

Products & Practice

WaboCrete EHS

Watson Bowman Acme launched Wabo®Crete EHS, an elastomeric concrete expansion joint header material with enhanced environmental, health, and safety features. The aggregate constituent of the elastomeric concrete contains no crystalline silica, so the product reduces health risks for personnel mixing and installing expansion joints and helps companies limit worker exposure to respirable silica per OSHA Standard 29 CFR 1926.1153. In addition to the elimination of silica dust, WaboCrete EHS produces nearly zero nuisance dust during mixing. WaboCrete EHS retains key performance features of other elastomeric concrete products by Watson Bowman Acme such as Wabo®Crete II and Wabo®Crete Parking Series. It has been formulated to serve the bridge and tunnel, commercial buildings, and parking garage and stadium markets.

—Watson Bowman Acme, www.watsonbowmanacme.com

Honda Autonomous Work Vehicle

Honda and Black & Veatch have successfully tested the prototype Honda Autonomous Work Vehicle (AWV) at a Black & Veatch construction site in New Mexico, USA. During the month-long field test, the second-generation prototype of the fully electric Honda AWV performed a range of functions at a large-scale solar energy construction project, including towing activities and transporting construction materials, water, and other supplies to pre-set destinations within the work site. This was the first field test in which multiple AWV units worked collaboratively to support construction use cases.

The Honda AWV combines the company's rugged and durable off-road side-by-side platform with emerging advanced autonomous technology. The result is a new category of capable work vehicle that can be deployed in a variety of dynamic work environments. The Honda AWV employs a suite of sensors to operate autonomously, using GPS for location, radar and lidar for obstacle detection, and stereoscopic cameras for remote monitoring. The vehicle can also be operated by remote control.

—Honda, <https://automobiles.honda.com>

—Black & Veatch, www.bv.com



Power Pro Concrete Anchors

The Hillman Companies, Inc., announced its latest addition to the Power Pro family, Concrete Anchors. Designed for light- and medium-duty concrete, block, and brick applications, these durable, corrosion-resistant anchors are ICC-ES Code Compliant and are available in three colors—blue, white, and black—and in various lengths and 3/16 in. (4.8 mm), 1/4 in. (6.4 mm), and 5/16 in. (7.9 mm) diameters. The Concrete Anchors feature a fully threaded tip to enable quick penetration into materials. The wide, serrated threads and mid-crossband threads offer a cleaner and faster cut while providing superior pullout and shear load strength. Concrete Anchors are available in hex washer head and flathead with star drive. Hex heads are ideal for applications that require additional holding power and faster drive times, such as securing metal to concrete. Flatheads provide a cleaner look as they countersink to remain flush with the surface, and the star drive offers additional contact points to reduce the chance of stripping.

—Hillman Solutions, www.hillmangroup.com

TwinTier

MAX USA, Corp. helps contractors sustain core business functions in the field by deploying the TwinTier® as an enhancement to reinforcing bar tying operations. As an alternative to manual tying using inefficient tools, the TwinTier delivers benefits of cost savings in materials and time, increased productivity, and enhanced safety. At 5000 ties per charge at approximately 1/2 second a tie, the TwinTier series allows bar placers to increase productivity as they realize invaluable health benefits.

—MAX USA, Corp., www.maxusacorp.com

Products & Practice

M18 FUEL SDS Plus Rotary Hammer

Milwaukee Tool introduced the second generation of its M18 FUEL™ 1/8 to 1 in. (3.2 to 25 mm) SDS Plus Rotary Hammer, delivering advanced performance and productivity on the jobsite. The new-generation M18 FUEL SDS Plus Rotary Hammer is the fastest drilling and hardest hitting hammer in its class with over 20% faster drilling. The M18 FUEL SDS Plus Rotary Hammer features the POWERSTATE™ Brushless Motor, REDLITHIUM™ Battery Pack, and REDLINK PLUS™ Intelligence.

—Milwaukee Tool, www.milwaukeetool.com



Rapid Set and Komponent

CTS Cement Manufacturing Corporation manufactures Rapid Set®, a rapid-hardening belitic calcium sulfoaluminate cement, and Komponent®, a Type K shrinkage-compensating cement.

Rapid Set is a full line of cement products engineered for high performance, rapid strength gain, versatility, low shrinkage, and durability. Rapid Set cement concrete achieves structural and drive-on strength in 1 to 2 hours and can achieve a 1-day strength that meets or exceeds the 28-day strength of portland cement concrete. In addition, production of Rapid Set cement emits less CO₂ than portland cement due to its chemistry and lower processing temperatures.

Komponent shrinkage-compensating cement technology is engineered to provide cement that improves the overall quality of the concrete or grout application. Komponent can be used in all types of concrete structures and elements to overcome drying shrinkage, prevent shrinkage cracking, and improve the dimensional stability of concrete.

—CTS Cement Manufacturing Corporation, www.ctscement.com



The Tornado Hard Hat

Tigeraire, a creator of athletic helmet airflow products, announced its industrial hard hat accessory, the Tornado. Designed as an add-on that mounts inside the majority of hard hat brands, the Tornado cools the user's head using a small, powerful blower that circulates airflow. The Tornado creates a cooling effect throughout the hard hat that not only helps the wearer feel more comfortable in the heat but can also improve productivity, endurance, and focus while reducing the risk of dehydration. The Tornado was created for the industrial sector to help combat health and safety issues caused by excessive heat.

—Tigeraire, www.tigeraire.com

Nuron

Hilti Group, a supplier of tools, technology, software, and services to the commercial construction industry, released Nuron, a powerful 22V cordless battery platform. Nuron enables the use of cordless tools on all kinds of jobs, from light-duty drilling to heavy-duty concrete breaking. Launching with more than 60 tools, the single battery platform enables heavy-duty applications that were once restricted to corded, gas-powered, or higher-voltage battery systems. Additionally, all Nuron battery packs and chargers work interchangeably under a single ecosystem to help reduce complexity for tool cribs and costs for businesses.

—The Hilti Group, www.hilti.com



MILLHOG APS-438 Air Powered Saw

Introduced by Esco Tool of Holliston, MA, USA, the MILLHOG® APS-438 Air Powered Saw is a pneumatic saw and track system that provides a consistent cut around the full perimeter of a drilled shaft foundation element (piling), allowing precise removal of the top of each shaft. The MILLHOG APS-438 Air Powered Saw features a 14 in. (356 mm) fiberglass blade and, when coupled with the firm's WrapTrak System, provides a consistent cut around many sizes of piling to allow for a clean top separation. Designed to permit faster pile cutting while minimizing operator fatigue, the saw and track system provides an efficient way to score pilings and prepare them for trimming without damaging the reinforcing bars.

Supported by the track and not the operator, the MILLHOG APS-438 Air Powered Saw mounts by a trolley to the WrapTrak System, which comes in sizes that can fit piles up to 72 in. (1829 mm) in diameter.

—Esco Tool, www.escotool.com



Web Notes

DC and AC Voltage Online Course

NTEA, in collaboration with e-learning platform Electude, announced a new DC and AC Voltage online course as part of its Truck Equipment (TE) Electrical Basics series. Designed to provide the work truck industry with a fundamental understanding of electrical theory and concepts in automotive applications, the TE Electrical Basics online program arms upfitters, engineers, fleet managers, and technicians with functional knowledge of truck electrical systems and components. Visit www.ntea.com/onlineeducation for details.

—NTEA, www.ntea.com

Products & Service Literature & Videos

Three New Deep Foundations Institute (DFI) Technical Publications

“Grouting Summary of Main Standards and Guidelines on Grouting Available in North America and Europe,” by the DFI International Grouting Committee, summarizes the main standards and guidelines, approaches, methods, and tools used internationally; and it provides standard practice requirements for qualifications, materials, equipment, testing, and production procedures.

“Data Management Guide Specification” was created by the DFI Project Information Management Systems Committee. This publication is based on the U.S. Army Corps of Engineers guidance, and it provides generic specification language and commentary for project information management systems including recent technological developments.

“Guidelines for Selecting Cutoff Wall Systems,” by the DFI Slurry Wall Committee, outlines fundamental information on the selection of vertical cutoff walls and seepage barriers to reduce water flow through embankments, dams, levees, and deep excavations. Cutoff methods covered include excavated cutoff systems, in-place techniques (grouting, deep mixing, and ground freezing), and driven sheet pile cutoff systems.

These complimentary publications are available at www.dfi.org/publications/new-publications.

—Deep Foundations Institute, www.dfi.org

Product Showcase

Repair Materials & Tools

MCI-2044

MCI®-2044 is a preblended, polymer-modified repair mixture containing migrating corrosion inhibitors that form a protective molecular layer on reinforcing bars. The MCI molecules delay corrosion and reduce corrosion rates once initiated, helping repairs last longer. Using MCI-2044 in a concrete repair also helps protect against the ring anode effect that can occur when the high pH of new concrete creates a difference in corrosion potential between patch materials and existing concrete. MCI-2044 helps even out the corrosion potential to reduce the risk of ring anode problems and make repairs more durable. MCI-2044 can be used in cast-in-place repair applications ranging from 1 to 8 in. (25 to 200 mm) in depth, including horizontal, vertical, and overhead applications. The mixture is supplied in 50 lb (23 kg) bags. Mixed with 4 pints (2 L) of water, a bag yields about 0.45 ft³ (0.013 m³) of concrete.

—MCI, www.cortecmci.com



MUHU Cement-based Repair Mortar

MUHU's Cement-based Repair Mortar is a new type of multifunctional mortar consisting of a special cement, aggregate, and a polymer additive. It comes as coarse- or fine-grade material. The coarse-grade material is suitable for application on a substrate, while the fine-grade material is used as a finish coat. Cement-based Repair Mortar exhibits low shrinkage, low permeability, and good chemical resistance, resulting in durable repairs. The mortar has good workability, is very easy to apply, and has firm adhesion to substrates. MUHU's Cement-based Repair Mortar is suitable for repair of concrete surfaces and as a plaster on new walls and panel systems. It can be used on highway overpasses, marine concrete structures, and newly constructed or existing concrete buildings.

—MUHU, www.muhuchem.com

MEADOW-PATCH SMOOTH-GRADE

W. R. MEADOWS MEADOW-PATCH SMOOTH-GRADE is a single-component, polymer-modified, cement-based material used to fill imperfections and achieve ultra-smooth finishes on new or existing concrete surfaces. This product contains no added gypsum, has workability suitable for trowel application, and has an extended pot life of up to 45 minutes. MEADOW-PATCH SMOOTH-GRADE can be used for smoothing rough surfaces, repairing honeycombs, and filling small surface defects. When mixed with 11 to 13 pints (5 to 6 L) of water, each 50 lb (23 kg) bag yields about 0.5 ft³ (0.014 m³) of material with a creamy consistency suitable for parging or sacking concrete walls, precast concrete elements, or concrete masonry. It can be applied up to 1/8 in. (3 mm) thick for resurfacing and smoothing, and up to 1/2 in. (13 mm) thick in a single vertical application to fill in minor surface defects.

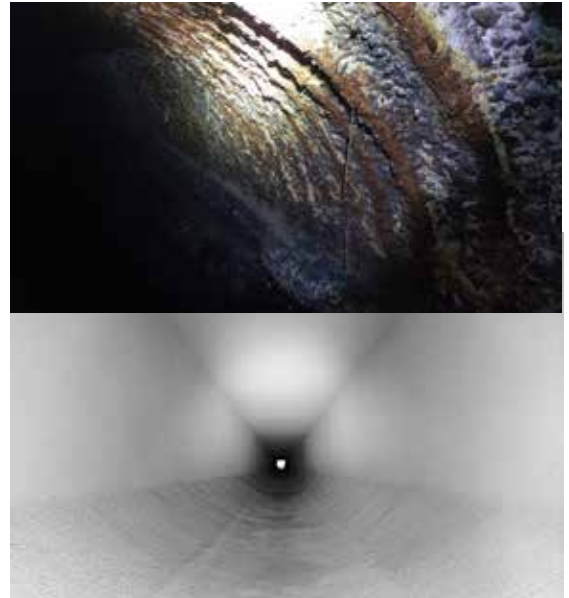
—W. R. Meadows, www.wrmeadows.com



GeoKrete Geopolymer

Throughout the pandemic, the Quadex® division of the Vortex Companies has maintained a lead time of fewer than 2 weeks for supplying its GeoKrete® geopolymer, providing the cost stability and material availability necessary for repair projects to advance while ensuring structural integrity. GeoKrete is comprised of aluminosilicate powder and an alkaline activator. When mixed with water, it forms a durable inorganic polymer. GeoKrete was recently used to repair 28 manholes and 6600 linear ft (2000 m) of reinforced concrete pipe, ranging from 54 to 96 in. (1370 to 2440 mm) in diameter, in a sewer system for a large U.S. city. The material delivered the necessary structural properties and corrosion resistance without significantly reducing the internal diameter of the interceptor sewers—a critical requirement for the repair project. Additionally, the repairs were completed using spray application, allowing the repairs to be made without closing roadways, sidewalks, and intersections and avoiding a total shutdown of the sewer system.

—Vortex Companies, www.vortexcompanies.com



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