

Dust Reduction Systems



International Concrete Repair institute
Silica Safety Symposium

Philadelphia PA, November 2016



General Overview

- OSHA released new regulations for silica dust exposure which must be implemented by June 23, 2017.
- These regulations may have an impact on the way your employees perform cutting, grinding, drilling, coring and breaking tasks.
- Under the new regulations, there are two main changes from existing regulations:
 - (1) The Permissible Exposure Limit for respirable crystalline silica (silica dust) is reduced by 80 percent.
 - (2) Various specified exposure control methods have been added for several common construction activities. When these alternative methods are followed, exposure will be presumed to be acceptable. If the alternative methods are not followed, the contractor must,

<https://youtu.be/oc8MvavhCDM>



Why Dust Control ?

<https://youtu.be/t9U6vL0SnkM>



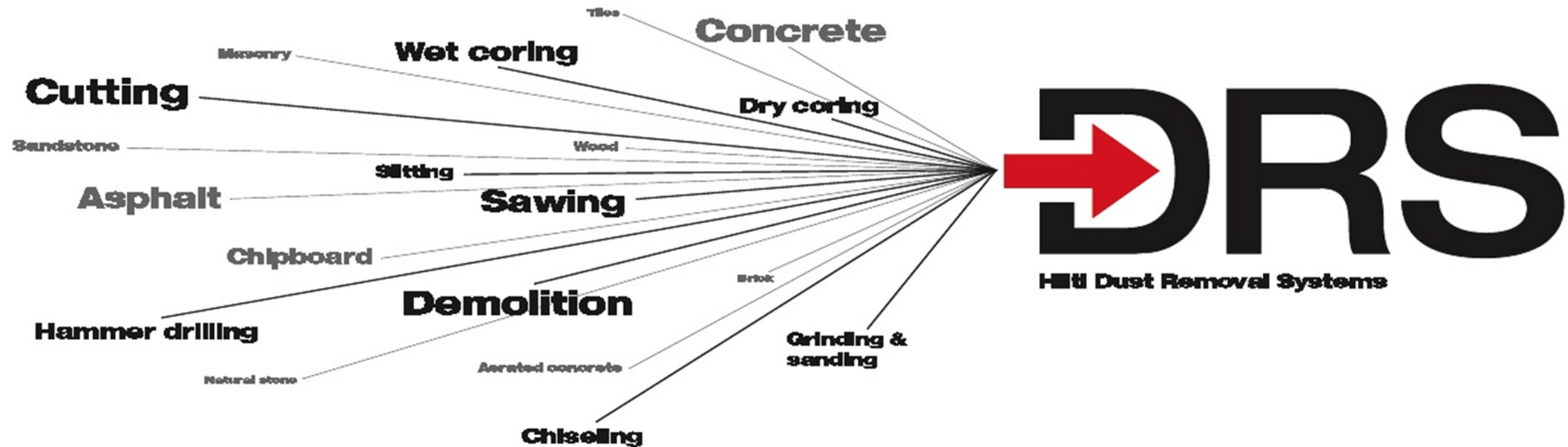


Hilti's power tools have been developed to be fitted with our dust control systems for years

- We have been researching and developing the most effective dust control solutions in our dust competency center in Kaufering, Germany for many years
- Many of the Hilti tools you already own are either compliant as they are or can be fitted with the appropriate dust hood / shroud and vacuum to comply with new OSHA table 1 regulations



We offer dust containment solutions for most concrete construction applications



Customers now have options

Drilling



Self-contained SDS+ dust removal

- TE 4-A
- TE 7
- TE 6-A

*pending table 1



TE DRS-Y: SDS-max drilling

- TE 50
- TE 60
- TE 70
- TE 80

TE DRS-S: SDS+ drilling

- TE 2
- TE 7
- TE 30



Hollow drill bit system



VC 20
(5 gal)



VC 40-U & UE
(10 gal)

Cutting/grinding



DG 150

- Concrete grinding
- *pending table 1



Dust hoods for small grinders

- Concrete cutting
- Concrete grinding
- Tuck pointing



DCH 230/300

- Concrete cutting up to 4.75" depth
- *pending table 1



TE DRS-Y: SDS-max breaking

- TE 50
- TE 60
- TE 70
- TE 80
- TE 500
- TE 700



TE DRS-S:

- TE 800
- TE 1000
- TE 1500

Breaking



DD 110: dry coring

- Hilti LM bits



BS/BT extraction head

- Competitor core bit connections (5/8" or 1-1/4")

Dry Coring

*source: www.us.hilti.com



The new (Table 1) control methods which align with products and applications:



- **Stand mounted diamond coring, and cutting with hand held power saws**
 - When used “wet” (tools equipped with integrated water delivery systems which supply water to the cutting / coring surface), no additional dust control systems are required when the tool is operated and maintained in accordance with the manufacturer’s instructions to minimize dust emissions. No operator respiratory protection is required, except APF 10 respiratory protection is required if saw cutting either outdoor for > 4 hours, or cutting indoors.



- **Hand-held grinding (other than tuck pointing)**
 - Customer has a choice to either; 1) Use grinder equipped with commercially available shroud and dust collection system. The dust collector must provide 25 cfm or greater of airflow per inch of wheel diameter and have a filter with 99% or greater efficiency, and either a cyclonic pre-separator or filter-cleaning mechanism; or 2) use a grinder with an integrated water delivery system that continuously feeds water to the grinding surface. If grinding indoors for >4 hour shift, the operator must wear APF 10 respiratory protection.



The new (Table 1) control methods which align with products and applications:

- **Hand-held grinding for mortar removal (tuck-pointing)**

- Customer to use grinder equipped with commercially available shroud and dust collection system. The dust collector must provide 25 cfm or greater of airflow per inch of wheel diameter and have a filter with 99% or greater efficiency, and either a cyclonic pre-separator or filter-cleaning mechanism AND the operator must wear respiratory protection

≤4 hours / shift = APF 10

>4 hours / shift = APF 25

- **Breaking / chipping**

- Customer to use either: 1) water delivery system which supplies a continuous stream of spray of water at the point of impact; or 2) use a tool equipped with a commercially available shroud and dust collection system, and operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. Dust collector must provide air flow recommended by the tool manufacturer, or greater, and have a filter with 99% or greater efficiency and a filter-cleaning mechanism. The operator must wear an APF 10 respirator, unless working outdoors, for a ≤4 hour shift, in which case no respiratory protection is required.



















The new (Table 1) control methods which align with products and applications:



- **Drilling**
 - Customer to use a tool equipped with a commercially available shroud and dust collection system and operate / maintain the tool in accordance with manufacturer's instructions to minimize dust emissions. Dust collector must provide air flow recommended by the tool manufacturer, or greater, and have a filter with 99% or greater efficiency and a filter-cleaning mechanism.
- **For hole cleaning,** a HEPA-filtered vacuum is specified.
 - If the above practices are followed, no additional operator respiratory protection is required.



Solutions meeting table 1, option 2 standards

Tool	DRS item number	Vacuum item number
 Gas saws	 Use water	NA
 Core drilling	 Use water	NA
 SDS + drilling	 TE DRS-S (340602) / Hollow drill bit system	 VC 20 (222428) or VC 40 (218369)
 SDS-max drilling / chiseling	 TE DRS-Y (2055718) / Hollow drill bit system	 VC 20 (222428) or VC 40 (218369)
 Demolition (breakers)	 TE DRS-B (365944)	 VC 20 (222428) or VC 40 (218369)
 Tuck pointing / concrete cutting + grinding	4-1/2" cutting hood (2101312) 4-1/2" grinding hood (2102983) 5" cutting hood (267720) 5" grinding hood (267719) 5" tuck pointing hood (284978) 	 VC 20 (222428) or VC 40 (218369)

*source: www.us.hilti.com



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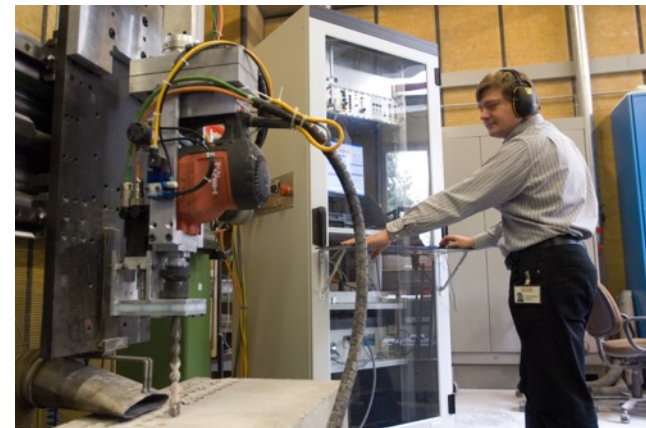
- Hosted by Hilti in Plano Texas
- Attendees
 - 40+ representatives from large concrete, GC, and CM's across North America
 - 14 regulatory, industry, engineering and education disciplines
 - OSHA
 - CPWR
 - NIOSH
 - Cohen Group
 - UC San Francisco
 - George Wash. Univ
- Purpose
 - Clarification, and understanding of regulatory changes, their impact on the construction industry, and implementation processes.
- Out come:
 - White paper



We are committed to providing health and safety focus solutions for construction professionals



- Education and training on current solutions within Hilti's scope in our partners offices and jobsites
- R & D and expansion of portfolio of innovative solutions meeting new OSHA requirements
- Exploration of enhanced education and other supporting activities to further assist our business partners
- Additional source for helpful information



Q & A



Thank You

