

Hilti Hollow Drill Bit

Dust-free concrete hole drilling eliminates the tedious task of brushing and blowing to clean out the hole. Conventional hammer drill bits generate a great deal of dust, forcing workers to blow out the hole with compressed air, clean around the hole with a brush and blow again. Hilti's TE-CD and TE-YD hollow drill bits solve these problems by combining a hollow drill bit with a vacuum that cleans the holes as you drill.

Perforations in the side of the Hilti TE-CD and TE-YD hollow drill bits pull concrete dust out of the hole when they are hooked up to a Hilti VC 20/40 vacuum system.

Because the holes are cleaned by the hollow drill bit, no hole cleaning is required after drilling. This improves the reliability of the adhesive anchor system with no reduction in performance vs. conventionally drilled holes, saving time and mis-installation of anchors.

The idea for the Hilti hollow drill bit emerged from a combination of market research and brainstorming, says Trey Sklar, business unit manager for power tools and accessories. Hilti sells direct with a crew of more than 1,000 sales people who are in regular contact with customers, and this helped shape the discussion, Sklar says.

Hilti kicked off the process with what it calls a "technology project," to research and develop prototypes. The initial experiments presented challenges, Sklar says. "You are linking a drill bit with a Combi-hammer, a vacuum cleaner and a chemical anchor, and we had to make sure all that worked together."

The first round of prototype bits suffered from breakage. The solution was to vary the thickness of the rim on each different diameter bit – thinner for the small bits, thicker for the large sizes. The connection point to the vacuum had to be engineered to be able to withstand jobsite abuse, and the different dust flow characteristics of each different diameter bit and the number of dust ports in different sizes had to be finessed as well.

After the technical hurdles were overcome, Hilti went to work on the marketing/communication challenge. "What we found out was that they had to see it to believe it. It was kind of hard to explain on paper," Sklar says. A round of Hilti customer confidence tests put the product in the hands of contractors and validated what Hilti had found in its own durability tests.

After four years, with all systems go, Hilti established its manufacturing quality control protocols and unveiled the new system at the World of Concrete 2013. Hilti's hollow drill bits won a 2014 Innovations award from Equipment World magazine.

Hilti did not design the system specifically for dust-free applications, but it does help meet current and proposed OSHA standards in the United States and WorkSafe standards in Canada, Sklar says. An additional benefit is the speed with which workers can complete holes. "That wasn't necessarily an objective, but it is a faster way to drill holes in concrete – roughly half the time compared to the brush-blow-brush process," Sklar says.

Manufacturers world-wide have been on a "process improvement" kick for a couple decades now, continually looking for ways to perform repetitive tasks better, faster and safer. With its hollow drill bit and vacuum system, Hilti is applying this same kind of thinking in an area where it is desperately needed – construction jobsites and the work done by tradespeople in the field. It's one small product from Hilti, but a giant leap forward in convenience and efficiency for its customers.



Hilte TE-YD Hammer drill bit



Hilte TE-CD Hammer drill bit

