



# DUST CONTROL SOLUTIONS

We help maximise your silica dust protection



# SILICA DUST

**A dust filled workplace is  
a dangerous workplace**



## WHAT IT IS

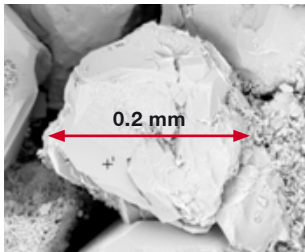
Crystalline Silica is a basic component of soil, sand, granite, and many other minerals. Quartz is the most common form of Crystalline Silica (Quartz means 'hard' in German)

59% of the earth's crust consists of Crystalline Silica, so it's going to show up in construction materials.

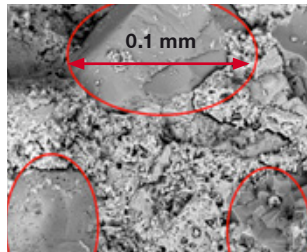
- Chemical formula  $\text{SiO}_2$
- Hardness (MoHS) 7 (concrete 5-7)
- Spec gravity 2.6 (concrete 2.4)
- Not readily soluble



## WHAT IT LOOKS LIKE

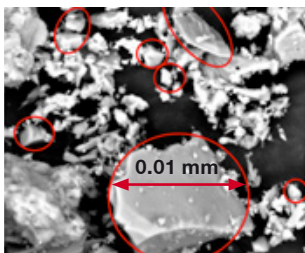


Silica particles in Sydney sandstone



Silica particles in Sydney sourced concrete

## HEALTH IMPACT



Silica particles recovered from a dust mask

- Can be breathed deep into the lung
- Because it is hard and insoluble, Macrophages on Alveoli cannot destroy it and lesions form on surface
- Can lead to Silicosis, rapidity of onset depending on exposure

# WHERE IS SILICA DUST FOUND?

Hilti Dust Removal Solutions

## SOURCES OF DUST

### Primary






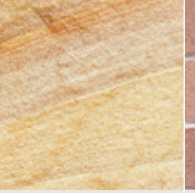
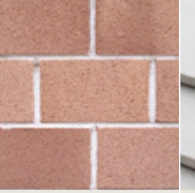


Dust that's generated

### Secondary

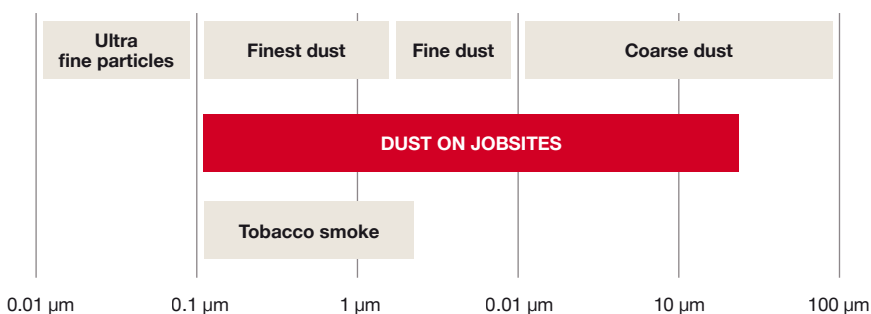


Dust that recirculates

## MATERIALS CONTAINING SILICA

Engineered stone	Fibre cement board	Concrete	Sandstone	Brick	Plasterboard	Natural Wood
						
> 93% crystalline silica	20 – 60% crystalline silica	5 – 40% crystalline silica	61 - 68% crystalline silica	50 - 60% crystalline silica	< 5% crystalline silica	<0.5% crystalline silica

## SIZE RANGE OF DUST



Particle size	Time to ground from 1 m height
50 µm	10 seconds
10 µm	5 minutes
1 µm (1/1000 mm)	7 hours
0.1 µm	12 days +

- From very small to very very very small...and then invisible!
- By way of comparison, a human hair measures between 7 and 180 µm.

The table indicates the time it takes for a particle to sink to the ground from a height of 1 metre in still air

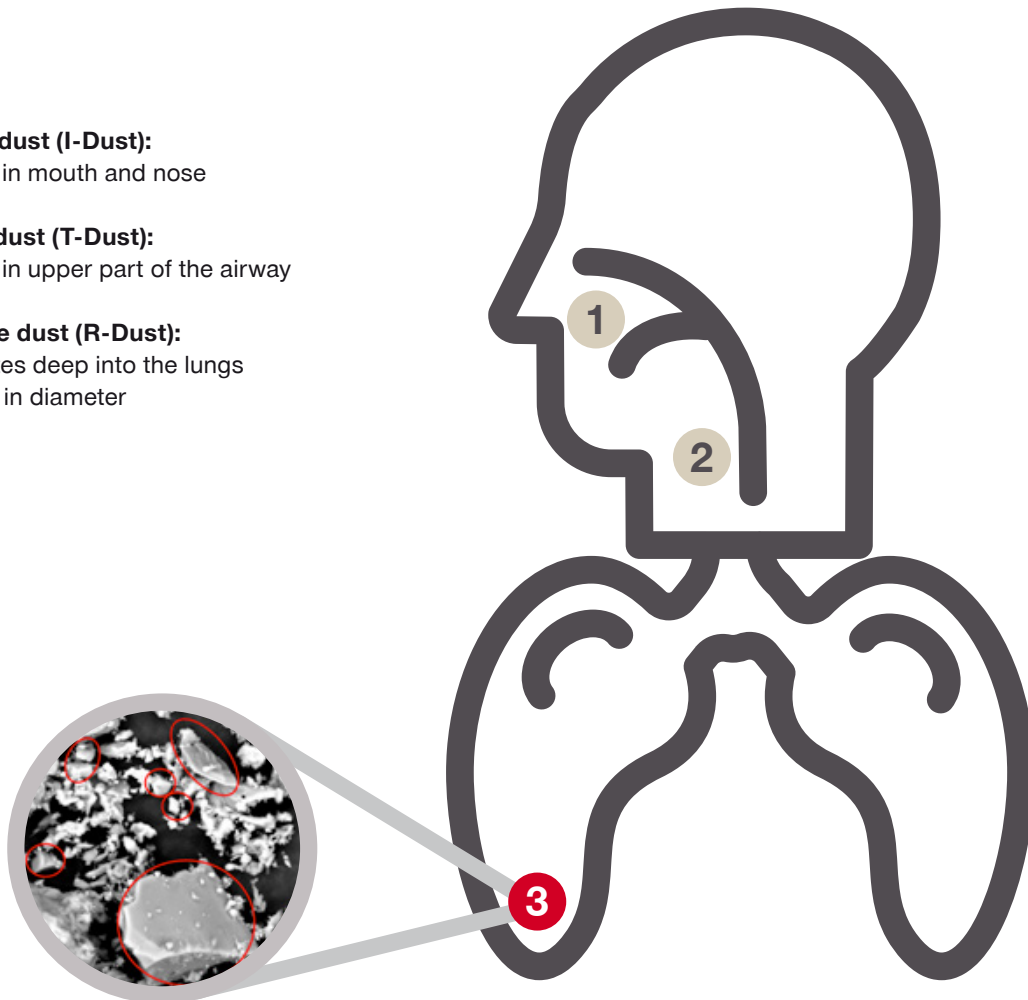
# WHAT ARE THE HEALTH RISKS?

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## 3 CLASSES OF DUST

- 1 Inhalable dust (I-Dust):**
  - trapped in mouth and nose
- 2 Thoracic dust (T-Dust):**
  - trapped in upper part of the airway
- 3 Respirable dust (R-Dust):**
  - penetrates deep into the lungs
  - < 10  $\mu\text{m}$  in diameter

## ...AND WHERE IT GOES



## SANITY CHECK

**Working Exposure Standard for respirable silica dust is  $0.1 \text{ mg/m}^3$ .**  
**Not much when you compare it to a \$2 coin.**

What does this mean?  
In a volume measuring  $1 \times 1 \times 1 \text{ m}$  only a **match head** of **respirable silica dust** in the air is **allowable** over an 8 hour shift.



# HOW CAN WE CONTROL SILICA DUST?

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## WE CAN USE A 'HIERARCHY' OF CONTROLS

### Using Work Methods to reduce dust (eg wet cutting or polishing, water sprays during earthworks)

- Alternative technology - core instead of drill
- Alternative technology – direct fasten instead of drill & anchor
- Alternative technology – cast in channels instead of drill & anchor



### Using Local Exhaust Ventilation, either fixed or on-tool

- Hollow drill bits attached to a vacuum cleaner
- Dust hoods attached to a vacuum cleaner for grinding, cutting, chasing
- Dust hoods attached to a vacuum cleaner for drilling and breaking



### Vacuum Clean-up rather than sweeping

- Use vacuum cleaners and accessories for cleaning and very importantly, collection bags for dust



### Not blowing dust with compressed air or air blowers

- Select proprietary drilling systems where you do not have to blast the hole clean with compressed air

### Respiratory Protective Equipment

- The last line of defence for residual dust in the environment



# USING ALTERNATIVE TECHNOLOGY

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## CAST IN USING A CHANNEL



Instead of post-installing anchors with the resulting dust emission from the hole, it is possible to cast-in an anchor point prior using a channel. T-bolts can be slotted into to create a fixing point

## CORE DRILLING



Holes for anchors or rebar can be cored instead of hammer drilled. Slurry can be collected with a water recycling unit, so slurry isn't spilled only to turn into dust when it dries. Penetrations can be cored instead of broken out with a combination of cutting and breaking, which also reduces dust emission.

## DIRECT FASTENING



In many cases, mechanical fasteners that require a hole to be drilled (and dust emitted) are simply over-designed for the loads they have to carry. Direct fastening tools can often yield a fixing point that is fit for purpose. It's quick to make the fastening point and it doesn't generate any dust.

# VACUUM CLEANERS

Keep your jobsite clean  
and dust controlled





## VACUUM CLEANER CLASSES

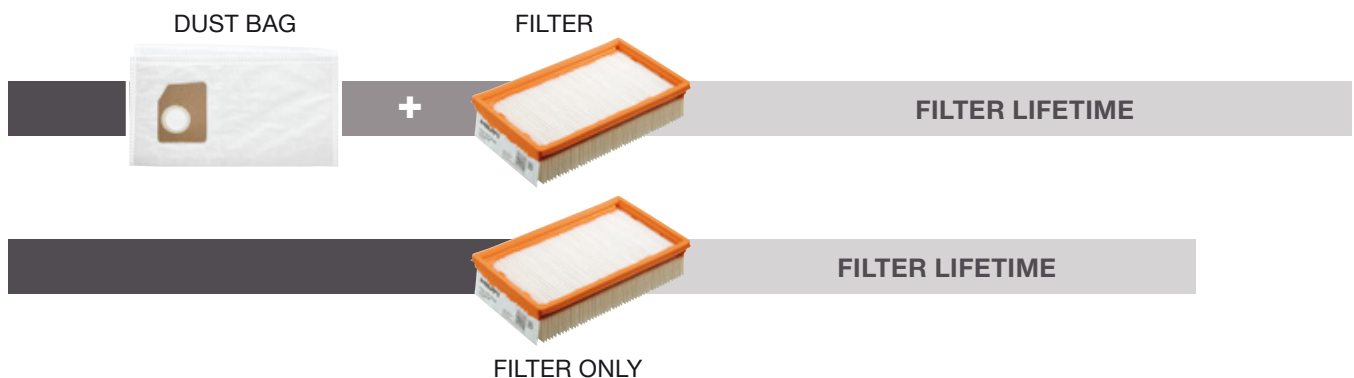
The dust classification and HEPA standard are not using the same parameters and are therefore difficult to compare directly

Class	L Class	M Class	H Class
<b>Dust concentration</b>	High concentrations of low hazard dusts	High concentrations of moderate hazard dusts	Low concentrations of high hazard dusts
<b>Examples of dust types</b>	Domestic dust, soft woods	concrete, brick dust, hard woods, board mater	highly carcinogenic dusts, asbestos, formaldehyde, mould, germs, bacteria
<b>Protection level</b>	99% of particles trapped Max. transmittance: ≤ 1.0% per m <sup>3</sup>	99,9% of particles trapped Max. transmittance: ≤ 0.1% per m <sup>3</sup>	99,995% of particles trapped Max. transmittance: ≤ 0.005% per m <sup>3</sup>
<b>Build-in Features</b>	N/A	<ul style="list-style-type: none"> <li>• Indicator (air velocity &lt; 20 m/s)</li> <li>• Safe change filter</li> <li>• Fitted with disposable collection means</li> </ul>	M dust class plus: <ul style="list-style-type: none"> <li>• Non-reusable essential filter</li> <li>• Essential filter only removable by the use of a tool</li> </ul>

HEPA means 'High efficiency particulate air'. There are several European and American standard grades available. Hilti vacuum cleaners are delivered a European standard that removes 99.95% of particles that have a size greater than 0.3 um.

## MAINTENANCE

- Do not use compressed air or water to clean a filter, neither bend it or bash it, as it destroys the filter's base material and allow all particles to pass thought it
- Change filters regularly to protect the motor – it will considerably increase the lifetime of the vacuum cleaner
- Using a fabric or paper dust filter bag increases the filter lifetime as it acts as a pre-filter



# THE HILTI RANGE OF VACUUM CLEANERS

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Compact and cordless



**VC 5-A22**

Cleaning and concrete slurry



**VC 40-U**

## L CLASS

**Dust concentration:** High concentrations of low hazard dusts

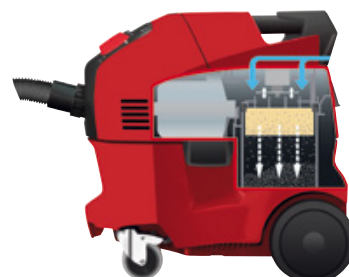
**Examples:** Domestic dust, soft woods

TECHNICAL DATA	VC 5-A22
Wet / Dry	Dry
Power	22 V battery
Air flow	35 l/s
Tank capacity	5 l
Water capacity	-
Weight	4.3 kg
Filter cleaning	Manual

Technical data	VC 40-U
Wet / Dry	80% Dry / 20% Wet
Power	1200 W
Air flow	61 l/s
Tank capacity	36 l
Water capacity	25 l
Weight	14.7 kg
Filter cleaning	Auto / function to switch off

## ABOUT OUR VACS

- Hilti AirBoost filter technology provides consistently high suction performance: Every 15 seconds, the air flow is reversed for milliseconds to remove the dust stacked in the filter. It is possible to stop this function.
- Full exploitation of tank capacity due to placement of filter and hose connection in the upper part of the machine
- Automatic on/off for improved working comfort when plugged directly on the vacuum.



## Cleaning and concrete slurry



**VC 40-UM**

## Super powered



**VC 60M-X**

### M CLASS

**Dust concentration:** High concentrations of moderate hazard dusts

**Examples:** Concrete, brick dust, hard woods, board materials

Technical data	VC 40-UM
Wet / Dry	80% Dry / 20% Wet
Power	1200 W
Air flow	61 l/s
Tank capacity	36 l
Water capacity	25 l
Weight	14.7 kg
Filter cleaning	Auto / function to switch off

Technical data	VC 60M-X
Wet / Dry	80% Dry / 20% Wet
Power	2400 W
Air flow	148 l/s
Tank capacity	65 l
Water capacity	48 l
Weight	24.5 kg
Filter cleaning	Auto / function to switch off

**Our vacs are highly mobile and jobsite suitable :**

- High resistance (big and robust wheels)
- Easy transport of tool boxes
- Optimised storage space (push bar and accessory)



# CUTTING, SLITTING & GRINDING

Designed for easy  
handling and high  
performance



# DUST CONTROL FOR LIGHT CUTTING

Hilti Dust Removal Solutions

## AG 125 – 5” GRINDERS



AG-125 19SE 1900 W grinder



AG 125-15DB 1500 W safety grinder



AG-125 13SE 1300 W safety grinder



AG 125-A22 cordless 22 V grinder



AG 125-A36 cordless 36 V grinder

### Electric powered angle grinders/cutters for the construction industry

- Design to for cutting mineral material up to 25 mm with diamond blades without use of water
- Ergonomically designed tool for universal use in cutting and grinding applications
- Hilti Smart Power Technology™ for constantly high cutting performance
- Depth gauge to minimise dust exposure while plunging-in
- Time-saving cutting and slitting (chasing) in widths up to 25 mm using two discs (with DC EX 125/5” accessories)



DC-EX 125/5 dust hood



## AG 230 – 9” GRINDER



AG 230-24D 2400 W grinder



DC-EX 230/9 dust hood

### Electric powered angle grinder/cutter for the construction industry

- Design to for cutting mineral material up to 60 mm with diamond blades without use of water
- Rugged optional dust removal hood and soft grips for virtually dustless operation and greater comfort
- Hilti Smart Power technology automatically adjusts power output to suit the material being cut – delivering consistently high cutting performance and protecting the motor from overload
- Adjustable side handle – for a secure, comfortable grip when working in any position



## DCH 300-X WET / DRY ELECTRIC CUTTER



### Safest electric cutter without compromise on productivity

- Water kit for wet usage offering +30% additional speed in concrete
- 120 mm cutting depth due to very slim Hilti gear box design with 305 mm blades
- Improved VC connection
- Very efficient dust collection thanks to inverse blade rotation
- Depth gauge to minimise dust exposure while plunging-in
- Sparks (hitting rebar) guided away from users body
- Wheels for straight cuts reduce jamming risk



## DSH 900-X GAS SAW



### Powerful and versatile demolition saw

- Carry blades up to 400 mm
- Best depth cut of power tools up to 150 mm
- Independence from electrical power supply
- Use with DSH-P to suppress dust when wet cutting

### Easy maintenance with:

- Unique auto choke design
- Self-tensioning belt
- Cyclone filter
- Provided self-maintenance kit (rope/ filter exchange)
- Safe tool thanks to integrated wheels, wear ribs + Trolley available



DSH-P

# DUST CONTROL FOR CUTTING CHANNELS

Hilti Dust Removal Solutions

## DC-SE 20 SLITTING TOOL



### The safest slitting tool for electrical jobs

- Very high slitting performance
- Universal or specific diamond discs
- Cutting depths up to 40 mm and groove widths up to 46 mm
- Built in dust collection system
- Ergonomic design to reduce tiring for right or left-handers
- Low vibration
- Discs covered on all sides
- Carriage guidance, even during first plunge cut
- Slits concrete, cement shapes, brick products, sand-lime brick, flint, hard stone etc.



## DCH 180-SL SLITTING TOOL



### Wide and depth cuts, in one-way for piping jobs

- High slitting performance
- Universal or specific diamond discs
- Cutting depths up to 60 mm and groove widths up to 60 mm
- Built in dust collection system which make the tool virtually dust-free
- Low vibration
- Slits concrete, cement shapes, brick products, sand-lime brick, flint, hard stone etc.
- Depth gauge for maximum accuracy



## AG 125 ANGLE GRINDER WITH SLITTING ADAPTER



### Dust controlled slitting with the Hilti AG 125 angle grinder

- Time-saving cutting and slitting (chasing) in widths up to 25 mm using two discs (with DC EX 125/5" accessories)



# DUST CONTROL FOR GRINDING

Hilti Dust Removal Solutions

## AG + DUST HOODS



AG-125 19SE 1900 W grinder



AG 125-15DB 1500 W safety grinder



AG-125 13SE 1300 W safety grinder

### Powerful angle grinders/cutters for the construction industry

- Ergonomically designed tool for universal use in cutting and grinding applications
- Hilti Smart Power Technology™ for constantly high cutting performance
- Depth gauge to minimize dust exposure while plunging-in



DC-EX 125 dust hood



## DGH 130 CONCRETE WALL DIAMOND GRINDER



### Maximum productivity and best finishes quality totally dust-free

- Natural, ergonomic head grip
- Effortless operation due to high suction effect
- Fixed and built-in dust hood with vacuum ready connection
- Easy dust hood height adjustment and edge access for perfect dust extraction
- +50% productivity VS angle grinder
- Depth gauge for maximum accuracy



## DG 150 CONCRETE FLOOR DIAMOND GRINDER



### Top performance, maximum cost efficiency

- Material removal and surface preparation in one operation
- Productivity X2 VS angle grinder
- Virtually dustless operation thanks to advanced dust hood design with optimised air flow





# BREAKING, DRILLING & CORING

The right tool for  
every situation



## DRS-B DUST REMOVAL SYSTEM



### A universal dust removal system that suits most Hilti breakers

- The TE DRS-B dust removal system is compatible with all Hilti breakers (Y, S), pointed and flat chisels and bushing tools with all Hilti vacuum cleaners
- The first professional, extremely effective dust removal system created for indoor chiselling work
- Removes up to 95% of critical, fine dust, which gives to best possible protection to the user
- Reduces noise and vibrations



- The patented 2-chamber air-flow system removes virtually all the fine dust particles
- An internal ring in the two vacuum heads keeps the system from being blocked by preventing larger pieces from entering the vacuum head

## DRS 3000 (FOR HILTI TE 3000)






























- Easy installation and handy chisel change mechanism
- Accessories can be purchased separately



# DUST CONTROL FOR DRILLING

Hilti Dust Removal Solutions

	TE-2A	TE-4A	TE-6A	TE-7C	TE-30/A	TE-50/60/A/70	
	 SDS plus	 SDS plus	 SDS plus	 SDS plus	 SDS plus	 SDS max	
On-board attachments w/o external vacuum		DRS 4A 	DRS 6A 	DRS M 			
On-board attachments with external vacuum	DRS D  	DRS D  	DRS C  	DRS D  	DRS C  	DRS D  	DRS Y  
Hollow drill bits		TE CD  				TE YD  	

On-board attachments w/o external vacuum



### Features

- Virtually dustless drilling in critical environments, e.g. occupied rooms, hospitals, laboratories, production lines, etc.
- Robust housing to help protect the filter from damage
- Replaceable filter in the dust container

On-board attachments with external vacuum



### Features

- Unique Hilti system for virtually dust-free drilling, chiselling and coring with combihammers
- Removes up to 99% of fine dust for a clean workplace

Hollow drill bits



### Features

- Drilling and hole cleaning in one step
- Optimum hole cleaning for consistent anchor setting
- Robustness, lifetime and drilling speed equal to TE-YX drill bits
- Minimised snagging or sticking when drilling into rebar

# DUST CONTROL FOR CORDLESS

Hilti Dust Removal Solutions

## TE 4-A22 CORDLESS ROTARY HAMMER



- Virtually dustless drilling with the DRS-4-A dust removal system
- Ergonomically designed D-grip for comfortable use over long periods
- Robustly built and superbly engineered for cordless optimisation



## TE 6-A22 AND TE 6-A36 CORDLESS ROTARY HAMMERS



- Virtually dustless drilling when used with the DRS-6-A dust removal system
- Extremely powerful rotary hammer, designed for serial anchor hole drilling in concrete
- Active Vibration Reduction (AVR) makes the tool less tiring to use – helping to increase daily productivity
- Depth gauge for maximum accuracy



# COMPLETE SLURRY MANAGEMENT

Hilti Dust Removal Solutions

## DD-WMS-100 WATER MANAGEMENT SYSTEM



DD-WMS slurry bags

**A single unit for the supply of cooling water as well as the collection and filtration of wastewater from diamond drilling systems**

- Keeps jobsites clean – all slurry is collected with Hilti water collection systems
- Provides up to one full day of water autonomy for wet diamond coring applications
- Maintenance-free
- Easy disposal process – all the slurry is collected in the filter bag
- One filter bag recycles wastewater up to 7 times; equal to 100 litres of water with only initial 14 l
- Suitable for all wet diamond coring applications
- Works with all Hilti diamond coring tools
- Operates in 3 modes – recycling, vacuum cleaning and water supply
- 5 sizes of rings available
- Compatible with DD-WMK sets to core horizontally slurry free in walls



Various ring sizes and types

## FITS ALL CORING TOOLS FOR HOLES UP TO 450 MM



### DD 250 and DD 350-CA

- Works with DD 250 and DD 350-CA, for heavy opening applications from 18 mm to 450 mm



### DD 30-W

- Works with DD 30-W, for anchor holes applications from Ø8 to Ø35



### DD 150-U

- Works with DD 150-U, for light penetrations applications from Ø12 to Ø162

# SAWING

Powerful cutting tools for every application



# DUST CONTROL FOR SAWING

Hilti Dust Removal Solutions

## SR CORDLESS RECIPROCATING SAWS



SR 30-A36



SR 6-A22

### The safest recip saws with dust control

- High-performance saw optimised for metal and wood demolition, lightweight tool with long service life
- Keyless clamp for fast, easy and safe blade changes
- Innovative dust removal accessory available
- Tool ergonomics optimised for comfortable, two-handed operation



## SCW CORDLESS CIRCULAR SAWS



### SCW 22-A and SC70W-A22

- Lightweight and ergonomic tools
- Both include dust ports which allow debris to be extracted and collected
- Fast blade stop for safe operation



## SJ CORDLESS ORBITAL JIGSAWS



### SJD 6-A22 and SJT 6-A22

- Vibration reduction and fast blade stop
- Best in class ergonomics for ease of use
- Delivers power similar to that of corded tools
- Both include innovative dust ports to extract and collect debris



# THE WAY FORWARD

Where we go  
from here







## SafeWork NSW

### SafeWork NSW corporate website page about crystalline silica



NSW offer **\$500 rebates to small businesses** (less than 50 people) who buy and install equipment that makes their workplace safer.

- Included Items:**
- installation of safe ventilation, exhaust or extraction systems
  - dust suppression tools and attachments



### WorkSafe Victoria corporate website page about crystalline silica



### WorkCover QLD corporate website page about crystalline silica



### Breath Freely Australia website with information on how to avoid Occupational Lung Disease



# WE'RE HERE TO HELP

How to get in touch



## Contacting Hilti



### CUSTOMER SERVICE

Customer Service representatives are available Monday to Friday from 7:30am to 5:00pm. Our professionally trained team can help you with product advice, orders and deliveries, as well as organising on-site product demonstrations.

**Call: 131 292 Fax: 1300 135 042 Email: [serviceaustralia@hilti.com](mailto:serviceaustralia@hilti.com)**



### HILTI STORES

Our national network of Hilti Stores are much more than display or sales points for Hilti products. At a Hilti Store, you can receive professional advice on products and applications. You can also have hands-on demonstrations of Hilti products. Find a location near you.

**Visit: [www.hilti.com.au/stores](http://www.hilti.com.au/stores)**



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7 days a week, 24 hours a day, our website is available at your own convenience during and after office hours, with quick access to product information and pricing. Register to order online, review your order history, see your tool list and more. Get the Hilti Mobile app for Android or iOS.

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Our professionally trained Account Managers are readily available nationwide, to visit your place of work, where and when you need. They can help evaluate your job requirements and suggest ways to increase your productivity and profitability.

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35 Parramatta Road  
Lidcombe NSW 2141  
Mon – Fri 7.00am – 5.00pm

**Sydney – Annandale**  
245a Parramatta Road  
Annandale NSW 2038  
Mon – Fri 7.00am – 4.00pm

**Sydney – Seven Hills** **NEW**  
1/1 Tucks Road  
Seven Hills NSW 2147  
Mon – Fri 7.00am – 4.00pm

**Newcastle**  
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Lambton NSW 2299  
Mon – Fri 7.00am – 4.00pm

**Melbourne**  
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South Melbourne VIC 3205  
Mon – Fri 7.00am – 5.00pm

**Brisbane**  
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Hamilton QLD 4007  
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**Gold Coast**  
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Nerang QLD 4211  
Mon – Fri 7.30am – 4.30pm

**Townsville**  
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Currajong QLD 4812  
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**Cairns**  
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**Adelaide** **NEW**  
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