

Hiltinnovation Saudi Arabia

Firestop Sealant

Issue 4, 2014



Power and safety now go hand in hand, Hilti combihammers.

Hilti. Outperform. Outlast.



Laser Range Meters

Hilti TE 70-ATC AVR

Applications

- Hammer drilling, 22 to 150 mm dia.
- Drilling holes for heavy-duty anchors, 22 to 40 mm dia.
- Penetrations up to 80 mm dia.
- Socket cutting up to 150 mm dia.
- Breaching and demolition with pointed and flat chisels
- Working with wide-flat, hollow, mortar or channel chisels and bushing tools
- Drilling with high torque in wood and steel

Power and safety now go hand in hand.

Combinammer know-how at its best.

<u>Advantages</u>

- 360 r.p.m. for extra drilling performance (std. in this class: approx. 280 r.p.m.)
- Optimized mechanical clutch for maximum torque transfer
- Less tiring to use as less contact pressure is required
- Center of gravity close to the grip for optimum balance
- Glass-fiber reinforced housing parts for ruggedness and long life

As the undisputed leader of the 7-kilo combinammer class, the TE 70 with ATC combined with a perfectly matched range of Hilti drill bits and chisels takes performance and efficiency to a new level. With its extra-powerful 1600-watt motor and effective hammering impact energy of 11 joules, extremely rugged design and unique safety features, the new Hilti TE 70 with ATC is really in a class of its own.

Highlights

 ATC (Active Torque Control) – rotation is stopped in a fraction of a second by an electronic cut-out in the event of the drill bit sticking





Plenty of power for drilling through-holes efficiently with breach bits up to 80 mm dia.



High impact power and good balance make the TE 70 a first-class tool for chiseling work.



360 r.p.m. for fast socket cutting with TE-Y BK core bits up to 150 mm dia.



Active Vibration Reduction (AVR) up to 2/3 less vibration.

Special counterweights - called "mass dampers" - counteract a large part of the high-frequency oscillations that are produced along the combihammer and ensure the best possible vibration absorption. Suspension systems on some models also decouple the handle from the body in order to stabilize the tool in the user's hands. This provides effective protection against the consequences of long-term exposure to vibration. Fatigue-free working increases daily productivity and results in longer permissible operation times.



Dust Removal System TE DRS-B

Dust Removal System (DRS) connected to a vacuum cleaner absorbs the fine dust which is created especially during indoor breaking applications (up to 95-97% reduction of fine dust).



Performance data

Maximum rated input power	1800 W
Dust removal module	TE DRS-Y (optional)
Rotation speed gear 1 under no load	360 rpm
Single impact energy	11.5 J
Weight as per EPTA procedure 01/2003	9.5 / 8.3 kg
Hammering speed under load	2760 impacts/minute
Working mode	Hammer drilling, drilling only, chiseling, chisel setting
Chiseling intensity	No chiseling, corrective chiseling in masonry/brick/concrete, penetrations
Service indicator	Yes
Triaxial vibration, drilling	10.0 m/s ²
We reserve the right to make technical changes	

Hilti tools + Hilti accessories.

Hilti tools, drill bits and chisels are developed together, tested together and perfectly matched to each other to ensure that you benefit in full from the Hilti Power Effect - superior system performance that adds up to much more than just the sum of its components.





Saudi Bin Laden is the biggest contractor in Saudi Arabia. Among their numerous projects in KSA, one of the most important is the expansion of the Haram in Madinah. This gigantic job site will require top products and services from all suppliers to finish at the expected quality level from the Saudi government.

Islam's two holy mosques are experimenting the largest ever expansion in history. After the works of the Grand Mosque in Makkah now it's Madinah's turn. The central Haram area will be expanded threefold. Once the three-phase expansion is completed, the mosque will have a total area of 1.1 million square meters with the capacity to accommodate an additional 1.6 million worshippers. The project also calls for a massive redevelopment of the surrounding neighborhoods.

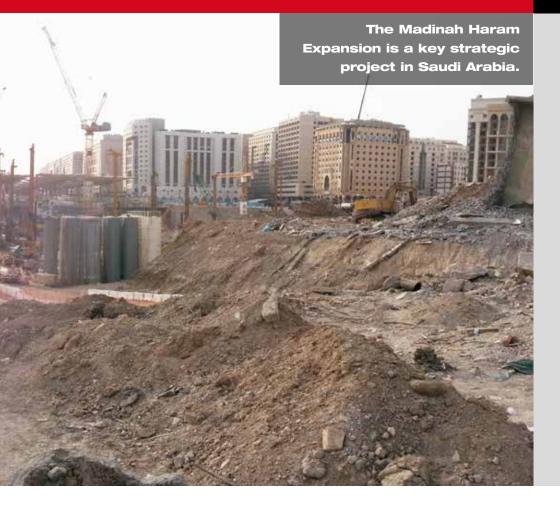
In the actual starting phase Saudi Bin Laden (SBG), which is the main contractor, is fully occupied with the foundations erection. In this process the above 50 cm from the reinforced concrete pillars should be removed leaving the rebar in order to connect them in the future with further pillars. This work must be done manually by workers with handheld demolition tools. This is a slow and tiring process, which SBG needed to shorten as much as possible and also limiting the cost of tools, repairs and consumables spending. In total 16,000 piles must be demolished by SBG, built with hard concrete C60 and with 40 mm diameter rebar.

SBG decided to test the different tools from different suppliers to be able to choose the right system based on facts and figures. First there was a contest between electric breakers: Hilti and other two brands. The result was clear. Hilti heavy breaker TE 3000 demolished 1 pile in 5 hours, the "red" competitor took two days, and the "orange" brand had to leave before finishing.

The second contest was Hilti versus an air compressor breaker. An electric demolition system is clearly more convenient: TE 3000 is easier and faster to transport and set-up compared to the air compressor, the air compressor will cause a crack on the pile, it's more dangerous to use the compressor with fuel on such a rush project full of trucks, 20 days rent of air compressor is equivalent to own a TE 3000.

The positive result of the tests, the long and successful history of common work

Madinah Haram Expansion



Testimonial.



Eng. Ahmed Abdulhaleem is **Project Manager in** the project Madinah Haram Expansion in

the company SBG-ABCD.

What were your company's needs for the application?

We were concerned about finishing the work on time with quality tools, keeping the cost under control.

Why did you choose the Hilti solution?

Because Hilti offered us the best solution for this application, as it has quality and heavy equipment that meets our needs.

Are you satisfied with Hilti's contribution?

Of course, Hilti was the best for this application.

in previous projects, the quality reputation in tools and services and the local sales structure in Madinah made SBG choose Hilti as an important supplier for demolition tools to cope with the pile application. SBG ordered till today 130 Hilti breakers plus the necessary chisels.

Hilti's structure in Madinah includes one Hilti Center, two account managers and one Key Project Manager exclusively for the Haram project. This assures a good level of service locally. Hilti's salesmen and field engineers were regularly present in the project to support SBG with technical advice, on site operator trainings and solving all issues that can arise. SBG is especially satisfied with the Hilti 2 years no cost warranty and the quick and reliable repair service.

Due to the valuable services offered by Hilti Saudi Arabia and the excellent time-saving solutions the customer had significant productivity gains in the project.



Hilti TE 3000 competing with an air compressor breaker. The electric system is clearly more convenient.



Breaking with the Hilti TE 3000 is quick and less tiring for the labor thanks to the very low vibrations and its impressive hammering power.

Laser range meters

Applications

- Measuring distances up to 200 m with laser precision even under the toughest outdoor conditions
- · Direct distance measurements and area calculations
- · Measuring quickly and safely in places where access is difficult

Advantages

- Only one person required for most measuring tasks, even in bright sunlight
- · Very compact, ergonomically designed and extremely robustly built - a perfect jobsite fit
- Safe and easy measurements with the help of a measuring extension in inaccessible areas
- · Automatic spike detection to avoid mistakes
- Unique optical sight for outdoor targeting (PD-E)

Highlights

• Due to the strength of the "Pulse Power" laser light, more concentrated light is transmitted in distinctive intervals towards the target.

PULSE III POWER

Much more than just measuring. Indoors and out.





Check correct height of decking/ formwork.



Positioning drywall quickly and accurately.



Measuring lengths, heights and widths for different construction applications.

Through floors and walls.

Reliable through-holes thanks to magnetic field detection.

Ruggedly-built positioning tool that locates the drill bit exit point or starting point before drilling through concrete or masonry.



Applications

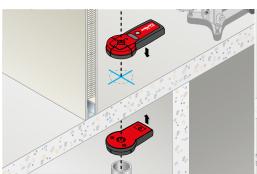
- · Finding the drill bit exit point or transferring the starting point before drilling through-holes in floors or walls with diamond coring equipment or rotary hammer drills on concrete or masonry
- · Wall thickness measurement for easy selection of the required drill or core bit length and drilling angle

Advantages

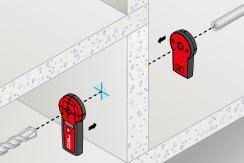
- · Allows drilling to be carried out quickly and efficiently
- No need for time-consuming procedures such as drilling pilot holes, measuring out manually or "trial and error"
- · Overhead drilling becomes unnecessary
- Positions can be transposed through floors and walls
- · Direction arrows for easy, user-friendly operation

Highlights

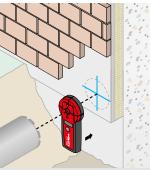
- Employs the magnetic field detection principle to bring the receiver into alignment with the transmitter
- The unique slope adapter allows the drill bit exit point or starting point to be determined for a given angle or, alternatively, the required drilling angle to be determined for a given exit point and starting point

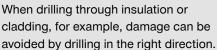


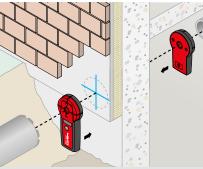
Allows free choice of drilling direction, for example when drilling through floors or before tricky coring operations.



Drilling positions can be marked even where floor levels differ or dividing walls are not in line.











The construction of a sophisticated manufacturing plant often challenges standard market solutions. Consolidated Contractors Company (CCC) faced this situation in the Sadara mega project in Jubail, in the raised floor application.

Established in October 2011, Sadara Chemical Company is a joint venture developed by the Saudi Arabian Oil Company (Saudi Aramco) and The Dow Chemical Company (Dow). It is an unprecedented undertaking – the largest chemical complex ever built in the world in a single phase, with 26 integrated world-scale manufacturing plants, over 3 million metric tons of capacity per year, and a total investment of about US\$20 billion.

CCC was working in the build-up of a 3-floor building in a Hydrogen Peroxide Plant in Sadara in Jubail. In its scope was the installation of the IFS (integrated Floor Systems) for the Low Voltage, Medium Voltage and Battery & Technical rooms.

The standard system was not suitable in this situation. They needed a height of the substructure of 1.27m and from the finished floor level of 1.5m. The width of the cable trays was 750mm and the heavy weight of the cabinets ranging from 0.5 tons to 1.3 tons. So they needed a tailor-made solution.

The welding option was not possible due to safety reasons. Prefabricated supports transportation and installation in the site was quite difficult, because this job had to be coordinated between civil and electrical departments, which would have affected the work progress. End of the day if any re-works were needed they would have to take the supports back to the factory. This lack of flexibility has serious implications in terms of construction time and cost.

Sadara **Chemical Complex**



Testimonial.



Mr. BASIL AKKELAH is Electrical & Instrumentation Manager in HPP-SADARA - AL-JUBAIL Consolidated Contractor Company.

What were your company's needs for the application?

The floor system shall be provided in the equipment environment where equipment is installed elevated above the building floor. The equipment

will be installed on a raised floor system with power, control, telecommunications and alarm cabling routed under the floor system. Interconnecting cable shall enter equipment frames from the base area rather than from overhead facilities as in traditional central office arrangement. The equipment floor system shall be fully modular and compatible with conventional access floor systems. The equipment floor system and open space access floor system shall be installed concurrently for common alignment and levelling.

Why did you choose the Hilti solution?

Parts simply click together during initial assembly by means of pushbutton fasteners, adding to efficiency and productivity. Slideable connector nuts ease the installation of any component. Changes and on-site add-ons remain possible at any time, with very little planning effort. One system integrates support for cabinets, floor tiles and cable trays. A wider span between posts provides additional space for cable tray routing. Posts can be fastened on concrete and steel. The free-standing, high stability floor substructure, allows the panels to be removed without the risk of the floor shifting. Hilti's High Presentation ability performance, Technical knowledge and Support, Services after sale from the sales team were making us confident of the system success.

Are you satisfied with Hilti's contribution?

Really: one system does it all, efficient installation of raised floor systems, and overall cost competitive solution.

Hilti's Key Project Manager Mr. Rasheem Kutty approached CCC advising Hilti's MC installation system. A demo was done in the site with the MC demo kit to show the value of our system.

Hilti delivered not only the installation material, but also the full set of tools and consumables for the set-up: MC, MQ and MI installation material, HAS-F mechanical anchors, HY-70 chemical anchors with the anchor rods HIT-V, TE 1 and TE 7 rotary hammers with drill bits, the cordless circular saw SCM 22A and the cordless impact wrench SIW 22-A with the ST-B torque bar.

CCC was highly satisfied and will propose this system to their CPD department so they can use it globally as a standard.



Tile fixing is easy and fast.

The structure is fixed on the walls with Hilti's HSA-F hot-dip galvanized stud anchors.







Hot Stuff.

Accessories by Hilti for higher performance.

Many dishes need a touch of a chili to bring out their full flavour. The same applies to your tools in the workshop and on the jobsite - only with the right Hilti accessories do they reach their full potential.

Drilling in concrete





TE-C and TE-Y hammer drill bits

With cold-formed double helical flutes and high-quality carbide cutting edge for long life and top performance in unreinforced materials.





TE-CX and TE-YX hammer drill bits

Solid carbide head with four cutting edges in innovative X-geometry design for high performance. No jamming in the event of drilling into rebar.

Chiseling in concrete





Featuring inductive hardening for lasting chiseling performance.



TE-CP, TE-YP, TE-SP and HEX 28 Polygon chisels

The self-sharpening Hilti Polygon design for constant high performance. No resharpening costs, longer life, higher breaking

Working with metals





AC-D UP cutting and AG-D UP arinding discs High quality discs for cutting and grinding metals of all kinds including stainless steel.



W-CSR reciprocating saw blades

A wide range of reciprocating saw blades for wood/plastics, metal/pipes, blades for universal use and special purposes.



Circular saw blades developed especially for cold cutting up to 20 mm thick steel plates or different aluminium materials.

Working with wood





nail-embedded wood, also deep drilling.



W-CSR-W reciprocating saw blades SCB W circular saw blades W-CSJ W jig saw blades Universal and clean wood cutting, also with nail content.

Diamond Coring in reinforced concrete and other materials





Core bits Designed for long lasting and high performance. Laser welded segments and patented quick connection.



Change modules

Easy and economic replacement of worn-off core bits. Save money and re-use your barrels 3 times more.

Diamond Cutting and grinding in concrete and other materials





High performance discs for the lowest cost per m2. Laser welded segments and high quality steel. Suitable for many base materials and cutting tools.



Diamond cup wheels

Excellent finishing of concrete surfaces with high performance and lifetime, especially using with Hilti Diamond grinder DG 150.



Only Hilti guarantees.

We manufacture most of our innovative power tool accessories ourselves. That's why we can guarantee, among other things, that a Hilti core bit will be replace if the incident occurred when the diamond segments are still new and the user is not responsible.

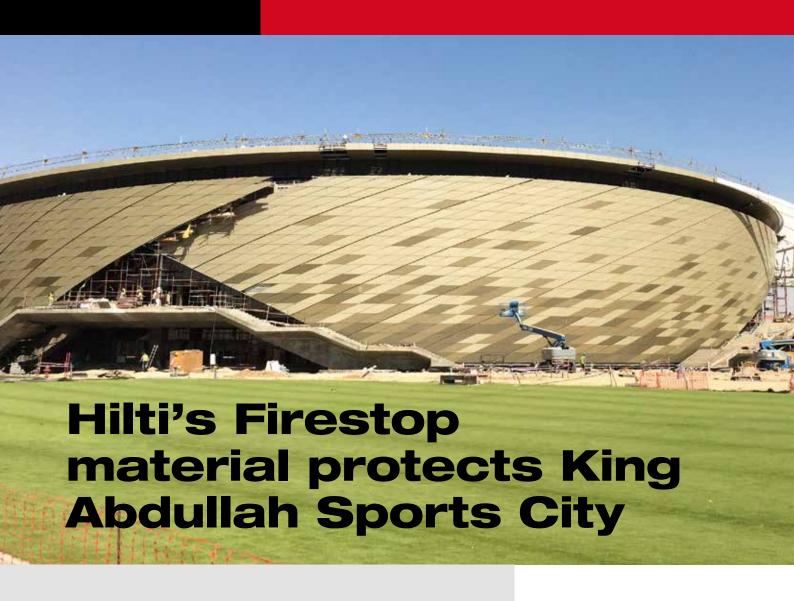


In-house diamond technology.

Hilti Diamond consumable technology is considered state of the art in the international market. The composition of the diamond segments is adapted both to the base material and to the tool characteristics to assure the maximum performance. The use in the Hilti in-house manufacturing of the best diamond beads and steel, together with an innovative design guarantees the highest user satisfaction.

together, tested together and are thus perfectly matched. So you benefit fully from the Hilti Power Effect.





El Seif Engineering Contracting was one of the contractors in the construction of the state-of-the-art football stadium King Abdullah Sports City (KASC) in Jeddah. Such a landmark in the kingdom must be secured against any case of fire, which could have tragic consequences.

Saudi Aramco directed the build-up of the King Abdullah Sports City as a new multi-use stadium, located 60 kilometers north of Jeddah. The facility opened officially on May 1, 2014 with the association football final of the King's Cup. The main stadium is used for football, while smaller sports venues surrounding the main stadium host athletics and indoor sporting events in indoor arenas. After the success of KASC the King ordered the

construction of further 11 stadiums in the main cities of the kingdom.

El Seif Engineering Contracting was in charge of different construction and mechanical/electrical applications, including the critical one of applying firestop protection in the project. In order to deliver as per Aramco's specifications, El Seif needed top quality materials and service from the chosen supplier. To avoid fire extension, different types of openings must be sealed: pipes, ducts, cable trays, top of wall/ceiling joints, connection joints in walls, stairs and floors, etc.

El Seif decided to choose Hilti for various reasons. First of all, Hilti was the only supplier that could provide all the needed materials. This was important because the customer wanted one single point of contact for the material. Second, Hilti brand was mentioned in the project's specifications as preferred supplier. Third, Hilti had availability of the products in the time and quantities requested.

The three main sealants used by El Seif were Hilti's flexible CP 606 (red and grey), the elastomeric silicone CP 601 (red and grey) and the intumescent FS-ONE. All products with great adherence, paintable

King Abdullah **Sports City**



and washable, with max. movement absortion, highly smoke, gas and water resistant and with international approvals.

Hilti provided valuable services to El Seif in the project. Hilti's engineering department in Jeddah realized technical studies, designs and mock-up's for the firestop material and its application. Afterwards Hilti personnel conducted several user trainings

and presentations in the job site. The users got a certificate from Hilti. Also inspections from Hilti were done during the application to ensure the quality.

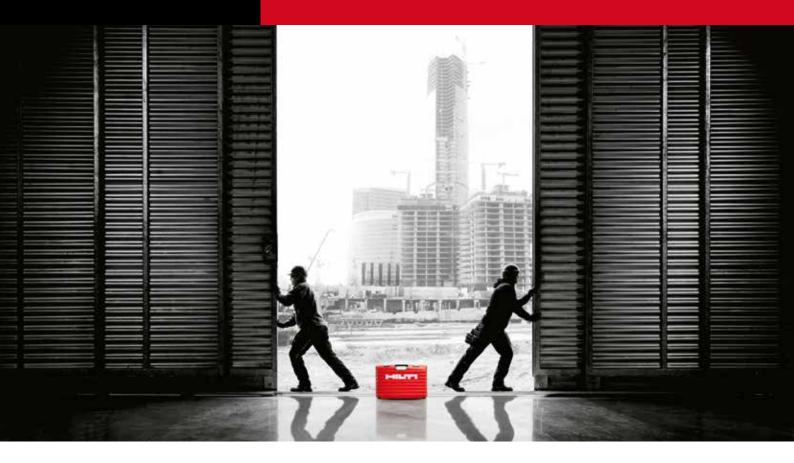
El Seif appreciated not only the product quality and project support from Hilti but also the installation productivity which allowed them a fast application in this rush project.











Hilti Online. Hilti at your fingertips.

Hilti Online is available for around the clock -24/7- to help you to manage your projects. Discover the new features that make your life easier and helps make you more efficient. Now you can access Hilti from anywhere and anytime! On a tablet, a smartphone or a computer. The site is optimized for each screen.



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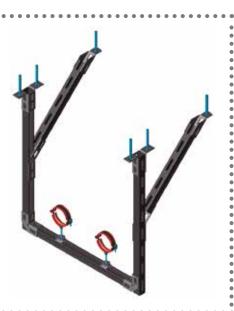


Azmeel goes cordless

The well-known contracting company Azmeel made this year in the Dammam University project an intensive study about how much time are spending their workers in different activities in the site. They discovered that, in average, one worker spends daily 30 minutes looking and arranging electricity and cords. After this they contacted Hilti to provide them with different cordless tools like rotary hammers, angle grinders, impact wrenches, direct fastening guns, etc. In times when getting labor is more difficult, contracting companies need to increase the productivity per man.

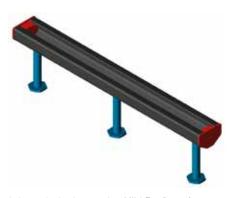
Hilti seismic seminar

Hilti KSA Technical Office in Jeddah realised recently a seismic seminar to support El Seif Contracting in the famous project Haramain High Speed Railway. The customer needed a solution for the support of firefighting pipes in a congested services area with no place to brace against seismic forces. Hilti field engineers conducted a seminar for El Seif and the consultant Dar Al Handasah showing Hilti's calculation methods and seismic supporting systems without the need of horizontal bracings. The customer is now using this solution.



Permasteleesa uses Hilti PROFIS software

Permasteelisa Gartner Is one of the top & leading facade contractor worldwide, after a few years in the Saudi market today they are one of the market leaders. Permasteelisa needs special engineering services and support. The design process starts at UAE where their team have full training and



engineering support from Hilti. Anchors are designed through the innovative Hilti Profis software tailored to all site applications especially façade. Technical aspects using Hilti Profis software were investigated and the right product selected. Quality of design/solution was the key driver to gain the business. Tadawul tower's facade in KAFD in Riyadh will be fully fixed by Hilti Anchor Channel.



Hilti Health and Safety training on site

Muhaidib Six is one of the mos important contracting companies in Saudi Arabia. For a residential project in Thuwal (North of Jeddah) Muhaidib got a training in Health & Safety and usage of Direct Fastening tools from Hilti. For the formwork and wire mesh applications they purchased the Hilti fastening tool DX 460 to do the fastenings much faster and efficient. Hilti's Product Manager Nabil Jalloul trained Muhaidib's employees to assure a perfect knowledge in usage, cleaning and safety.

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