water removal system must be in good order and function correctly.
- The coring system must only be operated with the built-in ground fault interruptor (GFCI).
- In order to provide safe, trouble-free operation, the coring system must be kept clean. (Do not clean using a jet of water.)
- Coring work should only be carried out by trained personnel who have received instruction on the use of the equipment.
- When working with the vacuum baseplate on walls an additional means of securing the rig must be employed.
- If leakage occurs in the water supply system, the equipment must be serviced.
- Do not touch rotating parts.

Electrical safety

The GFCI fault interruptor helps protect the operator in case of faults in the insulation of the motor unit or supply cord (between the and the motor unit). This device also prevents the machine from restarting of its own accord when power returns after an interruption in the power supply. The earth/ground connection helps protect the operator from dangerously high voltages in case of coring into live cables. The protective function of the ground fault interruptor must be checked at regular intervals in accordance with regulations issued by national authorities.

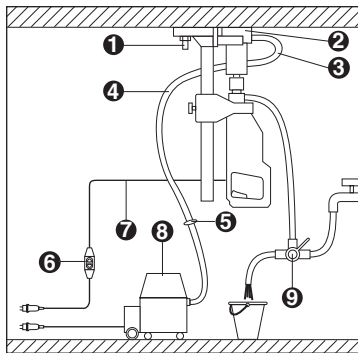
Instructions and precautions for overhead coring

When coring overhead, the following equipment must be used for safety reasons:

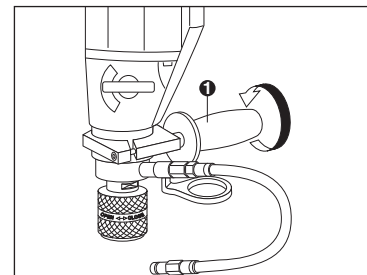
1. Core stand, fastened to the ceiling using an HKI 1/2" anchor
 2. Water collector complete with appropriate sealing disc
 3. Hose strain relief clamp
 4. Water removal hose
 5. Adaptor for wet vacuum cleaner
 6. GFCI ground fault interruptor (integral part of supply cord).
 7. Supply cord with earth/ground conductor
 8. Wet vacuum cleaner.
- A vacuum cleaner designed for removing water and wet materials must always be used for overhead coring.
9. 3-way water connection.

Close the water supply valve and drain the water from the core bit at the 3-way water connection before withdrawing the core bit from the water collector.

Note: The life of the sealing discs can be extended by applying a little grease e.g. bearing grease or Hilti lubricant spray.



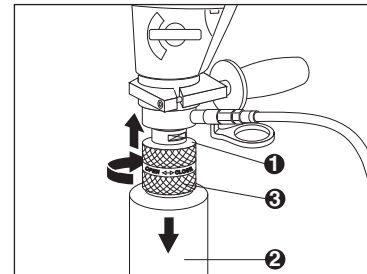
Mounting the side handle



1. The side handle must be tightened to a torque of at least 6 ft/lbs.

Warning: For hand-held coring, the side handle must be used.

Releasing a core bit

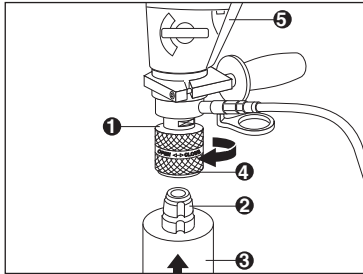


1. Chuck
2. Core bit
3. Locking sleeve
Hold the core bit before disengaging the locking sleeve.

When the core bit is released, ensure that the core does not accidentally fall out of the bit. When coring overhead, close the water supply valve and drain the core bit via the water supply hose before releasing it from the chuck.

Water collector

Fitting a core bit



1. Chuck
2. Connection end
3. Core bit
4. Locking sleeve
5. Motor unit

Procedure in the event of the core bit sticking

The slip clutch will be activated if the core bit sticks. The power tool must then be switched off by the operator. To release the core bit, proceed as follows:

Using an open-end wrench to release the core bit

1. Disconnect the supply cord plug from the power outlet.
2. Grip the core bit close to the connection end with a suitable open-end wrench and rotate the core bit to release it.
3. Plug the supply cord back into the power outlet.
4. Continue the drilling operation.

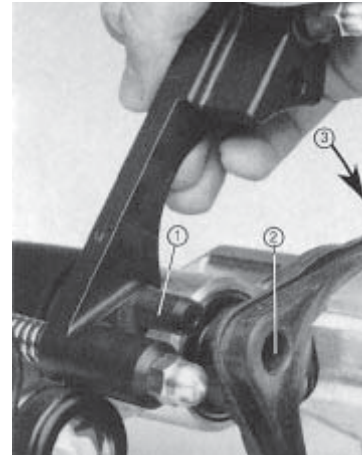
Using the spider wheel to release the core bit (for use with the drill stand)

1. Disconnect the supply cord plug from the power outlet.
2. Release the core bit by rotating it with the spider wheel.
3. Plug the supply cord back into the power outlet.
4. Continue the drilling operation.

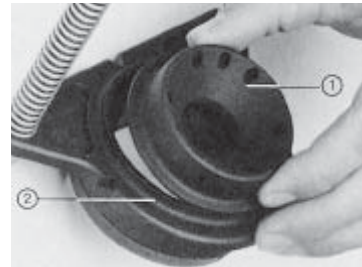
Transport and storage

Note

- Store and transport the power tool in its toolbox when possible.
- Open the water flow regulator before storing the power tool. Especially at temperatures below freezing, take care to ensure that no water remains in the power tool.



Insert the guide pin (1) on the water collector holder into the boss (2) in the side handle collar. Press the frame of the water collector holder into its guide on the side handle collar (3).

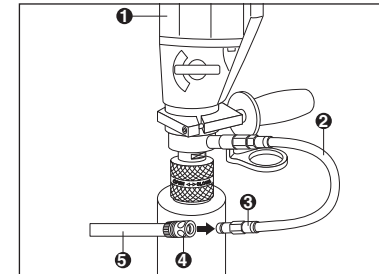


Insert the centering ring (1) for the appropriate core bit diameter into the ring holder (2).



Insert the water collector (3) and press it down firmly into the holder. Connect the water extraction hose.

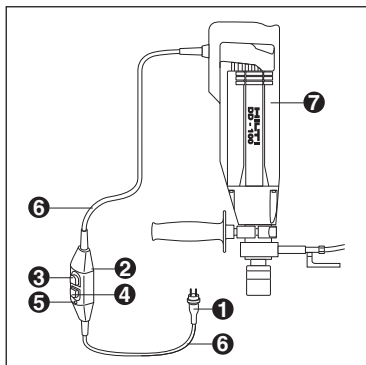
Connecting the water supply



1. Tool
2. Water hose
3. Water flow valve
4. Hose connector
5. Water supply

If the sealing ring supplied with the diamond core bit begins to leak, it must be replaced. Re-ordering information: The diameter range is printed on the sealing disc.

DD 100 MEC ground fault interruptor (GFCI)



1. Groundet plug
2. GFCI ground fault interruptor
3. ON switch for GFCI (ON)
4. Test button (TEST)
5. Indicator
6. Supply cord (three-wire type, grounded)
7. Monitor unit ON/OFF switch

The GFCI interruptor must be tested for correct operation each time before beginning work.

Speed-change switch



1. Check that the motor is switched off.
2. Connect the plug to the mains supply.
3. Press the ON button. The lamp must light!
4. Press the TEST button. The lamp must extinguish!
5. Press the ON button again before beginning operation.

In case of a malfunction (test failed), the unit must be checked by an electrical specialist before work with the equipment continues!

Warning

This appliance must be grounded.

Recommended speeds for maximum coring performance

Speed (r.p.m.)	Wet (dia.)
3 (3900)	$1\frac{15}{32}'' - 1''$
2 (2400)	$\frac{3}{4}'' - 1\frac{1}{4}''$
1 (1200)	$1\frac{1}{4}'' - 3\frac{1}{2}''$

Important

Wet core bits are designed for a coring contact pressure of 250 N (50 lbs). Insufficient pressure can lead to polishing of the segments and reduced coring performance. Polished/blunt core bits can be resharpened e.g. using the Hilti sharpening plate.

Water regulation

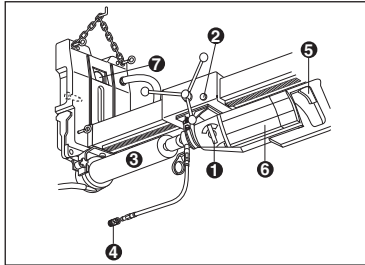


The water supply valve can be regulated using the index finger.

Tip

Water flow rate
 $1\frac{15}{32}'' - 1\frac{3}{4}'' \triangle \frac{1}{4}$ cal/min
 $2'' - 3\frac{1}{2}'' \triangle \frac{3}{4}$ cal/min

Operation



1. Select the correct drilling speed. (Change speed only when rotation has stopped.)
2. Guide the core bit into the water collector.
3. Open the water supply valve.
4. Switch on the motor.

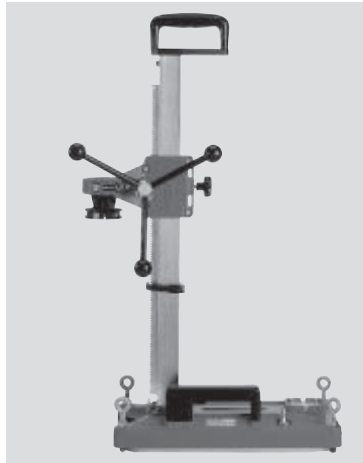
Pay attention to the overload indicator (7).

Tips

- If steel reinforcement is contacted, select lower coring speed and reduce water flow. (Obtain permission from site manager or engineer before cutting through steel reinforcement.)
- Inadequate water flow will cause the core bit to overheat, resulting in permanent damage.
- Reduce drilling feed pressure if the overload indicator lights up.
- Water flow rates
 $1\frac{1}{32}'' - 1\frac{3}{4}'' \triangle \frac{1}{4}$ cal/min
 $2'' - 3\frac{1}{2}'' \triangle \frac{3}{4}$ cal/min

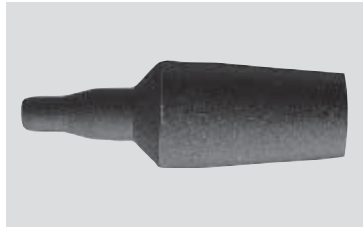
Maintenance

Drilling rig



A drilling rig for semi-stationary use with core bit diameters up to $3\frac{1}{2}''$.
– For use only with $M\frac{1}{2}''$ anchors or vacuum pump.
– Coring overhead is permissible only when using the water collector.

Adaptor



Wet adaptor for connecting the water extraction hose to a water extractor (hose diameter $\frac{3}{4}''$ and $\frac{1}{2}''$).

To avoid damage to the system and to ensure trouble-free operation, the following parts must be cleaned and oiled or greased after finishing work:
– Rods on water collector holder
– Chuck
– Thread on side handle

Keep the ventilation slots on the motor housing and side handle clean.

Keep the chuck clean – use Hilti spray.

In case of technical problems, please contact the Hilti customer service.

Repairs to the electrical parts of the DD 100MEC must be carried out by an electrical specialist.

Manufacturer's warranty – tools

Hilti warrants that the tool supplied is free of defects in material and workmanship. This warranty is valid so long as the tool is operated and handled correctly, cleaned and serviced properly and in accordance with the Hilti Operating Instructions, and the technical system is maintained. This means that only original Hilti consumables, components and spare parts may be used in the tool.

This warranty provides the free-of-charge repair or replacement of defective parts only over the entire lifespan of the tool. Parts requiring repair or replacement as a result of normal wear and tear are not covered by this warranty.

Additional claims are excluded, unless stringent national rules prohibit such exclusion. In particular, Hilti is not obligated for direct, indirect, incidental or consequential damages, losses or expenses in connection with, or by reason of, the use of, or inability to use the tool for any purpose. Implied warranties of merchantability or fitness for a particular purpose are specifically excluded.

For repair or replacement, send tool or related parts immediately upon discovery of the defect to the address of the local Hilti marketing organization provided.

This constitutes Hilti's entire obligation with regard to warranty and supersedes all prior or contemporaneous comments and oral or written agreements concerning warranties.