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MIKE ORZECHOWSKI, P.E.
CSDA President

In April 2022, CSDA will officially celebrate its 50th anniversary. Everyone loves a good celebration and CSDA has a history of some of the best. Unfortunately, the timing of world events derailed our plans for an offshore Convention venue, so we relocated to one in the States (The Scott Resort & Spa in Scottsdale, AZ) and we postponed the big 50th anniversary celebration until next year, when we hope that the COVID restrictions on travel are more relaxed so we can have a bigger celebration.

50 years and still growing is a strong statement of the sweat equity, long hours, talent, wisdom and knowledge that was poured into every one of those years. We all know we deserve a celebration worthy of our success, and we hope to see a good turnout of industry veterans that blazed the trail before us. Sir Isaac Newton wrote in a letter in 1675 to another famous scientist Robert Hooke, "If I have seen further, it is by standing on the shoulders of giants." Those powerful words are still true today and can be directly applied to the CSDA. For the past 50 years, we have been growing by standing on the shoulders of many giants in our industry.

The original founders had a lot of foresight, wisdom and knowledge to share in our industry and we have members continuing

to add to that knowledge base every day. We have a huge history to stand on and we want to invite to our 50th anniversary celebration all the people from our past that got us to the place we are today. Some are no longer with us, but their memories still live on us for us to share. Some have retired, some have stepped into different industries, some still work behind the scenes mentoring a new generation and some are still going full throttle and just keep going. Past and present, we are all one big CSDA family and we want to celebrate together, in person, hugs and all, family is family.

We continue to meet quarterly, in-person with a hybrid zoom option for those unable to join us on location. CSDA is our combined (amplified) voice in the construction industry that defines our specialty trades. Reach out to new additions to our industry and invite them to join the power of CSDA. Reach out to some of the old timers and invite them to be more active – their voices are just as important now as they were in the beginning. We have a lot going on, and it is to the benefit of CSDA and everyone involved. Be involved and invite others to be involved also. When the tide comes in, all the boats rise together.

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DITEQ Corporation
mikeo@diteq.com

Vice President, Kellie Kimball
Holes, Incorporated
kellie@holesinc.com

Secretary/Treasurer, Mark DeSchepper
Echo GPR Services
mark@echogpr.com

Past President
Matthew Finnigan
National Concrete Cutting, Inc.
matthewf@nationalconcretecuttinginc.com

Executive Director, Erin O'Brien
Concrete Sawing & Drilling Association
erin@csda.org

CSDA BOARD OF DIRECTORS

(Terms expiring 2022)

Bill Fisher
National Research Company
bfisher@nationalresearchcompany.com

Donna Harris
Concrete Renovation
accounting@concreterenovation.com

Jeff Keeling
Brokk, Inc.
jeff.keeling@brokkinc.com

Ryan McBride
Polished Concrete Consultants
mcbride.ryan@me.com

David Perkins
Hilti, Inc.
david.perkins@hilti.com

Kevin Warnecke
ICS, Blount Inc.
kevin.warnecke@blount.com

CSDA BOARD OF DIRECTORS

(Terms expiring 2023)

Brandon Bailey
A-Core Concrete Specialists
brandon@a-core.com

Tyrone Conner
Austin Enterprise
tconner@austin-enterprise.com

Greg Lipscomb
Diamond Products Limited
glipscomb@diamondproducts.com

Bruno Silla
GSSI
sillab@geophysical.com

Kristen Waters
Greene Concrete Cutting, Inc.
kristenw@greenesinc.com

Ronnie Wilhite
Texas Cutting & Coring, LP
ronnie@texascurbcut.com

CONCRETE CASES



6

Silo System Streamlines Slurry Processing and Disposal



14

Precision Saw Cutting Required to Renovate Federal Building



22

Contractor Assists with Recovery in Collapsed Surfside Building

CONCRETE OPENINGS MAGAZINE

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PO Box 324
St. Petersburg, FL 33731
Tel: 727-577-5004
WWW.CSDA.ORG

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PUBLISHER

O'Brien International

EDITOR

Erin O'Brien

CONCRETE CASE CONTRIBUTORS

Ralph Ortega
Joseph Neos
Ben Kooby

EDITORIAL REVIEW COMMITTEE

Patrick Harris
Joe Shebesta
Pat Stepanski

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CONTENTS

- 10** **Core Health**
Why Does My Knee Hurt?
- 20** **The Business of Business**
ABC: Construction Industry Faces Workforce Shortage of 650,000 in 2022
- 26** **Polished Perspective**
Protecting Your Concrete Countertops
- 32** **Tech Talk**
Abrasive Chainsaws Found to Decrease Kickback Risk When Cutting Pipe in a Trench
- 36** **World of Concrete Wrap Up**
CSDA Members Enthusiastically Welcome Back World of Concrete 2022
- 42** **CSDA Turns Fifty!**
- 44** **Industry Bits**
- 52** **Certification**
- 54** **Membership**
- 56** **Calendar**
- 60** **Director's Dialogue**



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SILO SYSTEM STREAMLINES SLURRY PROCESSING AND DISPOSAL

Since OSHA implemented the “Respirable Crystalline Silica Standard for Construction” in 2017, wet polishing for concrete surface prep has dramatically increased. Wet polishing minimizes respirable silica dust in the air as it is trapped by the water, and for the most part reduces the breathing hazard to workers. However, mixing the concrete and chemicals with the water creates slurry, which introduces a new hazard and additional step for concrete renovation workers.

Slurry management and disposal is a crucial element of virtually any jobsite with major penalties for improper handling. Whether it be the detrimental environmental risks or the potential U.S. Environmental Protection Agency (EPA) fines, which start at \$10,000 for violating only one of their laws, slurry simply must be handled properly. You cannot discard slurry into a dumpster or sewer, making it especially challenging to deal with substantial amounts of slurry that result from large jobs. To legally dispose of the slurry, you must first separate it back into its two primary components: concrete and water.



Slurry silos, though relatively new, are being used widely in the concrete and stone industries. One example is the Decanting Silo by Full Circle Water, which uses gravity to separate the sludge and solids from water. The silo system automatically pumps mixed slurry from the pit up and into the silo for treatment. A flocculent is mixed in automatically at a very small dosage to promote settling of solids in the slurry stream. The concrete and stone fines fall towards the bottom cone as the water moves down and around the center feed tube. As the water rises over the vertical sidewalls, the smaller particles slowly settle out until the clarified water spills over the top output tray on its way to a collection tank where the clean, processed water is then stored in a tank and a re-pressurization system refills trucks at 40 gallons per minute with recycled water to reuse back out on the jobsite.

CSDA member Austin Enterprise out of Bakersfield, California wanted a more efficient and environmentally friendly solution to their slurry management. At their Bakersfield headquarters, they designed a sloped bottom slurry pit that would fit the decanting silo and allow three trucks to dump unprocessed slurry while allowing one truck to refill with the recycled water simultaneously. The silo can hold approximately 4,780 gallons of slurry with the ability to store 2,350 gallons of recycled fresh water in the tank. This eliminated their need to manage slurry on jobsites, and allows them to use their own recycled water and process and dispose of the slurry in-house.

To prepare for the Silo, they began by saw cutting to create a clean edge using a Meco 60D saw. Remaining unnecessary asphalt was broken and removed by a Bobcat with a hydraulic breaker attachment prior to grading the pit, and then fresh concrete was poured. The demolition included saw cutting and removing 3,375 square feet of existing asphalt to prepare for the slab and pit. The final dimensions of the slurry pit are 8' x 35' with the depth gradually sloping from the surface to a depth of 4.5'.

Guard rails were designed, fabricated and installed along with pressure washers to each side of the pit for cleaning equipment after washout. Austin Enterprise then drilled 12-inch holes for pipe bollard installation to protect stationary equipment and other assets from vehicle intrusions. 12-inch holes were also drilled for the electrical conduits using a Diamond Products 4-Speed Core Drill.

Project manager, Ralph Ortega said about this project, "Safety is our number one concern on every jobsite, whether in the field as a subcontractor, or like in this case, at our own facility." Daily job briefings and debriefs were performed to include any safety hazards or specialty PPE that was needed beyond the standard PPE always worn by employees. Any affected personnel were notified of changes to plans or new





hazards that existed from SIMOPs. Austin Enterprise was thrilled to complete this project safely and begin using this new system.

Austin Enterprise Owner, Ty Conner, said this silo system is ahead of the curve for the company and State of California's environmental requirements. The silo system has drastically transformed the company's slurry disposal process while meeting all their recycling needs. The ability to process the slurry internally and reuse and recycle the slurry water creates a reduction in wastewater and eliminates wastewater discharge compliance issues. It is far better for the environment, especially being in Southern California, where fresh water is often in short supply. The silo has also lowered their operating costs due to the ease of disposal.

As technology advances, it is important to make sure that your company is utilizing the best machinery and techniques to stay competitive within this constantly evolving field. Optimizing your business to be more time-efficient while also being more environmentally friendly is a win-win for everyone involved, and CSDA is always advocating for members to make meaningful changes like this, even if they are small and simple.

REVIEW AND COMMENT ON THIS ARTICLE AT:
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COMPANY PROFILE

Austin Enterprise is headquartered in Bakersfield, California and was established in 1992. They have a fleet of 47 trucks and 50 employees. The services they offer include flat sawing, core drilling, hand sawing, wall sawing, wire sawing, grinding, loop sawing, pavement sawing and sealing, crack sealing, bridge joint installation, floor grinding, curb cutting, slots for recess markers and striping, demolition, rock drilling and dowel drilling. They have been a CSDA member since 2011.

RESOURCES

CSDA Contractor

Austin Enterprise

Contact for Story: Ralph Ortega

Email: Sales@austin-enterprise.com

Tel: 661-589-1001

Website: www.austin-enterprise.com

Methods Used

Saw Cutting, Core Drilling



Why Does My Knee Hurt?

By: Erin O'Brien

Many *Concrete Openings* readers know that before I found myself working with the best concrete association in the world, I was a Certified Athletic Trainer. I have a Bachelors degree in Exercise Physiology and a Masters degree in Applied Physiology and Kinesiology. I spent 10 years working with professional, collegiate and high school athletes, rehabbing ankle sprains, evaluating knee pain, designing warm-up routines, taping ankles, setting up E-stim on lower backs and serving as an unofficial psychologist, cheerleader and sometimes just a friend.

Because of this, I routinely will receive random texts, emails, phone calls and in-person requests from concrete cutters to help diagnose any manner of injuries, pain or physical dysfunction. While I certainly do not mind helping out friends and colleagues, it is very difficult to identify an injury or the cause of a painful joint without physically evaluating the person. One of the most common questions is, "Hey, my knee started hurting the other day, what do you think is wrong with it?" So, in this article, I want to provide generalized information and recommendations in the event your knee might hurt, too.

The information that follows, while coming from a medical professional, is not a substitute for professional medical help from a physician, physical therapist or other healthcare professional. It should be used only as a guide and should not be used as a diagnosis.

First, it is important to understand the anatomy of the knee. Figure 1 shows the skeletal (bone), muscular, cartilage and ligamentous structure of an adult knee. Injury, malfunction or misalignment of any of these structures can cause pain and injury, whether acutely (immediately) or chronically (long-term). Most acute injuries are either soft tissue related – muscle, tendons, cartilage or ligament. Bone injuries are often the result of traumatic accidents or gradual, long-term dysfunction or overuse.

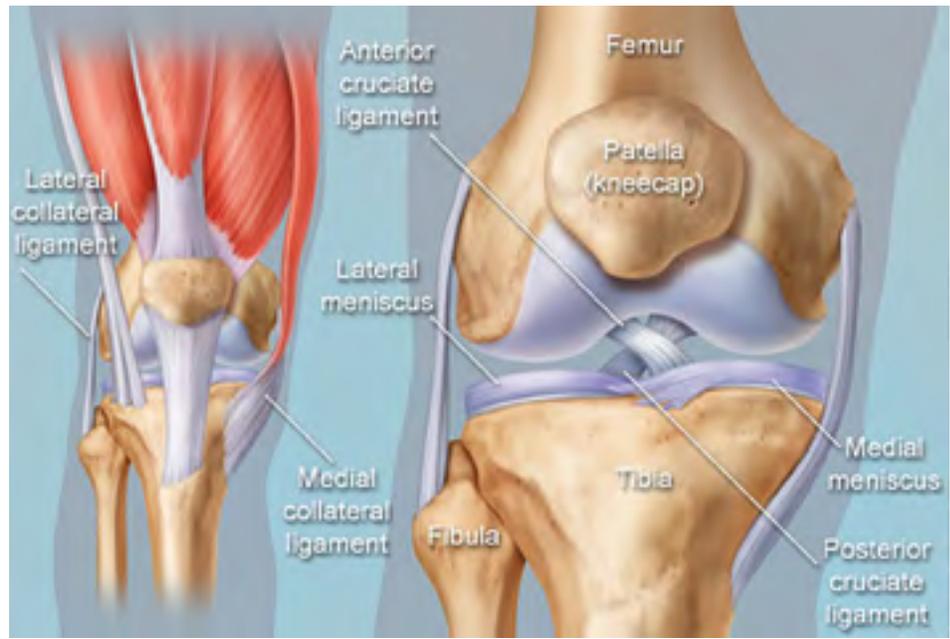


Figure 1

Next, you should understand the different structures in the knee:

- **Bone** – hard structure designed to form the framework and support the weight of the body. Bones in your knee include your femur, tibia, fibula and patella.
- **Muscle** – made up of connective fibers that contract and relax using electrical pulses to help move your body through different planes of motion. A large amount of blood flows through your muscles, and they also serve to protect your joints.
- **Tendon** – connects muscle to bone. The fibers in tendons are much less pliable than muscle fibers, making them more likely to sustain injury. There is less blood flow through tendons, which also makes it harder for them to heal. They are usually named after the muscle they attach to (quadriceps tendon, hamstring tendons, etc.)
- **Ligament** – connects bone to bone. They have little, if any, blood flow, so are difficult to repair and heal without surgery. These fibers are strong, but not very pliable. Your knee has several, with the four most

important being the anterior cruciate (ACL), posterior cruciate (PCL), medial collateral (MCL) and lateral collateral (LCL).

- **Cartilage** – a substance that is harder than connective tissue but softer than bone. Often used to protect the ends of bones and provide joint lubrication. High rate of shock absorption. Little to no blood flow, so often cannot be repaired without surgery. In your knee, this cartilage is called meniscus, with the ends of your femur, tibia and fibula, and the underside of your patella also protected by a layer of cartilage.

Then, it is important to understand the types of damage that can be done to these structures:

- **Sprains** – a partial or full tear of a ligament. A full tear often requires surgery (as in an ACL or MCL tear), while many partial tears can be rehabilitated without surgery. Sprains usually occur as the result of a quick, forceful movement of the joint outside its normal mechanics. Sprains can occur in the workplace from a trip or fall, a tool that jerks or kicks

back, a fall from a height or a wrong step on an uneven surface.

- **Strains** – a partial or full tear of a tendon or muscle. One of the most common knee injuries, these can be the result of a quick, forceful movement (like a sprint) or chronic, as in small micro-tears that happen over time in a runner or other endurance athlete. Due to the high blood flow in these structures, surgery is rarely needed unless there has been a complete muscle or tendon tear. Concrete cutters might suffer a strain from a trip or fall, improper lifting technique or any type of overuse injury due to long hours running a heavy tool.
- **Fracture (break)** – this is a large or small crack in a bone. Sometimes, the bone stays the same shape, but the fracture is still present (as in a hairline fracture), other times the bone changes shape due to the break. Typically, the result of a violent, forceful event, although stress fractures can occur (microfractures cause damage that happens over a long period of time). These are much less common on jobsites but can occur as the result of a car accident, heavy equipment drop or malfunction or a fall from a height. Bone fractures can usually be set in a cast for 6-8 weeks to heal, but in extreme cases or if the bone is misaligned or has pierced the skin, surgery is required. A fracture and a break are the same thing!
- **Meniscal tears** – two causes of injury. One is when a sudden movement causes a partial or full tear of the tissue, the other is when gradual, repetitive stress over time causes a wearing away of part of the tissue. If the defect is minor and not causing the person a great deal of pain, surgery may not be required. Otherwise, minor surgery is usually performed to “clean up” the area. These are less common in the construction trade, but any accident that causes your knee to suddenly twist or bend in the wrong direction can cause a meniscus tear.

When it comes to figuring out “why my knee hurts,” ask yourself these questions:

- Where is the pain?
- When did it start? After a specific incident or came on gradually?
- It is a sharp, shooting pain or a dull, aching pain?
- Worse or better with activity?
- Getting better or getting worse over time?

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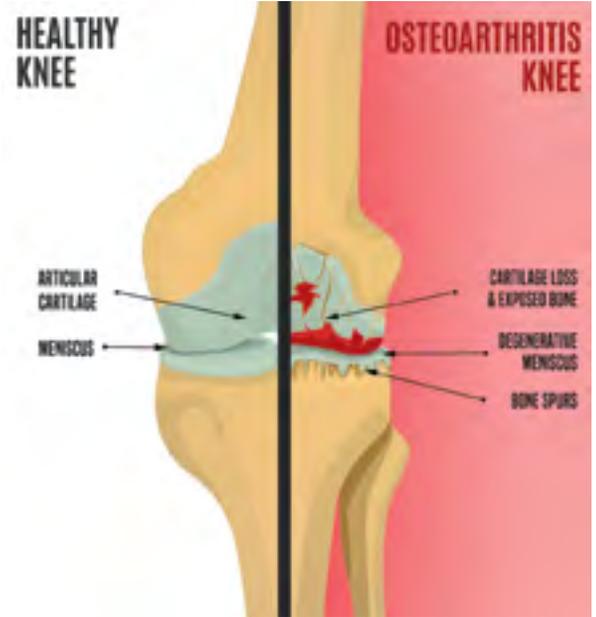


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If the pain is generalized (meaning not in one specific spot), had a gradual onset, is dull and aching and seems to stay the same, then it's likely a chronic injury, and very likely either a muscle/tendon injury or cartilage. These types of injuries are harder to diagnose, but fortunately are usually less debilitating. These injuries can be very common for concrete cutters and other types of construction laborers. They typically stem from a muscle imbalance or alignment issue, and sometimes could even be the result of a foot or ankle problem. If you are flexible and spend time strengthening your muscles (hello yoga!) then your likelihood of these types of injuries decreases significantly.

If the pain is sharp, shooting and came on suddenly, you likely will remember an event that caused it. If that is the case, your best bet is to rest and avoid activity that makes the pain worse, at least for a few days. If the pain does not get better with rest, it might be time to see an orthopedist for further evaluation.

A few common knee injuries, how they happen and what to do about them:

- **Muscle/tendon strain** – caused from repetitive or explosive activity. Pain is usually localized around the location of the tear. It will be worse when you first start to use that muscle and may get better as the blood flow to the area increases with movement. Rest for a few days, then gentle stretching of the muscle will help heal the injury. Warm compresses to the area may also help alleviate pain. A gradual return to activity is recommended only when the pain is gone.

- **Sprain** – likely caused by a sudden event, such as a twisting or hyperextension of the knee. Significant pain around the injured area, some swelling (but not always) and movement will be difficult. Rest for a few days, and if the pain has not improved, go see a doctor or medical professional.
- **Meniscus tear** – common injury among all athletes. Mechanism can be the same as a ligament sprain, and often a meniscus tear will accompany a ligament tear. Symptoms include swelling, a “clicking” or “locking” knee with motion, pain and sometimes a reduction in full extension or flexion. An MRI will confirm a tear or damage, and the extent of the injury to determine if surgery is needed. If surgery is needed, it is usually a minor outpatient procedure, and rehabilitation ranges from four weeks (most common) to six months (least common).
- **Arthritis/chondromalacia** – in older athletes, or athletes with a long history of activity and joint impact, the cartilage on the ends of the bones (especially the femur, tibia and patella) will wear away and sometimes cause bone on bone contact – this can cause pain. The onset of this pain is usually gradual and will often come and go until it is too painful to ignore. Activity modification and/or surgery are usually the solution, although supplements and rehabilitation can greatly help.

Again, it is important to remember that this is a general guide as to how and why your knee hurts. In many cases, a little rest and some basic muscle strengthening exercises can go a long way in helping ease pain. (Yoga! Walking!

Cycling! Just move your body!) It may sound silly but warming your muscles up before tackling an especially physically demanding job task will help prevent many injuries. Also, be especially careful when lifting heavy items, or any type of rotation with your body. Lift with your legs, not your back!

A healthy diet, appropriate water intake and a healthy weight will also help in reducing the likelihood of knee pain becoming a serious issue. And unfortunately, my friends, the older you are, and the longer you've been operating concrete cutting equipment, the more likely you are to have knee pain from any number of issues. But don't always assume the worst. I've dealt with knee pain since I was a high school lacrosse athlete, and recently realized that the majority of my knee pain was being caused by tight calf muscles – simple stretching exercises and a slight modification to my activities made a huge difference. So don't forget, that if you have a history of ankle sprains, foot issues or shin splints, you might want to look below your knee first to find the cause of your pain.

Erin O'Brien, MS, ATC is a Certified Athletic Trainer and VP/COO for O'Brien International, the association management company that manages the Concrete Sawing & Drilling Association, and Executive Director of CSDA. O'Brien received her Bachelor of Science degree in Athletic Training from Ohio University and her Master of Science degree in Applied Physiology and Kinesiology from the University of Florida. She is also a Certified Level 2 CrossFit Instructor and member of CrossFit9 in St. Petersburg, FL. She is a regular contributor to Concrete Openings magazine. She can be reached at erin@csda.org or 727-577-5002.



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Precision Saw Cutting Required to Renovate Federal Building

The Jacob K. Javits Federal Building sits in the Civic Center neighborhood of Manhattan, New York City, and is the home for a multitude of federal government agencies. The skyscraper towers at over 41 stories, and it is currently the tallest federal building not only in New York, but the United States. A project for the reconfiguration of the courtyard space at the Jacob K. Javits Federal Building planned to

consolidate functions and meet the long-term needs of the Federal Bureau of Investigation, the U.S. Department of Health and Human Services and the U.S. Army Corps of Engineers.

CSDA member Eastern Cutting Corp. was brought in by Volmar Construction, Inc. for the selective demolition of reinforced concrete roof slabs and large reinforced concrete support beams at the Javits Building. Eastern chose concrete cutting, specifically wall sawing, for its ability to quickly

cut heavily reinforced concrete while reducing noise, dust and debris. Heavy equipment was not used due to limited access and the site's proximity to the subway because of the weight limits and limited vibration near the tunnels. Jackhammering was also ruled out because of the large volume of removal needed, and the noise and vibration it entails. Hydrodemolition was used and tested on the site, but production rates were subpar.

The two Eastern operators began the project by wall sawing the roof slabs with a Pentrunder 8-20HF wall saw into manageable 2' x 3' x 16" sections. Operators laid the large slabs into a checkboard-style layout, creating similar-sized cut sections for easy removal. Cut sections were then removed by a Bobcat mini excavator and placed into roll-off containers for disposal. A Real Power truck was used to power all the saw cutting equipment, eliminating the need







for separate generators or additional equipment.

Eastern operators prepared for concrete beam sawing by first shoring up the beams by installing OSHA planks and shoring posts. Cutlines were snapped on the beam face ensuring each cut section would be at or under the appropriate weight limit for the crane. Before final cuts were made, a Hilti DD350 core drill was used to help install anchors, bolts and hooks on each cut section. Lifting was performed via a Magni RHT rotary telehandler crane from street level. Eastern operators had to calculate the weight of the cut sections and limitations of the crane being at street level was a major concern. In total, 58' x 4' x 5' of beam was removed in 44 vertical saw cuts, with 75,000 square feet of 12-inch slab removed.

The proximity of the subway to the jobsite was an enormous obstacle on this project. The crane could not enter the site, so all the required lifting was done during non-peak weekend hours from street level to minimize disruption to vehicle and commuter traffic. Street and sidewalk closures were needed, which required coordination from the city and the GC. The GC's safety coordinator held daily meetings with the crew and performed Job Safety Analyses (JSA) to update everyone on site of any changes and to prepare for the tasks of the day.

To everyone's satisfaction, Eastern completed all work ahead of schedule. There was an additional project of a knee wall removal that was awarded to Eastern following the success of this project. At first glance, this looked like a project that would progress very slowly due to the numerous obstacles that were present. However, as it turned



out, proper communication and great planning turned this project into one that was completed under time and without incident.

Eastern has a solid reputation and a professional staff that has executed similar projects in New York City. Volmar Construction has used Eastern's services on previous jobs, and they continue to have a working relationship together. Charlie Spinale, Superintendent of Volmar Construction, said about Eastern, "Finding the right contractors is key to staying on schedule and on budget. Eastern Concrete Cutting checks all the boxes. From estimating to coordination, they are a skilled field technician. Eastern met and exceeded all expectations. Eastern is and will continue to be my first call. The experience of this contractor in the field is priceless." Eastern Cutting Corp. has been a CSDA member since the company was founded, and their employees have always exemplified the spirit of the organization, by employing innovative thinking, advanced technology and collaboration to tackle any challenges that may arise.

REVIEW AND COMMENT ON THIS ARTICLE AT:
WWW.CONCRETEOPENINGS.COM

COMPANY PROFILE

Eastern Cutting Corp. is headquartered in Bronx, New York, and was established in 2008. They have 12 trucks and 25 employees. The list of services they offer include wall sawing, wire sawing, robotic demolition and core drilling. They have been a member of CSDA since 2008.

RESOURCES

General Contractor

Volmar Construction, Inc.

CSDA Contractor

Eastern Cutting Corp.

Contact for Story: Joseph Neos

Email: Joe@EasternCutting.com

Tel: 718-361-6123

Website: www.easterncutting.com

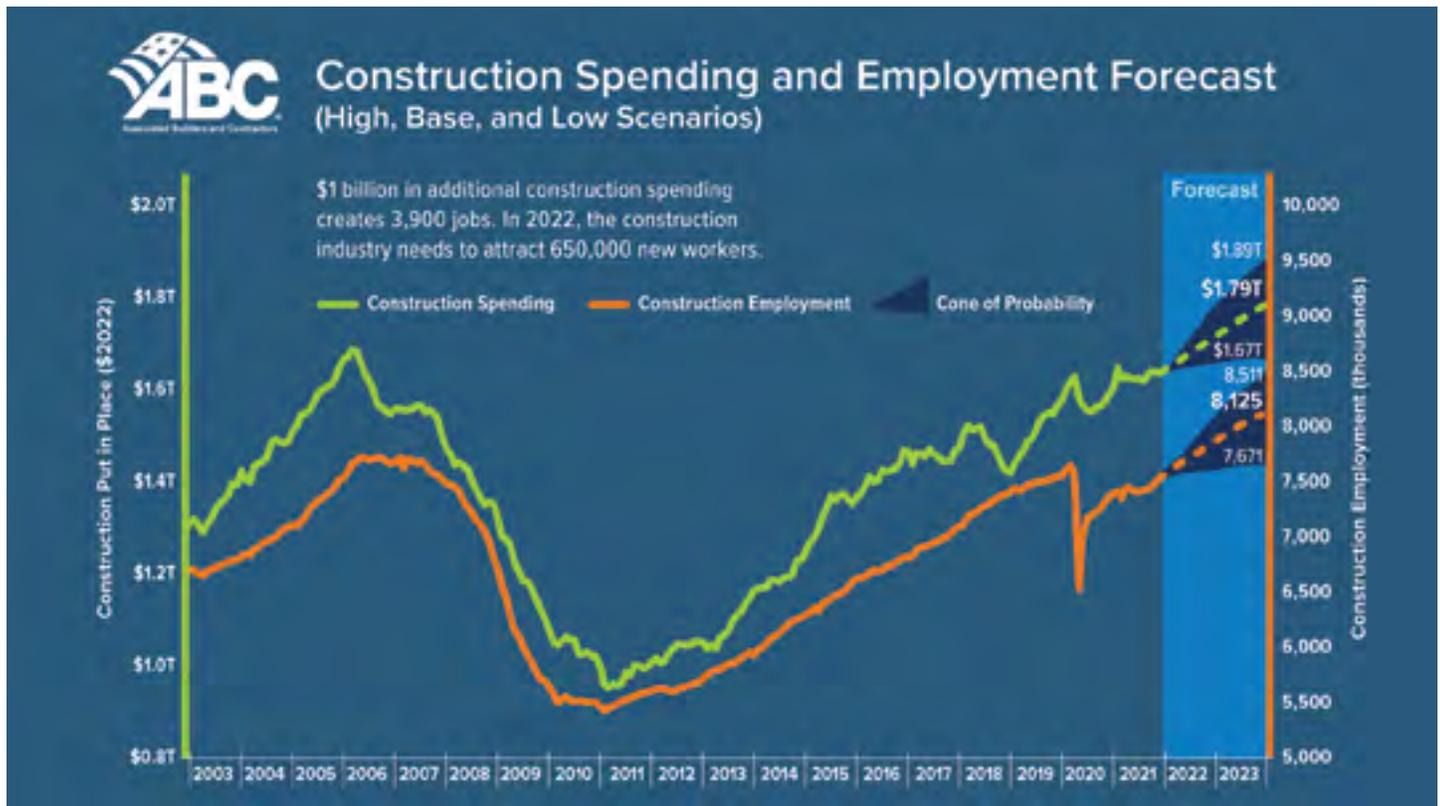
Methods Used

Selective Demolition, Wall Sawing



ABC: Construction Industry Faces Workforce Shortage of 650,000 in 2022

The workforce shortage is “The most acute challenge facing the construction industry.”



WASHINGTON, DC — The construction industry will need to attract nearly 650,000 additional workers on top of the normal pace of hiring in 2022 to meet the demand for labor, according to a model developed by Associated Builders and Contractors.

“ABC’s 2022 workforce shortage analysis sends a message loud and clear: The construction industry desperately needs qualified, skilled craft professionals to build America,” said Michael Bellaman, ABC president and CEO. “The Infrastructure

Investment and Jobs Act passed in November and stimulus from COVID-19 relief will pump billions in new spending into our nation’s most critical infrastructure, and qualified craft professionals are essential to efficiently modernize roads, bridges, energy production and other projects across the country. More regulations and less worker freedom make it harder to fill these jobs.”

ABC’s proprietary model uses the historical relationship between inflation-adjusted construction spending growth, sourced from the U.S. Census Bureau’s Value of Construction Put in Place survey, and

payroll construction employment, sourced from the U.S. Bureau of Labor Statistics, to convert anticipated increases in construction outlays into demand for construction labor at a rate of approximately 3,900 new jobs per billion dollars of additional construction spending. This increased demand is added to the current level of above-average job openings. Projected industry retirements, shifts to other industries and other forms of anticipated separation are also factored into the model.

Based on historical Census Bureau Job-to-Job Flow data, an estimated 1.2

million construction workers will leave their jobs to work in other industries in 2022. It is expected that this will be offset by an anticipated 1.3 million workers who will leave other industries to work in construction.

“The workforce shortage is the most acute challenge facing the construction industry despite sluggish spending growth,” said ABC Chief Economist Anirban Basu. “After accounting for inflation, construction spending has likely fallen over the past 12 months. As outlays from the infrastructure bill increase, construction spending will expand, exacerbating the chasm between supply and demand for labor.

“An added concern is the decline in the number of construction workers ages 25-54, which fell 8% over the past decade. Meanwhile, the share of older workers exiting the workforce soared,” said Basu. “According to the Centers for Disease Control and Prevention, the industry’s average age of retirement is 61, and more than 1 in 5 construction workers are currently older than 55.

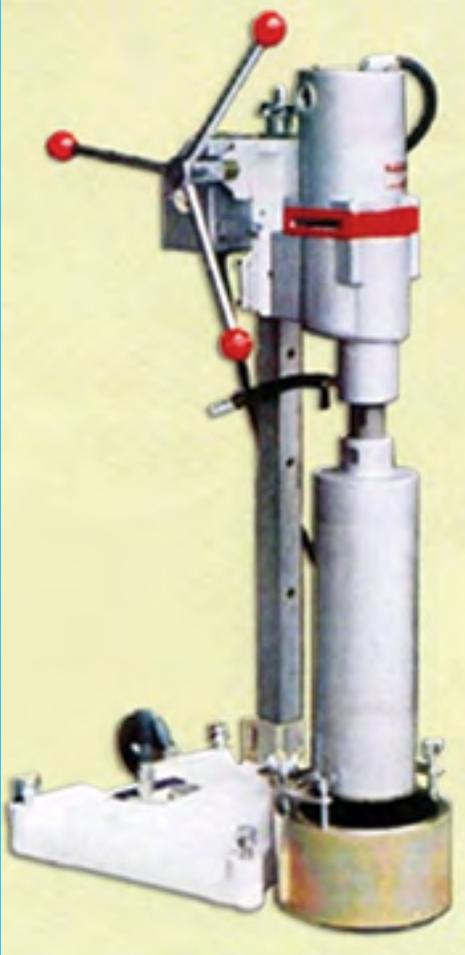
“The scarcity of qualified skilled workers is an even more pressing issue,” said Basu. “Since 2011, the number of entry-level construction laborers has increased 72.8%, while the number of total construction workers is up just 24.7%. For reference, the number of electricians was up 23.9% over that span while the number of carpenters actually declined 7.5%. The number of construction managers has increased by just 2.1%. More than 40% of construction workforce growth over the past decade is comprised of low-skilled construction laborers, who represent just 19% of the workforce.

“The roughly 650,000 workers needed must quickly acquire specialized skills,” said Basu. “With many industries outside of construction also competing for increasingly scarce labor, the industry must take drastic steps to ensure future workforce demands are met.”

In 2023, the industry will need to bring in nearly 590,000 new workers on top of normal hiring to meet industry demand, and that’s presuming that construction spending growth slows next year.

“Now is the time to consider a career in construction,” said Bellaman. “The vocation offers competitive wages and many opportunities to both begin and advance in an industry that builds the places where we work, play, worship, learn and heal. ABC member contractors use flexible, competency-based and market-driven education methodologies

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to build a construction workforce that is safe, skilled and productive. This all-of-the-above approach to workforce development has produced a network of ABC chapters and affiliates across the country that offer more than 800 apprenticeship, craft, safety and management education programs—including more than 300 registered apprenticeship programs across 20 different occupations—to build the people who build America.”

Visit abc.org/economics for the Construction Backlog Indicator and Construction Confidence Index, plus analysis of spending, employment, GDP and the Producer Price Index.

This article was originally published by Buildings & Construction on Feb. 23, 2022. For more information, please contact Mike Eby at 913-209-9884 or meyb@endeavorb2b.com.

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CONCRETE OPENINGS | 21

Contractor Assists with Recovery in Collapsed Surfside Building

On Thursday, June 24, 2021, the luxury beachfront condominium Champlain Towers South, part of a North and South complex in Surfside, Florida, unexpectedly collapsed at approximately 1:25 a.m. with an unknown number of residents still inside. Survivors of the incident say they were awoken to the sound of fire alarms blaring, the building shaking and debris falling. Security footage from neighboring buildings shows distressing footage of the building collapsing floor by floor into itself. This shocking tragedy not only shook the Miami suburb, but the entire nation.

Immediately, Miami-Dade Police and Fire and Rescue were on the scene with equipment, search dogs and more than 80 rescue units to begin rescuing survivors of the collapsed condominium tower. The partial collapse of the tower had left 55 of the 130 units destroyed, with the rest of the tower experiencing structural damage that locked residents in their apartments, on their balconies or in stairwells. Some residents were even trapped in the flooded underground parking garage with no way to escape. Immediately crews began pulling residents from the rubble using cranes and ladder trucks, prying the doorways open and removing wreckage to create openings for the survivors.



Mayor of Miami-Dade County, Levine Cava and Governor of Florida, Ron DeSantis both signed emergency orders for the disaster, and by June 25th, President Biden had signed an Emergency Declaration authorizing the use of federal assistance to fund the emergency search operation, create support for survivors and investigate the cause of the tragedy. FEMA and other federal agencies mobilized immediately and were at the scene to assist within hours. Contractor Reliable Concrete Cutting LLC of South Florida was contacted directly by the city of Surfside to assist in recovery.

Upon arrival, it was unknown how many possible survivors or victims remained in the debris. Firefighters and FEMA task force members were already using jackhammers and hand tools in addition to heavy equipment to chip

away at layers of the rubble in search of air pockets. However, the remainder of the partially collapsed building was dangerously unstable, quoted by the Reliable team as, “tipping and creaking,” as search efforts continued, putting the recovery teams’ safety at risk. When Reliable operators arrived onsite on June 25th, they immediately recommended for the Fire and Rescue teams to cease use of the jackhammers that were being used to chip the debris, as it was causing more instability.

Reliable operators used a Diamond Products Weka DK12 handheld core drill to drill 6-inch holes into the debris, allowing rescue teams to insert cameras to see if there was anyone inside the air pockets that had not been rescued yet. As the crews worked around the clock in alternating 12-hour-on and



12-hour-off shifts, operators began using ICS 890 hydraulic powered chainsaws and World Diamond Source Ripper 20- and 24-inch hand saws to cut the large chunks of concrete carefully enough to not risk hurting any survivors or damaging any evidence. Jackhammers, wrecking balls and other methods of demolition would not only compromise the integrity of the already unstable building, but could make the situation far worse.

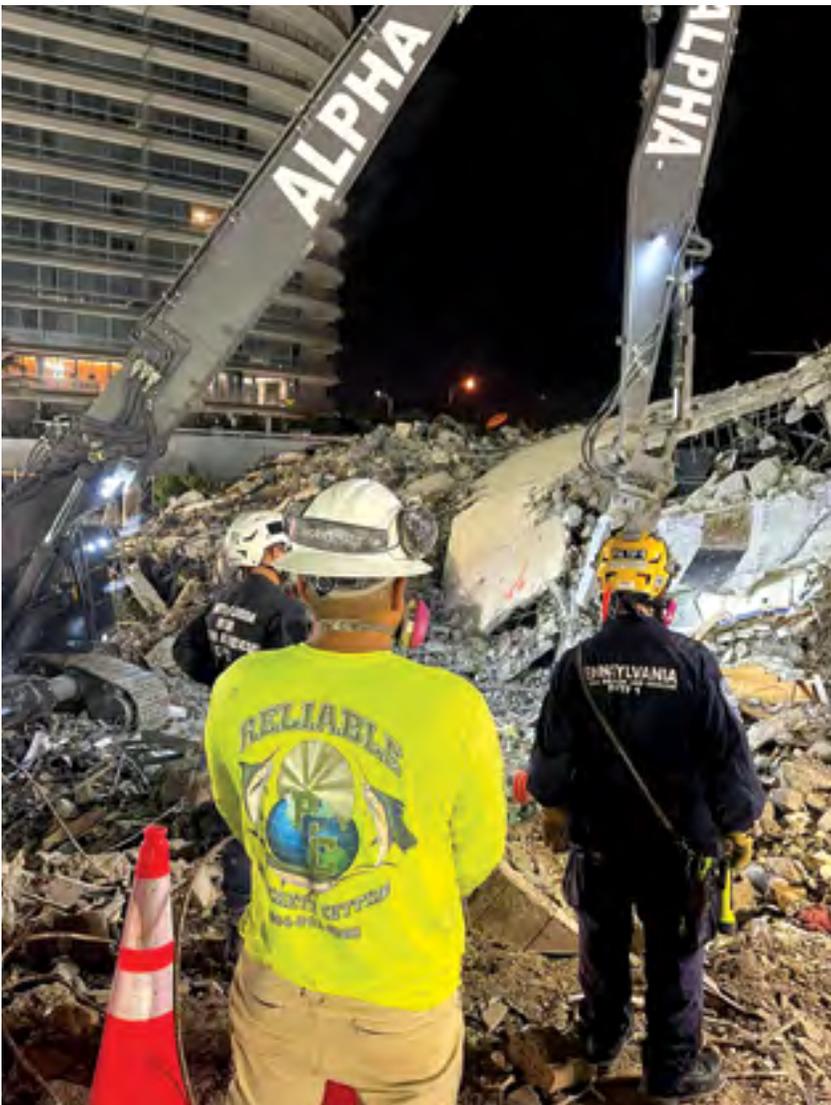
By the end of the day on June 24th, at least 35 people were rescued, 159 were unaccounted for and one person was confirmed dead. Rescue efforts by FEMA, Miami-Dade Fire and Rescue, Reliable and many other teams continued throughout the following days. The crews cut through and helped remove debris as gently as possible, and all debris was removed via crane. The grueling process required that as one area was broken down and the debris transported away, Reliable operators had to move all the machinery and

equipment to the newly cleared area and start again.

The death toll continued to rise and by June 29th, over 3 million pounds of concrete had been removed in search of survivors and victims. Ongoing structural engineering assessments showed that the remaining portion of the tower was dangerously unstable, presenting a hazard to rescue and recovery teams working on site. By July 2nd, the death toll had risen to 20 with 128 still missing, and with Tropical Storm Elsa approaching Miami, Mayor Cava ordered the building demolished as soon and as safely possible. On July 4th at 10:40 p.m., the building was demolished by Controlled Demo Inc. via controlled explosives and the search for survivors continued, now with access to areas previously inaccessible. By July 7th, the death toll had risen to 46 with 94 still missing. At this point, the operation, now in its 14th day, was shifted from a rescue mission to a recovery mission.

Following demolition, the Reliable team began concentrating efforts to assist in breaking down the concrete for removal. In addition to the hand tools, Diamond Products WS25 wire saws with hydraulic power packs were used to cut the large pieces into small enough pieces to be flown away by crane. Tropical Storm Elsa made landfall on July 6th, bringing even heavier rainfall than Florida's tropical climate is accustomed to, as well as lightning storms that would halt all work being done on the Champlain Towers South cleanup. Through the difficulties this project presented, the site was cleared by crews faster than expected, and in about six weeks, the rubble was clear. The remaining victims were recovered, bringing the total to a tragic 98 lives lost in this collapse. The Surfside collapse is tied as the third-deadliest structural engineering failure in United States history.

As the original search, rescue and salvage contract for Reliable was completed, they were awarded additional work by the general contractor, Alpha Demolition, to continue working on the Champlain Towers South cleanup, as well as GPR testing surrounding buildings for similar structural issues. Ben Kooby of Reliable Concrete Cutting said about this project, "Despite the horrible circumstances and the 98 lives lost, it was incredible to see so many people and organizations come together. From the police





department to the city, the survivors and families, the general contractors and subcontractors; everyone came together in a collective effort. What was accomplished could not have been done without this level of community. We are also incredibly proud to be involved in the efforts moving forward to not let this happen again.”

There are many interviews available online from the survivors of the collapse and the victims’ families. Anyone wanting to learn more is encouraged to view these interviews to understand just how devastating of a tragedy this collapse was to the victims, survivors and their families. Support Surfside in conjunction with the Coral Gables Community Foundation raised over \$5 million to provide relief services for the families impacted by the building collapse in Surfside, Florida. **More info available at SupportSurfside.org.**

COMPANY PROFILE

Reliable Concrete Cutting LLC is headquartered in Pompano Beach, Florida and has 40 employees and a fleet of 30 trucks. They offer slab sawing, deep sawing, curb sawing, wire sawing, core drilling, chain sawing, hand sawing, chipping and demolition, concrete pavement joint widening, sawing and sealing and barrier wall removal. They opened their doors in January of 2014.

RESOURCES

General Contractor
Alpha Demolition

Contractor
Reliable Concrete Cutting LLC

Contact for Story: Ben Kooby

Email: bkooby@worlddiamondsource.com
Tel: 954-899-4898
Website: www.reliablecc.com

Methods Used
Core Drilling, Wire Sawing, Hand Sawing

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Protecting Your Concrete Countertops

More and more people are recognizing concrete as a fantastic option for home surfaces such as kitchen countertops. First, it is more affordable than the traditional options of granite, marble, and quartz. Second, concrete for home surfaces is completely customizable to the customers preferences. With thousands of options of stain and seal to achieve nearly any aesthetic, the only question that remains is how to protect this investment. Even with many traditional stains and seals, the concrete can remain porous and vulnerable to stains.

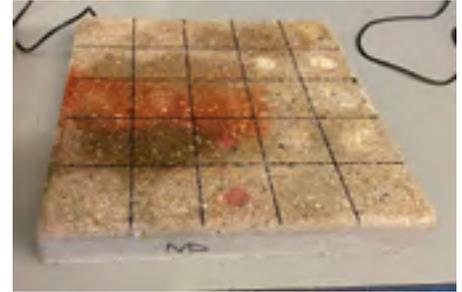
This is something students Lauren D'Souza, Easton Zimmer, and Sarah Walsh of the Blue Valley Schools' Center for Advanced Professional Studies (CAPS) program out of Overland Park, Kansas set out to test. The CAPS program is a nationally recognized, innovative high school program that allows students to be fully immersed in a professional world and gives them the opportunity to be mentored under industry professionals and use real industry tools to solve problems. The students involved in this project were interested in chemical engineering projects, and usually the concrete renovation industry is considered Civil or Mechanical Engineering, but really, construction projects involve all disciplines.

At DITEQ, there are several people now mentoring projects including Bill Sands, Jeff Cox, Kevin Wilson, Robert Carroll, and Mike Orzechowski, who happened to be the mentor for this particular project. Orzechowski wanted to give them a 'real world' project to help educate them on the specifics, like the true need or value of a solution, what the real problem(s) are, Google search terms and what technology and what solutions currently exist. Orzechowski says about CAPS projects, "I try not to give them too much information to bias a solution. I do not want the same answers that the industry already has, like 'we've always done it that way,' and let them think outside of the box."

The students sought to find the best treatment plan for concrete that would prevent staining against common kitchen and garage stains. They used many food and drink stains to simulate a kitchen environment, as well as gas and oil to simulate the floor of a garage.



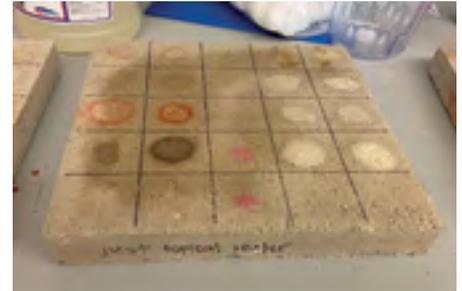
Block 1A



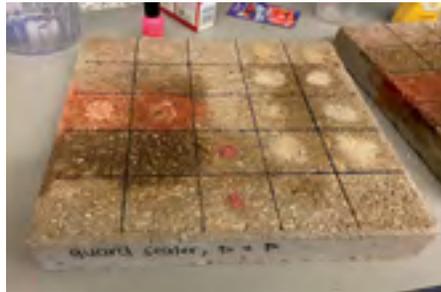
Block 1B



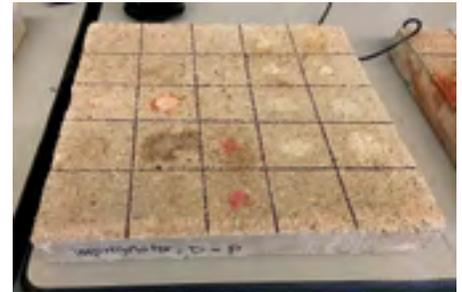
Block 1C



Block 1D



Block 1E



Block 1F

In their first round of testing, they poured six blocks of inexpensive, low-quality concrete into 12" x 12" concrete pavers, which were divided into 25 slots that were 2-2.5" per side. Each of the six blocks was treated differently:

- Block 1A was untreated
- Block 1B was only polished
- Block 1C was polished and densified
- Block 1D was sealed with a generic topical sealer
- Block 1E was densified, polished, and sealed with DITEQ's Guard Sealer
- Block 1F was densified, polished, and sealed with DITEQ's Impregnator

STAINS APPLIED:

Phase 1: Jell-O, Kool-Aid, coffee, gasoline, mustard, lemon juice, pickle juice,

vinegar, acetone, Coke, and nail polish with acetone on top.

Phase 2: Jell-O, Kool-Aid, coffee, gasoline, mustard, lemon juice, pickle juice, vinegar, motor oil, and nail polish with acetone on top.

To polish, a DITEQ TEQ-Shine Polisher was used to grind down and smooth the concrete surface. After all the treatments were complete, the individual staining agents were administered. Each block was divided into a 5 x 5 grid with tape, and a total of 11 stains were applied to each block. Two cotton balls were soaked in each stain to better contain the liquids and to observe differences in the level of staining depending on time. One round of cotton balls was left on the concrete for 6 hours and the other was left for 24 hours.

After the cotton balls were left for the respective amount of time, four different methods were used to attempt to remove the stains. First, the students attempted to simply wipe the excess liquid off the block with a paper towel. For the second method, a generic wet sponge was used to attempt to wipe away the stain. For the third method of removal, the students used DITEQ's Daily Cleaner with a scrub brush, and finally they used DITEQ's HD Cleaner and Degreaser with a scrub brush as the fourth method.

For their second round of testing, the students began by creating a form for their concrete pour. The large concrete block used in Phase 2 was 60" x 15", and each of the 5 sections were 12" x 15", and each test slot was 3" x 3". They decided to have five different types of treatment instead of six like the previous test and eliminated the block that was polished but not densified. They also decided to have 10 stains instead of 11, so they could use more space on the concrete block. After the concrete hardened, they began polishing the sections they needed to have polished, applied the densifier, repolished and applied chemicals to the correct sections.

The main form of testing was applying the stains, and then using different cleaners to try to remove the stains. In Phase 1, the four different methods mentioned above to clean were used, and in Phase 2, after they wiped off excess liquid with a paper towel, they used DITEQ's Daily Cleaner with a scrub brush. The following day, they used DITEQ's Degreaser with the scrub brush. This is stronger than the Daily Cleaner, and both methods of cleaning in this phase showed success. After each round of cleaning, they observed differences in each of the blocks, and made predictions about which block would resist staining the best at the end. Their testing used qualitative data, so the conclusions are largely based on their observations as well as those of their peers in the class.

In Phase 1, the students found that overall, the blocks with impregnator and guard sealer resisted the stains the best. The leftover stains were minimal compared to the other blocks, and while cleaning, they noticed that the suds often turned the color of the stain, indicating that the cleaner was successfully removing the stain. This conclusion was proven true again after the Phase 2 testing. "It was fun being able to learn about a topic that I thought, on the



surface, didn't have much to offer. This research could potentially give insight into the right treatment for the stain resistance of concrete," student Lauren D'Souza stated about this project.

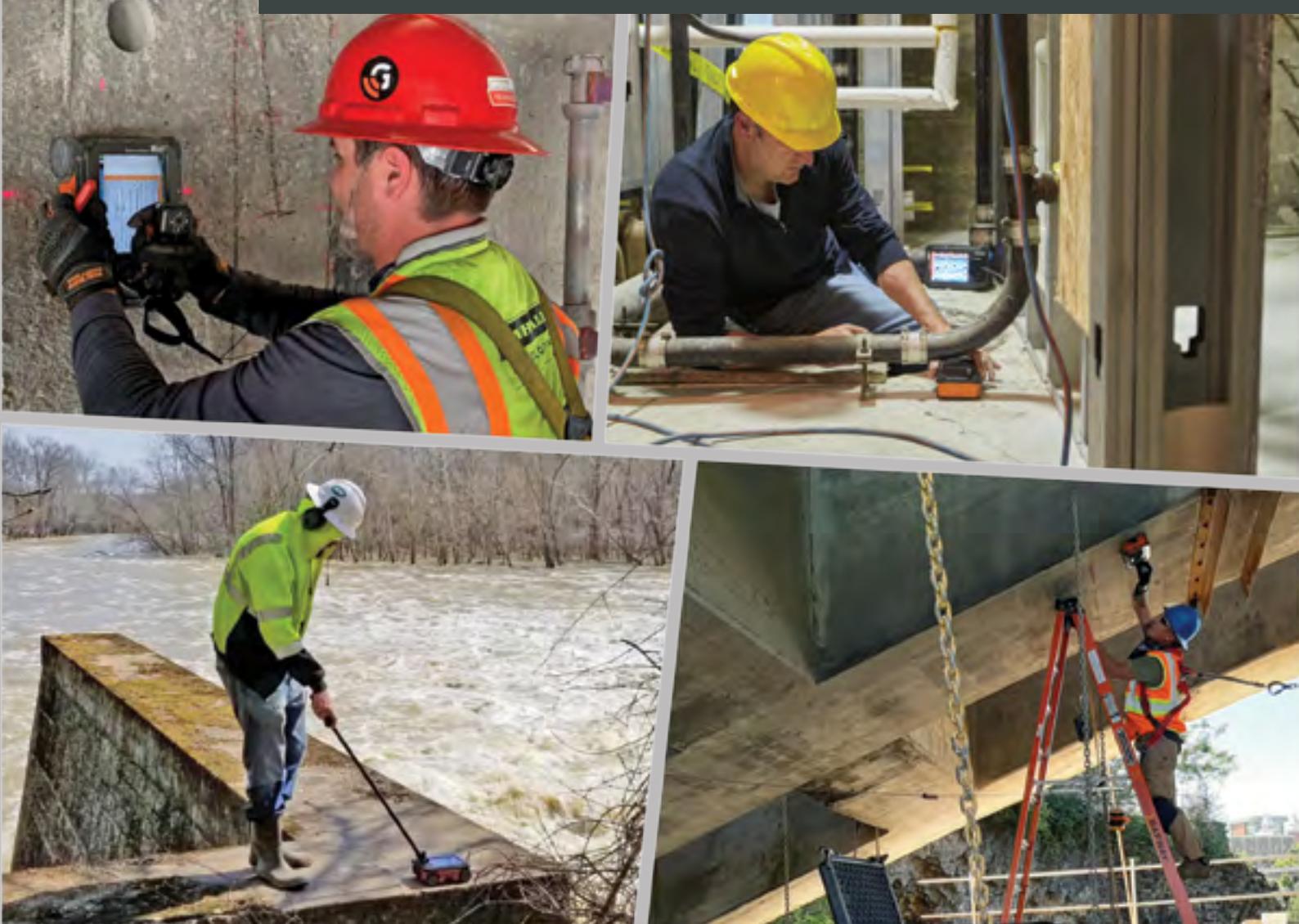
After treating the concrete, they also tested the hardness of the concrete with a Mohs Hardness Scale. It was found that densifying and polishing increased the block's hardness by one measure, and the Guard Sealer increased the hardness by another measure, overall increasing the hardness of the block by two units. Although staining and hardness do not necessarily coincide, the success of the chemicals used to resist staining did coincide with a harder Mohs score. Student Easton Zimmer said about the findings, "We found that acidic stains, especially Kool-Aid, did the most damage on all treatments of concrete. We did find, however, that the impregnator and guard sealer did the best job resisting against this stain. If you drink Kool-Aid, consider applying DITEQ's Impregnator or Guard Sealer to your countertops!"

Residentially, this project can help people know what to expect with concrete counter tops. Most of the staining agents used are stains typically found in a kitchen, and they often did some damage to the concrete. Although most homes would have a much higher grade of concrete, the testing can help people better understand the risk of staining to the concrete from certain liquids (like Kool-Aid and other acidic stains) and give guidance about cleaning difficult stains. The students were most successful with actual concrete cleaners and a coarse scrub brush, which would be helpful for a home with concrete counter tops and a stubborn stain. The tests also indicated that concrete with more treatment (for example, concrete that was densified and polished resisted stains the best, which would help show homeowners that they should invest in concrete treatment to resist stains.

The students left us with one final piece of advice: "Don't spill Kool-Aid on your countertop!"

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MICHAEL FINDEIS
IACDS President

report on the activities of the IACDS, which has been fighting tirelessly with its members for years to make our industry better, to improve and facilitate the conditions under which we and our employees work every day. To be there when drilling and sawing proves itself as a successful and modern way of dismantling construction facilities compared to other options.

The IACDS will publish a technical paper on slurry management this year. Under the direction of Erin O'Brien, this represents a milestone in dealing with the slurry extracted from drilling and sawing operations. We are happy to again offer webinars, which are accessible to everyone after a simple registration.

And for me there is another topic where we in Europe seem to have some catching up to do and where we can learn from you - the digitalization of the drilling and sawing industry. What is this about? In short, I do not mean the digitalization of the machines and tools we use. It's about combining construction site planning, dispatching, timekeeping, resource planning, work measurements, photos, messages, navigation and personal certificates in one system. These functions bundled in a single application give our work processes a whole new impulse. The office now actually fits in your shirt pocket and

can be used on both a PC and a mobile phone. A practical webinar is also planned on this topic.

I am very pleased that the CSDA, one of the largest and eldest associations in the drilling and sawing industry, will be celebrating its 50th anniversary this year. If we look at the development of our industry over the past 50 years, then the people who have been committed to our industry in this association have achieved incredible things. Thanks to the work of these people, the technical development of the machines, health and safety guidelines and environmental protection are now at an incredibly high level. And let us not forget, the founding of the IACDS can also be traced back to people like Pat O'Brien. Thank you for being the pioneer in our industry. We look forward to another 50 years with you.

Remember that this year in October at BAUMA in Munich, the IACDS will present the Diamond Award for the first time in three categories: Best Contract, Best Product and Audience award. Don't miss the chance to become one of the award winners and apply with your extraordinary orders or new, innovative, game changing products. As usual, you can find all information about the Diamond Award and our activities at www.IACDS.org

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Abrasive Chainsaws Found to Decrease Kickback Risk When Cutting Pipe in a Trench

Study Indicates That Abrasive Chainsaws Are Safer Than Circular Cutoff Saws

Saw operators who have experienced a kickback event with a circular cutoff saw will say that they didn't do anything out of the ordinary but experienced an unexpected phenomenon. This type of event takes place in just 20 milliseconds – the blink of an eye, flash of a camera or flap of a bee's wing. Because human reaction time is about 250 milliseconds (over 10 times longer than a kickback event), operators don't have the chance to react or get out of the way, oftentimes leaving them to wonder what just happened and what went wrong.

Abrasive saws, like many power tools, carry inherent risk, and many are also regulated to cover their basic and intended use applications. One exception is the lack of regulation around the unique way circular cutoff saws are used for cutting pipe in the trench (e.g., water/sewer/storm pipe), which requires operators to reposition the blade guard to complete the job. As a result, this specific application poses serious risks that are not conveyed or addressed by any published safety standards.

Because construction professionals use circular cutoff saws for many types of cutting jobs, including cutting pipe above the trench on new construction projects, they are very comfortable with the tool and tend to default to using it in the trench as well. However, while circular cutoff saws have many safe and appropriate uses in construction, their inherent design makes them a riskier choice for cutting pipe in a trench.

According to OSHA, kickback is one of the main hazards of using a circular cutoff saw, with injuries primarily to the head and neck area, resulting in lacerations, missing teeth or even fatalities [1].



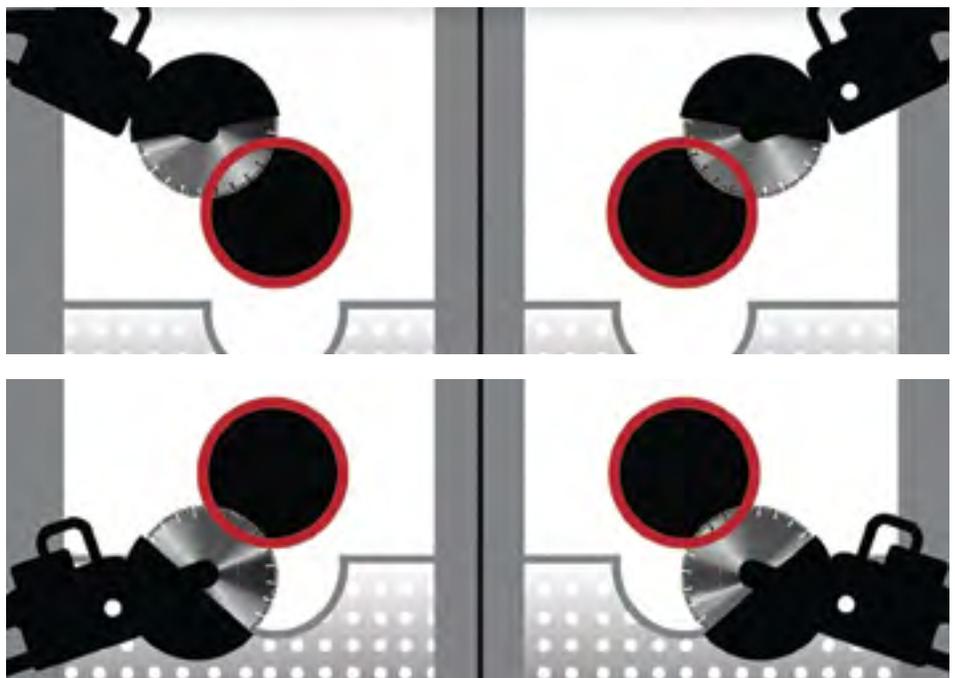
According to published research, an abrasive chainsaw has a significantly smaller kickback zone and generates nearly 50% less kickback energy than a circular cutoff saw, making it a safer choice for operators cutting pipe in the trench.

When operators are working in tight spaces below grade with a circular cutoff saw, they often end up positioning themselves awkwardly and holding the saw differently, which results in less control. Additionally, when nearing the end of the cut, only a small section of material typically remains on the underside or belly of the pipe, and the operator must reposition the blade guard to access it. At this point in the cut, the pipe is the least stable, the guard is completely ineffective, the chances of kickback are the highest and the operator's direct exposure to the blade is the riskiest.

Quantifying the risk and dangers of kickback with any saw has always been a difficult task. The industry has long been interested in collecting kickback data to determine if and how much alternative cutting methods could help decrease risk in the trench – and how that information could be used to inform regulation to make conditions safer for operators. To gather data, a world-leading research university was engaged in 2017 to conduct an independent study to measure the differences in kickback energy between circular cutoff saws and abrasive chainsaws when cutting pipe in the trench. The results of this research can be found in the peer reviewed article “Investigation of abrasive saw kickback” published in the International Journal of Occupational Safety and Ergonomics in 2020 [2] <https://doi.org/10.1080/10803548.2020.1770529>.

Common abrasive saws used in pipe cutting

Few professionals associate chainsaws with pipe cutting, and those who consider them



Graphic 1

an option assume the kickback risk would be greater because they liken it to wood-cutting kickback. Yet, the two types of kickback have distinct differences. This flawed assumption is yet another reason in addition to familiarity that operators default to using the circular cutoff saw in the trench.

What is kickback?

The Occupational Safety and Health Administration (OSHA) defines kickback as an event “when the blade ‘catches’ the stock and throws it back toward the operator.” Because a kickback event happens faster than the average human reaction time, it’s uncontrollable – even for the most skilled operator. Kickback events have nothing to do with the mastery of the tool and everything to do with the saw and specific circumstance, in this case, in a trench. Furthermore, kickback is difficult to measure. Although it has been studied in some settings, the complexities of cutting pipe in a tight trench make this form of kickback one that’s not well known or well understood and therefore overlooked as a risk.

Wood-Cutting vs. Pipe-Cutting Kickback

Wood-Cutting Kickback: Caused when the sharpened teeth on the wood-cutting chain or blade bore into and grab the wood.

Pipe-Cutting Kickback: Unlike wood-cutting kickback, this kickback doesn’t happen from sharpened teeth boring into the work material. Rather, the abrasive chain or blade is made to grind through the material, so kickback happens when it is pinched by the work material.

Differences between circular cutoff saw and abrasive chainsaw methodology in the trench

When a circular cutoff saw is used for pipe cutting in a trench, more excavation is required so the operator can move around both sides of the pipe and get beneath the pipe to make an upward cut that removes the last strap of the pipe. To make the final cut, the operator must reposition the guard of the circular cutoff saw, which exposes them to the kickback zone when the pipe is most likely to pinch (see Graphic 1).



Wood-Cutting Chain



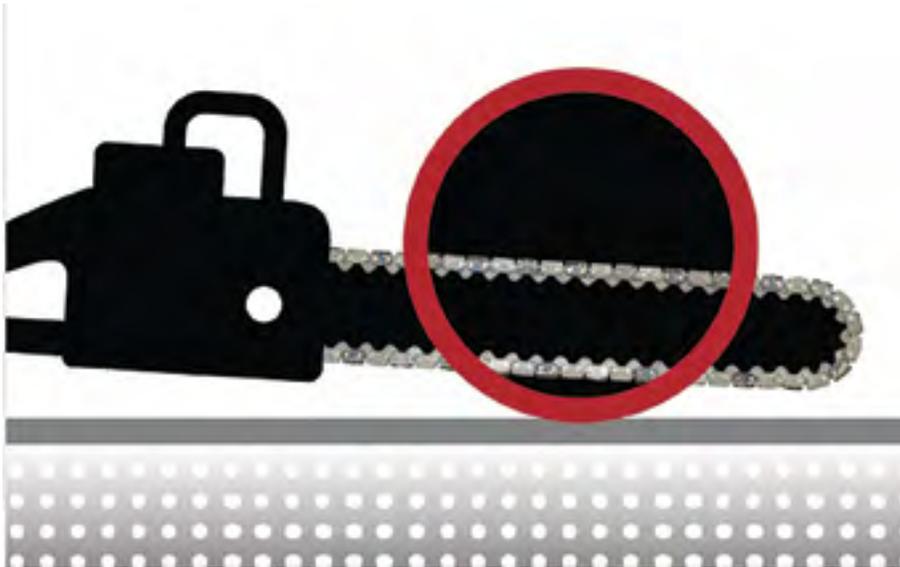
Wood-Cutting Blade



Abrasive Blade



Abrasive Chain



Graphic 2

When an abrasive chainsaw is used in the trench, less excavation is required because the length of the bar offers increased cutting depth – and also allows the operator to remain stationary and make a top-to-bottom cut with more control. The inherent design of the chainsaw means the kickback energy is lower, the kickback zone is significantly smaller and engagement of the kickback zone is not required to complete the cut (see Graphic 2).

The goal of the independent research was to compare these two types of saws that are most commonly used in the trench, quantify their kickback energy and identify a safer saw solution that would lessen the kickback risk for the operator.

Why are abrasive saw standards needed?

Kickback is one of the biggest hazards of using a circular cutoff saw and can cause injuries or even fatalities – especially when the guard is repositioned. OSHA mandates that the safety guards must never be repositioned [3], yet this is a common practice when cutting pipe with circular cutoff saws because the operator must cut under the pipe to completely sever it. While there is currently regulation for wood-cutting chainsaws with the U.S. Consumer Product Safety Commission, it is lacking for abrasive chainsaws specific to pipe-cutting projects in the trench.

As previously mentioned, circular cutoff saws are not regulated for this specific application because the guard must be repositioned to complete a pipe-cutting job

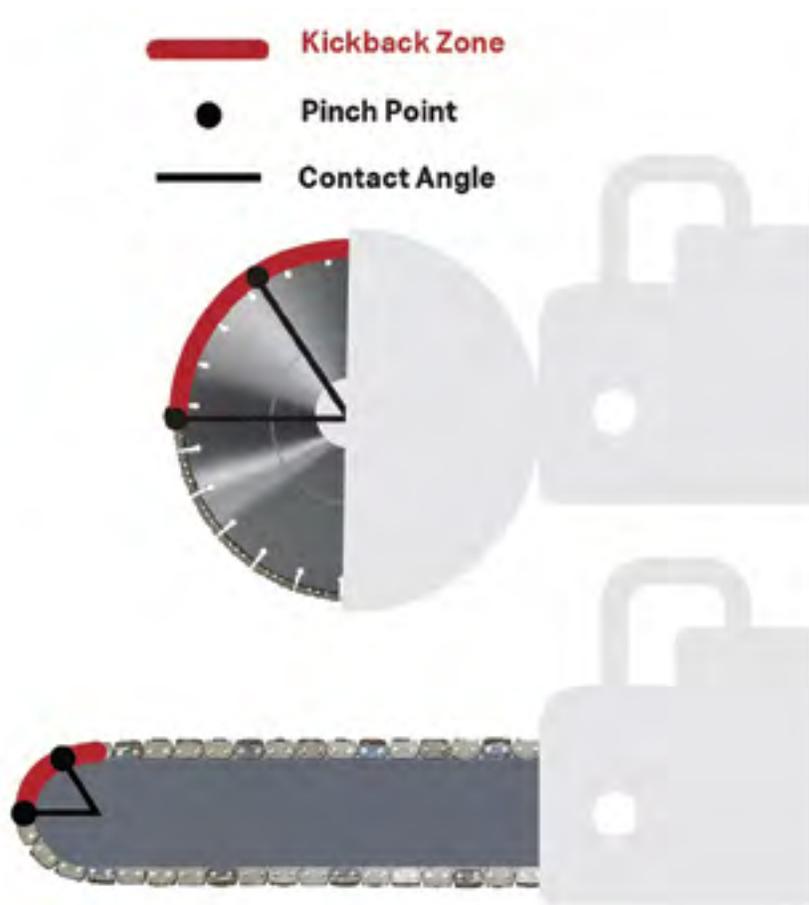
in the trench, which exposes the operators to the kickback zone when the pipe is most likely to pinch (refer to Graphic 1 above). Adding to the inherent risks are the stresses that can build up in underground pipes over time due to natural soil movement. This is partly what causes pipes to break

and need repair, and when these same stresses are released at the completion of the cut, this can also cause a pipe to shift unexpectedly and pinch the blade or chain.

Research findings on kickback

The independent research, outlined in the published article, studied pinch-derived kickback in an effort to predict kickback risk. The lower the kickback energy and smaller the kickback zone, the less likely it is that a kickback phenomenon will occur. To evaluate pinch-based kickback for circular cutoff saws and abrasive chainsaws, a mathematical model was developed and a kickback machine was designed, built and tested. Research and data collection focused primarily on studying the effects or sensitivities of initial contact angle and pinch force on resultant kickback energy.

Contact Angle: In real-life pipe-cutting jobs, contact angles vary according to the operator's positioning, the saw orientation and the cut they're



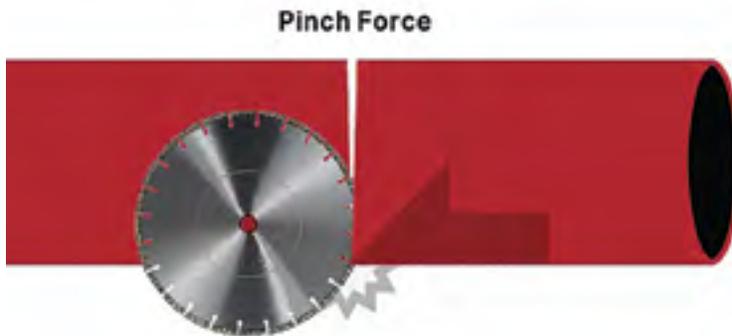
Graphic 3

making. The contact angle defines where along the periphery of the kickback zone the pinch occurs (see Graphic 3). The highest kickback energies tend to occur within a very small range of contact angles. Above and below that contact angle of peak energy, kickback energy tends to fall off rapidly. From a risk characterization perspective, researchers identified peak kickback energy for each saw, so data collection focused on these specific contact angles, which were different for the circular cutoff saw and abrasive chainsaw.

- Experimental data aligned with the mathematical model, which predicted more energy across the range of contact angles for the circular cutoff saw and established the initial contact angle at which each saw will exhibit peak energy.
- When a circular cutoff saw is used to cut through the pipe, the blade's orientation and the operator's grip on the saw shift throughout the process (see Graphic 1). This means a variety of contact angles are engaged, including the contact angles that exhibit peak energies.

Pinch Force: Pinch force happens when the work material pinches the saw blade, often right before the pipe is completely severed in two pieces.

- When testing at a moderately high pinch force (2,100 newtons), the abrasive chainsaw sometimes caught the nose in the pinch mechanism, stopping the chain entirely. This suggests a limit for the amount of pinch force and represents the



highest observed kickback energy of the abrasive chainsaw (~45 joules; see Graph 1).

- Conversely, the circular cutoff saw didn't get caught in the pinch mechanism at 2,100 newtons. To better understand the limit for this type of saw, the pinch force was increased incrementally up to 4,000 newtons before the saw reached its observed peak kickback energy (~80 joules). This was nearly double the kickback energy of the abrasive chainsaw (see Graph 2). To help visualize the energy generated in a kickback event, a fastball thrown by an elite baseball pitcher has about 110 joules of energy.
- At higher pinch forces, the abrasive chainsaw exhibited more variation in the data than the circular cutoff saw. This is likely attributed to the non-uniformity of the abrasive chain. However, the data still match fairly closely to the predictions of the mathematical model

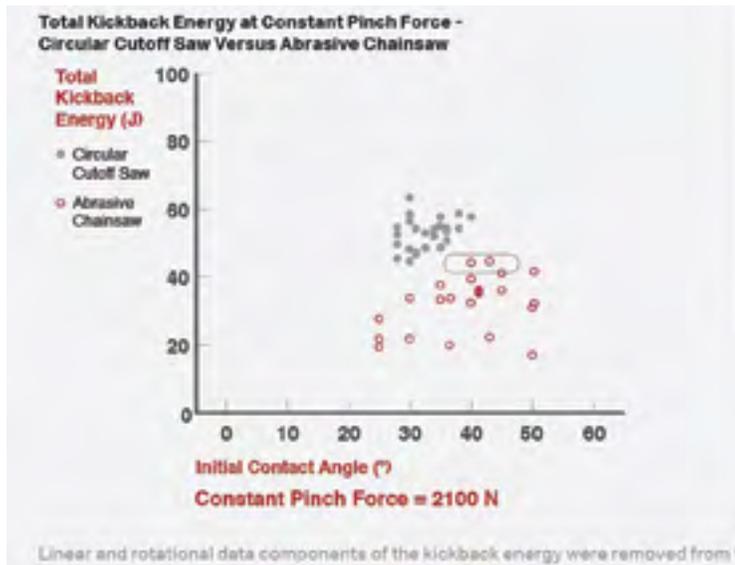
and are still valid for comparing kickback energy and risk.

Key takeaways

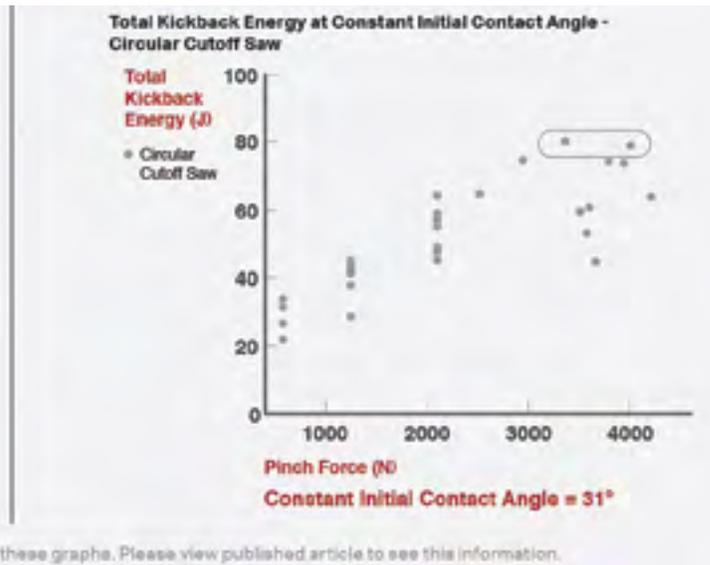
The research study was able to compare and quantify the kickback energies of a circular cutoff saw and an abrasive chainsaw. Results found the kickback energy of the circular cutoff saw to be nearly twice that of the abrasive chainsaw given the same environmental conditions. This data indicates that using an abrasive chainsaw is the safer option for cutting pipe in the trench compared to a circular cutoff saw.

How to decrease risk in the trench

While not included in this research, other alternative cutting tools that reduce risk in the trench include guillotine saws, universal pipe cutters, snap cutters and the like. Visit <https://icsdiamondtools.com/kickback-study> to view the full independent research study, connect with an expert to learn more about safer alternative cutting methods.



Graph 1



Graph 2



Earlier this year, the concrete construction industry reconvened in Las Vegas, NV for the World of Concrete 2022. The show, which in 2021 was rescheduled from January to June and saw just 18,000 attendees, looked almost like itself again, with about 37,000 industry professionals and over 1,100 industry-leading suppliers meeting at the Las Vegas Convention Center, signaling the industry's strong return to live events.

The consistent foot traffic in the expo halls, high engagement with comprehensive educational offerings and overall vibrance exuded from participants underscores the industry's critical need for in-person connection. The show took place over 632,000 NSF of the expansive and newly renovated LVCC.

"The level of engagement from companies of all sizes and corners of the industry was very encouraging, especially following the past



World of Concrete 2022

couple challenging years, and points to the revival of the trade show industry and continued growth of the construction and masonry sectors,” remarked Jackie James, Group Director, World of Concrete. “We are thrilled with the positive feedback we’ve received from our community, buyers and suppliers alike, and look forward to seeing a wealth of new business partnerships and industry innovation resulting from this weeks’ event.”

Trends from the 2022 event include, but are not limited to:

- Greater jobsite productivity, with new battery systems that deliver more power to the hand tools used to perform demanding concrete tasks, such as drilling, cutting and demolition;
- Introduction of equipment that is automating concrete construction activities, including 3D printing, rebar tying and drilling overhead holes;

World of Concrete 2022 continued

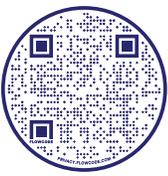


- Entrance of new materials that increase contractor productivity while still ensuring durable repairs;
- Streamlined management data systems that enable contractors to tighten a project's critical path;
- And product and equipment updates that reduce a product's carbon footprint and increase contractor productivity.

One of the most prominent presences at the show was from CSDA member Hilti, who announced the launch of a new innovation that provides customers with a fully-connected experience like never before – Nuron, a more-powerful 22V cordless battery platform. The Nuron battery enables a step-change in 22V cordless performance and power tool classes previously only possible on higher-voltage platforms, gas or electric powered. It delivers more than double the power of current 22V tools and a cloud-connected cordless platform enables insights into tool usage, location and utilization data. A redesigned battery pack increases safety and jobsite durability and has onboard battery state-of-health intelligence for more productivity. Hilti announced more than 70 tools at this launch, all on the Nuron battery platform, and there are many more to come.

Husqvarna Construction is strengthening its offer to demolition contractors with the launch of a new range of demolition robots – the DXR 145, DXR 275, DXR 305 and DXR 315. The new range of demolition robots offer more power and more control, which means users can take their skills to a whole new level. The four new DXR models offer, on average, a power increase above 20% when compared to previous models. This results in more effective and powerful machines that allow the user to get more demolition work done faster.





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World of Concrete 2022 continued



Also from Husqvarna was a new line of battery-powered light construction equipment that will help contractors work without fuel, cords and direct emissions. Two battery ecosystems were announced, including the PACE (Powerful. Agile. Cordless. Electric.) and the i-Series. The PACE battery system unveiled with the K1 PACE high power battery cutter. Contractors can expect power and performance equivalent to gas-powered cutters with all the additional benefits battery powered equipment brings to both operators and the environment. The i-Series is a family of 36V battery-powered products including the WT 15i, a 4-gallon portable water tank, the DM 540i, a battery-powered drill motor and the DE 110i, a battery-powered dust extractor.

Aquajet introduced its newest hydrodemolition robot – the Aqua Cutter 750V. This new model launches Aquajet’s revolutionary patented Infinity oscillation that moves the water jet in an infinity – or figure 8 – pattern, removing more concrete in a single pass while reducing shadowing, eliminating the risk of pipe holes and providing an ideal bonding surface. Like all Aqua Cutter Robots, the 750V cleans and descales rebar without causing microfracturing. It also maintains exceptional horizontal, vertical and overhead reach, making it suitable for a wide variety of concrete removal tasks, such as renovation and bridge and road repair.

Other CSDA members had a strong presence at the show. In the West Hall, where the CSDA booth was located, Diamond Products, Real Power, GSSI, DDM Concut, DITEQ, Vacuworx, Brokk and Cratos Equipment all showcased their latest products and technologies and saw steady traffic throughout the week. “World of Concrete 2022 was a success for GSSI thanks to the high quality of both the conversations we had with attendees and the leads we acquired at the show. We didn’t know what kind of attendance to expect this year due to the pandemic, but the quality exceeded our expectations,” said Jennifer Lighthall, Marketing Coordinator for GSSI.

In the Central Hall, Diamond Vantage, Makinex and Superabrasive welcomed customers and promoted their products to attendees, while in the North Hall, Hilti, Screening Eagle, Peak Software and Pristine Environmental demonstrated their latest technologies. Members Husqvarna, Hilti, Diamond Products, ICS, DITEQ, LISSMAC and Superabrasive enjoyed the beautiful weather and busy crowds in the outdoor Diamond Lot.

“It was really encouraging to see so many familiar faces and feel a sense of optimism going into the rest of 2022 and beyond,” said CSDA Executive Director Erin O’Brien. “We heard positive feedback from our members who exhibited and attended the show, and we feel that our industry is poised for a comeback. We look forward to continuing this momentum at our Annual Convention & Tech Fair, taking place March 30 – April 1, 2022, in Scottsdale, AZ and look forward to seeing even more attendees there.”





CSDA 2022

CONVENTION & TECH FAIR

March 28-April 1, 2022
The Scott Resort & Spa
Scottsdale, AZ



New Location!

And just like that... CSDA is 50 years old!

In February 1972, at a small restaurant in Torrance, California, a man by the name of Les Kuzmick, Sr. of Cushion Cut gathered his industry colleagues to discuss the creation of a trade association specifically for the contractors and manufacturers of a fledgling concrete cutting industry. His enthusiasm was matched, and this core group of industry leaders, trailblazers and supporters formed the Concrete Sawing & Drilling Association, or CSDA. The first official meeting of CSDA took place April 7, 1972 in Los Angeles and included 90 attendees from 29 contractor and manufacturing companies. While some attended this meeting out of pure curiosity, believing that there was no way competing companies would ever be able to agree and work together successfully, Les was determined that only by working together would their new niche industry be a success.



Ed Thorn of Norton, a direct competitor to Cushion Cut, was also at this meeting. Ed later said "Like my fellow manufacturers, there was some trepidation over the idea of joining an organization instigated, organized and led by one of our competitors. In any event, the hesitancy that any of us had at the outset was quickly dispelled as we perceived that the major goal of both the contractor and supplier was industry growth on a professional basis." Ed would later come to serve as Executive Director of CSDA for 10 years.

On May 19, 1972 at the same Airport Marina Hotel in Los Angeles as the first meeting, those present voted to officially establish the Concrete Sawing & Drilling Association. The first slate of Officers was

elected, including: Les Kuzmick, Sr. as President, Jacque Hart as Vice-President, Bill Brown as Secretary and G.H. "Dek" Dekker as Treasurer. The Articles of Incorporation were approved by the State of California on October 19, 1972.

What started as a "pipe dream" in California, quickly grew to a collaborative, innovative and influential organization. By 1976, local chapters of CSDA were established outside of California, and CSDA became a co-sponsor of the global construction tradeshow, World of Concrete. By 1984, CSDA itself went global, holding its first meeting outside of the U.S. in Canada, and in 1986, a Board meeting was held in London. 1989-1990 saw the organization structure evolve, with new

committees established and a new Mission Statement. In 1992, Ed Thorn, who began his tenure as Executive Director in 1981, retired, and Pat O'Brien of GE Superabrasives was appointed as the new Executive Director. Pat brought with him a wealth of knowledge and experience in global marketing, having served as the Manager for Construction Marketing for GE and had been working with CSDA through GE and the World of Concrete for the past 10 years. President at that time Steve Garrison had worked with Pat for several years during his time at GE and had full confidence that he was the right man for the job. Pat's goal in his new leadership position within CSDA was to promote the industry and increase the pride of its operators – highlighting that a career in the concrete renovation industry was something to be proud of, and the importance



of promoting concrete cutting operators as professionals.

This plan quickly took off, with the establishment of the *Cutting Edge* training program in 1993 and the advanced Operator Certification training program in 1994. Under Pat's leadership, the official association publication, *Concrete Openings*, grew from a black and white newsletter to a full color magazine and distributed to concrete cutters all over the world. Speaking of "all over the world", in 1995 CSDA, along with national associations in Germany, Switzerland and the U.K. collaborated to form the

International Association of Concrete Drillers and Sawers (IACDS) which was soon joined by Australia, Austria, France, Japan and New Zealand. In 1997, CSDA, with 315 members, celebrated its 25th Anniversary at the Annual Convention in Maui, Hawaii. By this point, popular convention events like the President's Reception and Golf Tournament were mainstays.

A new millennium saw a new age of technology within CSDA. The CSDA Website was launched in 2002, so the association now had the ability to connect to a wider audience and offer its technical documents, Standards, Specifications and Best Practices digitally. Also available on the website were CSDA's library of Safety Videos, Toolbox Safety Tips and a member search function.



What started as a “pipe dream” in California, quickly grew to a collaborative, innovative and influential organization.

In 2005, CSDA hit another milestone when it elected its first female President, Susan Hollingsworth of Holes Incorporated. During Susan's tenure, CSDA hit 500 members, formed an Alliance with OSHA and published nine OSHA/CSDA Best Practices, Standards, Specifications and Toolbox Safety Tips. Online training was launched in 2007, and by 2011 CSDA hosted its popular *Cutting Edge* training course online as well. In 2009, a website for *Concrete Openings* magazine was created, providing easy access to job stories, technical articles, industry news and more.

CSDA headed back to Maui in 2012 to celebrate its 40th Anniversary at the Annual Convention. By this point, membership had exceeded 550, circulation of *Concrete Openings* was over 17,000, over 3,000 students had graduated from various CSDA training classes and the Past Presidents of the organization met annually to discuss the future of the association and provide guidance and insight to the new slate of leaders.

CSDA continued to be an industry trailblazer, and elected its second female President, Judith O'Day of Terra Diamond in 2013.

CSDA continued to grow its training graduates, with several new classes added. The association expanded its Operator Certification program by adding a GPR Certification course in 2017. Other classes added included GPR Methods & Theory, Estimating, Mechanics Training, Robotic Demolition, Silica Safety and Concrete Polishing. The number of instructors increased with Patrick Stepanski, Lee Aitken, Mark DeSchepper, Clint Ralston, Craig Cowan and Ryan McBride joining lead instructor Rick Norland. The CSDA and *Concrete Openings* websites were redesigned in 2020 and 2021, and a new online training platform was launched in 2021 along with an updated online *Cutting Edge* course. CSDA also now has a presence on most social media platforms, including Facebook, Instagram, LinkedIn and YouTube, and that presence continues to grow.

In 2019, after almost 30 years as Executive Director, Pat O'Brien retired. Erin O'Brien, who had served as Membership Coordinator, Convention Coordinator and *Concrete Openings* Associate Editor was appointed as the new Executive Director as of January 1, 2020, the first time a woman served in this role. After overseeing a very successful World of Concrete 2020, O'Brien and CSDA, as well as the rest of the world, were thrown into the COVID-19 pandemic. A shift had to be made, and quickly.

The 48th Annual Convention & Tech Fair in Carlsbad, CA was cancelled, the first year a CSDA Convention did not take place since the first event in 1973. The association shifted to virtual Board and committee meetings, added a library of live and recorded webinars for its members, increased its presence and visibility on digital platforms and began to develop aggressive digital marketing campaigns. It was clear that a new era had begun, and CSDA was determined to be at the forefront. We invite you to join CSDA at the 2022 Annual Convention & Tech Fair, March 30 – April 1 at The Scott Resort in Scottsdale, Arizona. This will mark the first time in three years CSDA has held the Convention, and we are all so excited to see our colleagues and friends and show our members what the association has been hard at work on over the past few years. Please join President Mike Orzechowski, Vice President Kellie Kimball, Secretary/Treasurer Mark DeSchepper, Past President Matthew Finnigan and Executive Director Erin O'Brien, and help us open the next chapter of CSDA.



Shibuya Company, LTD. is celebrating its 70th Year Anniversary!

DITEQ Corporation is proud to announce Shibuya's 70th year in business!

In 1952, Shibuya was founded by Mr. Katsuji Shibuya (Father of current President Norikazu Shibuya). He started the company as a private agent selling agricultural machinery. In the 1960s, he saw a great need for specialized machinery for the construction industry and changed his business to the sale of industrial construction equipment and supplies.

In 1967, Mr. Katsuji Shibuya changed the company name to Shibuya Trading Co. Ltd. and started to sell imported construction machinery. At the same time, he worked to develop core drilling machines for manufacture in Shibuya factories. In 1969, Shibuya's first model "TS-1" was released, and the company became a manufacturer specializing in equipment for the concrete sawing and drilling industry. Thus began the existence of the Shibuya Dymodrill.

Since 1969, Shibuya has accumulated the know-how of cutting concrete, steel rebar, stones and other building materials. Currently, they manufacture and sell machines and consumables for cutting and drilling concrete structures. Shibuya drills and sawing equipment are sold in over 30



countries worldwide. As a company, they are committed to finding solutions that make clients' jobs done safer, easier, faster and better. Shibuya will always be a brand you can trust. Please join DITEQ in celebrating Shibuya's 70th business anniversary.

For More Information
Contact: Mike Orzechowski
Tel: 816-447-6161
Email: mikeo@diteq.com
www.diteq.com

Husqvarna Integrates Blastrac and Diamatic Surface Preparation

Husqvarna Construction announces its plans to further consolidate brands in the surface preparation segment of its concrete business offerings. Over the coming years, the recently acquired Blastrac and Diamatic products, services and solutions will be rebranded as Husqvarna and integrated into the global Husqvarna offering.

"We have now built one strong team with the commitment to deliver the best possible experience to our broad range of customers. With our combined expertise and our wider offering we are ready to serve our customers and shape the surface preparation

industry for tomorrow," says Stijn Verherstraeten, Vice President Concrete Surfaces & Floors, at Husqvarna Construction.

The additional offering will considerably enhance the existing Husqvarna surface preparation portfolio by bringing advanced shot-blasting, scraping and scarifying solutions to Husqvarna customers and partners. In their turn, Blastrac customers and partners will get access to new adjacent products such as compactors, concrete placement equipment, sawing and drilling equipment and demolition robots, as well as a wide (digital) service offering.

"We really look forward to giving our customers access to the best and broadest surface preparation range in the industry – paired with what is probably the most competent and passionate team and all of this under one strong brand. We will build on the combined surface preparation portfolio and will further invest in innovation leadership over the years to come to make sure our customers can always count on us to complete their work in the most productive, sustainable and safe manner," says Stijn Verherstraeten.



The first wave of rebranded Blastrac and Diamatic products will be launched mid-2022 and will further shape and complement the Husqvarna offering for floor grinding, scarifying and scraping. The second wave targeting spring 2023 will include shot-blasting solutions and associated dust extractors.

For More Information
Contact: Cate Stratemeier
Tel: 913-928-1442
Email: cate.stratemeier@husqvarnagroup.com
www.husqvarnacp.com

Hilti and Trackunit Announce Strategic Partnership to Effectively Eliminate Downtime

Hilti and Trackunit have announced a strategic partnership to advance digital transformation in the construction industry. The partnership is focused on bringing global scale to the tool and equipment connectivity domain.

Together with Trackunit, an industry leader in fleet management services, Hilti is now able to strengthen its ON!Track solution. At the same time, the Trackunit platform will be enriched with additional tool-related data. The partnership also seeks to expand the ever-growing network of Trackunit devices, providing increased connectivity around the globe through advanced Bluetooth technology. It enables the industry to detect tags on smaller tools and equipment, capture insights from tool and equipment data and offer an integrated customer experience across platforms.

The partnership is a joint ambition to increase productivity and eliminate downtime in the industry. It also marks a new digitalization frontier in construction focusing on tools and equipment.

"By partnering with global market leader Hilti, we can further realize the collective digital business transformation of our industry. Together, we are uniquely positioned to help customers unlock insights from light equipment and tools, providing ample opportunity in decision-making, efficiency and continuous learning. The partnership goes way beyond standard ISO feeds and builds deep integration where data insights are now being made available across the two platforms in real time. The integration will deliver a standardized and stronger customer experience out of the box - eliminating the need for custom configuration and expensive IT integrations," said Soeren Brogaard, CEO of Trackunit.

For More Information
Contact: Danielle Wilson
Tel: Danielle.Wilson@hilti.com
Email: 972-202-6178
www.hilti.com



Aquajet Hires James Brown as Service & Application Specialist



James Brown

Aquajet, a global leader in Hydrodemolition machine manufacturing, hires James Brown as its Service and Application Specialist for North America. Brown provides service and support for Aquajet customers throughout the United States and Canada. His role includes commissioning new equipment and providing operational and maintenance training. He also provides troubleshooting and repair services for Aquajet equipment, including Aqua Cutter robots, Ergo Systems, Ecosilence high-pressure pumps and EcoClear water treatment systems.

Brown started his career at a commercial lighting company where he traveled around the U.S. installing wiring for lighting and electrical applications. Due to a long-time interest in Hydrodemolition technology, he then pursued a position as a Hydrodemolition robot operator. As he learned the ins and outs of the business, he became interested in the manufacturing side and applied at Aquajet to help build understanding of Hydrodemolition equipment and showcase all it can do.

"Hydrodemolition is the way of the future and I'm proud to be a part of this revolution as the application continues to grow in the United States," said Brown. "I enjoy taking customers from ground zero to getting them up to speed and creating experienced Hydrodemolition specialists."

For More Information
Contact: Keith Armishaw
Tel: 800-621-7856
Email: keith.armishaw@brokkinc.com
www.aquajet.se

Brokk Hires Corporate Controller, Corey Lewis

Brokk, the world's leading manufacturer of remote-controlled demolition machines, announces Corey Lewis as its Corporate Controller. Lewis manages all accounting operational functions, financial statements and reports, internal control evaluation, budgets and process improvements.



Corey Lewis

"Corey brings diverse accounting experience and a background in manufacturing," said Lars Lindgren, President of Brokk Inc. "His attention to detail and strong understanding of the manufacturing process will help ensure accuracy in invoices and precise product and service pricing. Lewis will be an excellent resource for improving the efficiency of our day-to-day operations, which ultimately impacts the service to our customers."

Lewis brings more than six years of accounting experience to his new role; a portion of that time spent with a manufacturer of steel buildings and the remaining time in public accounting working for two different CPA firms. He also served in the U.S. Marines with the 1st Battalion, 5th Marines.

Following his service in the military he attended Bellevue College for his associates degree. Lewis went on to the University of Washington to complete his Bachelor of Arts in business administration with an emphasis in accounting. Lewis lives in Mountlake Terrace, Washington.

For More Information
Contact: Jeff Keeling
Tel: 800-621-7856
Email: jeff.keeling@brokkinc.com
www.brokk.com

Husqvarna's PACE Charged Possibilities

During World of Concrete, Husqvarna Construction showcased upcoming battery-powered light construction equipment that will help contractors work without fuel, cords and direct emissions, opening opportunities to take on new tasks and get the job done – more quietly and with ease.

PACE is powerful, agile, cordless and electric. The PACE battery system was unveiled with the K1 PACE high powered battery cutter. With K1 PACE, contractors can expect power and performance equivalent to gas-powered cutters with all the additional benefits battery-powered equipment brings to both operators and the environment. The K1 PACE can be paired with specially developed, battery-specific diamond blades. The K1 PACE and diamond blades will be available to purchase during Q2 2022. The PACE battery system can be utilized for more machines as the battery-powered family expands in the future.

For More Information
Contact: Cate Stratemeier
Tel: 913-928-1442
Email: cate.stratemeier@husqvarnagroup.com
www.husqvarnacp.com



Texas Hardrock Blades Tested and Approved

Expert Equipment Company (EEC) of Houston, TX introduces, as part of its EXPERT DIAMOND TOOLS line, a newly developed slab saw blade line for the South Texas flint rock market. There are several specifications to choose from for different HP saws and applications. The saw blade line currently in stock, ranges from 20" to 48" with larger diameters available by special order.

For More Information
Contact: Markus Bartl
Tel: 713-797-9886
Email: info@expertequipment.com
www.expertequipment.com

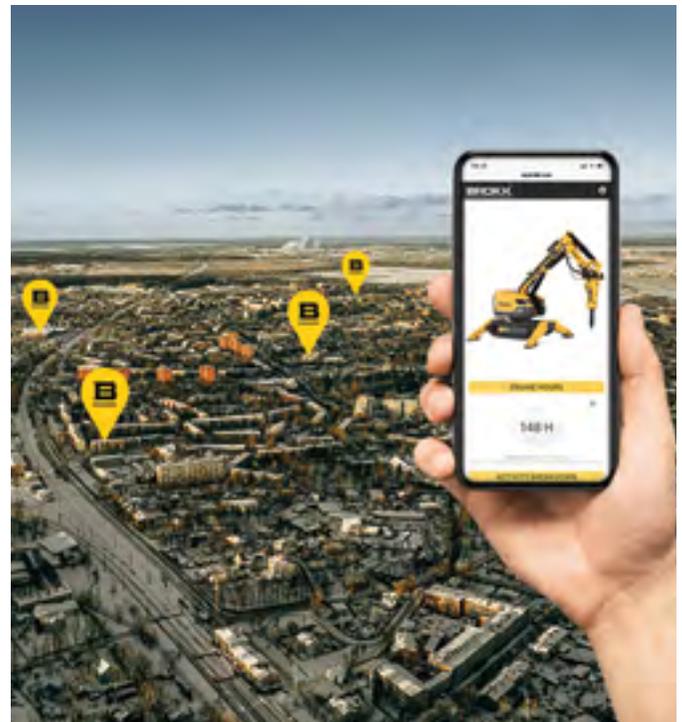
Brokk Highlights Connect 2.0 at World of Concrete

Brokk, the world's leading manufacturer of remote-controlled demolition machines, offers Brokk Connect 2.0, the next step in the online platform for connected Brokk robots. This version includes several new features such as a sophisticated geofencing function, user customization of the platform and a weekly status report that helps Brokk owners to stay up to date on their fleet's status.

Launched in February 2021, Brokk Connect was previously available in three pilot markets. With the release of Brokk Connect 2.0, it is now available to Brokk customers throughout Europe and North America. Brokk's solution includes both hardware and software that are unique to meet the specific requirements of the operation and management of demolition robots. To provide the best coverage and always-on operation, the robots are connected over the mobile network.

Brokk Connect 2.0 delivers several new features. These include a sophisticated always-on geofencing functionality that helps Brokk owners keep control of their fleet of machines and assists the owner in case of theft or unauthorized use. It is now also possible to customize the online platform based on personal preference and receive weekly status reports on Brokk robots to make sure everything is up to date.

For More Information
Contact: Jeff Keeling
Tel: 800-621-7856
Email: jeff.keeling@brokkinc.com
www.brokk.com





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This is the natural habitat for Brokk's compact giants. With the perfect combination of power, operability and accessibility our demolition robots provide efficient solutions to increase profits.



GenPoint Now Helps You Get Paid Faster and Easier!

CentralPoint Solutions introduces the A/R Aging Link as a new addition to their CenPoint Software. This feature provides customers with an easy-flow environment for paying and processing outstanding invoices.

You simply email your customer the A/R Aging Link where they will be able to see all of their outstanding invoices. Customers can then bookmark the link so they can access it at any time. They are permitted to select different company branches and view supporting field tickets alongside their invoices.

This is also a way to allow your customers to pay one or more invoices at a time with a credit card, if your company is set up to take credit cards in CenPoint. Additionally, as you update your invoices in CenPoint, your customer will have immediate access to those reflected changes via the A/R Aging Link.

The A/R Aging Link in CenPoint also allows customers a way to print their own copies of invoices, field tickets and more.

For More Information
 Tel: 801-478-6822 Opt. 1
 Email: sales@cenpoint.com
www.cenpoint.com



Husqvarna Construction Launches a New Range of DXR Demolition Robots

Husqvarna Construction is strengthening its offer to demolition professionals with the launch of a new range of demolition robots – the DXR 145, DXR 275, DXR 305 and DXR 315. The new range of demolition robots offer more power and more control, which means users can take their skills to a whole new level. The four new DXR models offer, on average, a power increase above 20% when compared to previous models. This results in more effective and powerful machines that allow the user to get more demolition work done faster.

Complimenting this, the new machines have functionality that optimizes available power in a way that allows work to continue at high power levels even if the task gets tougher due to circumstances – such as hot environments, for example.

With an all new remote-control unit, precise operation is easier than ever. The new unit enables an improved overview of machine status, which contributes to increased uptime and productivity. The long distance remote connection keeps the user safer and clear of any potential risks, enabling them to work in challenging areas with a remote control range of up to 984 ft (300m). Fredrik Linnell, Global Demolition Director at Husqvarna Construction expands on this:

“Improving operator safety is our foremost priority. All our new DXR models are third party certified in terms of safety, EMC and functional safety. At the same time, achieving high-quality, fast results is literally in the user’s hands. More than ever, these new machines are an extension of the operator, increasing power and offering improved control over the factors that define how successful the job will be.”

For More Information
 Contact: Cate Stratemeier
 Tel: 913-928-1442
 Email: cate.stratemeier@husqvarnagroup.com
www.husqvarnacp.com

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 THAT ABSORBS
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DDM Concut Announces Andy Weyrens as Territory Sales Manager

DDM Concut is pleased to announce that Andy Weyrens has assumed the role of Territory Manager. Andy will be responsible for the North Texas market, and has a strong background in technical sales. Andy has considerable experience in the construction industry having worked with Penhall, DPR and most recently with Gunite Supply. His hobbies include golf, hockey and bowling. He lives in McKinney, TX along with his wife and 10-year-old daughter and they are expecting another child in the spring.

For More Information
 Contact: Andy Weyrens
 Tel: 214-206-6311
 Email: aweyrens@ddmconcut.com
www.ddmconcut.com

Celebrating 65+ Years of Schmidt Rebound Technology



This year marks a major milestone for Screening Eagle as we celebrate over 65 years of Schmidt Rebound Technology!

Schmidt rebound hammers have been the leading solution for measuring concrete strength & uniformity for over six decades and are still the global leaders today with ever-evolving software enhancing the capabilities of the trusted rebound hammers.

For More Information
Contact: Gregory White
Tel: 512-997-8942
Email: gregory.white@screeningeagle.com
www.screeningeagle.com

Diamond Vantage Adds New District Sales Manager, Dan Dennison

Diamond Vantage has brought on a new District Sales Manager, Dan Dennison. Dan brings over 20 years of sales experience in diamond blades to Diamond Vantage. Including long tenures with Hoffman Diamond Products and Diamond Tools Technology. Dan



Dan Dennison

brings a wealth of industry and sales knowledge to Diamond Vantage and will be responsible for PA, OH, MI, IN & MD. Dan lives in western Pennsylvania with his wife Angela and two boys, Jaxson and Hunter. Contact him by emailing ddennison@diamondvantage.com or by phone 814-330-9521.

For More Information
Contact: Dani Planto
Tel: 949-261-2322 Ext 251
Email: daniellep@gtdiamond.com
www.diamondvantage.com



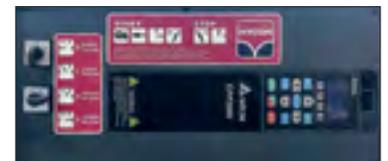
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HPP18E Flex | 480V 3P | 5-8-10-12 GPM
The perfect powerpack for professional and specialized companies within concrete drilling and cutting.

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- Stays cool in the hottest environment
- Flush face quick hose connections included
- Quick release telescoping handles
- Favorite of municipalities



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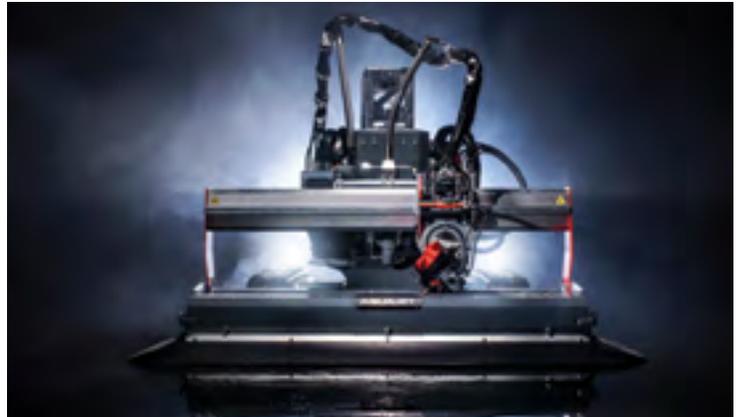
CSDA Summer Board & Committee Meetings

June 8-9, 2022
Hilton Charlotte University Place

Aquajet Introduces the Revolutionary Aqua Cutter 750V

Aquajet, a global leader in the design and manufacturing of innovative Hydrodemolition technology, introduces its newest Hydrodemolition robot – the Aqua Cutter 750V. The new model launches Aquajet's revolutionary patented Infinity oscillation that moves the water jet in an infinity – or figure 8 – pattern, removing more concrete in a single pass while reducing shadowing, eliminating the risk of pipe holes and providing an ideal bonding surface. The 750V also features the next generation Evolution 3.0 Control System that includes new functions, including the ability to automatically calculate optimal settings for lance motion for greater precision and efficiency. Like all Aqua Cutter Robots, the 750V cleans and descales rebar without causing microfracturing. It also maintains exceptional horizontal, vertical and overhead reach, making it suitable for a wide variety of concrete removal tasks, such as renovation and bridge and road repair.

Aquajet unveiled the Aqua Cutter 750V at World of Concrete in Las Vegas, January 18 – 20, 2022. The new machine offers constant lance motion in an infinity – or figure 8 – pattern, rather than the standard wave pattern that has natural fluctuations in speed. The continuous movement of the infinity pattern allows the 750V to remove more material in a single pass, significantly reducing shadowing and making it unnecessary to follow-up with hand lancing. The consistent motion also increases the digging effect and virtually eliminates pipe holes, resulting in a superior bonding surface and increased productivity. Another benefit is the constant, low noise that is less disruptive in urban areas and other noise-sensitive environments.



The Aqua Cutter 750V shares several similarities with Aquajet's innovative Ergo System. The infinity power head has Ergo-style spring-tensioned rollers and quick connection to the roller beam. It also uses absolute sensors, which means it automatically adjusts at the touch of a button. With a larger roller width and a new triangulated base frame for improved stability, the infinity power head contributes to precision while improving the Hydrodemolition result.

For More Information
Contact: Keith Armishaw
Tel: 800-621-7856
Email: keith.armishaw@brokkinc.com
www.aquajet.se

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Cratos Equipment Promotes, Bob Maguire to Chief Operations Officer

Cratos Equipment, the leading construction equipment manufacturer focusing on battery powered and electric construction equipment, has promoted Bob Maguire from Vice President of Sales to Chief Operations Officer.

Prior to joining Cratos, Maguire held a variety of executive positions including a 23-year career at Dun & Bradstreet; his last position there was Senior Vice President, US Sales, where he led a team of 345 members. More recently Maguire has held management positions at technology companies and venture relations firms including SterlingBackcheck, PrecisionIR and Cortera.

"This is an exciting time for the construction industry as it begins to convert to more battery-operated machines," said Maguire. "I am committed to working with our customers to utilize the unique tools that we have to offer in order to enhance their businesses and avoid surprises."



Bob Maguire

"Bob has become an invaluable member of the Cratos team during his tenure. His ability to drive results while promoting the culture we strive for makes him the perfect person to lead our operations" said Cratos Equipment CEO Alex Berg.

The creation of the new position is part of the continuing internal growth and expansion at Cratos. In addition to the COO, the company has also added a Director of Inside Sales, Director of Outside Sales, three Sales Managers as well as a new Director of Marketing. Cratos has made it their mission to maintain constant innovation and improvement in order to provide their customers with the most unique and powerful solutions possible.

For More Information
Contact: Alex Berg
Tel: 954-978-3440
Email: alex@cratos.com
www.cratos.com

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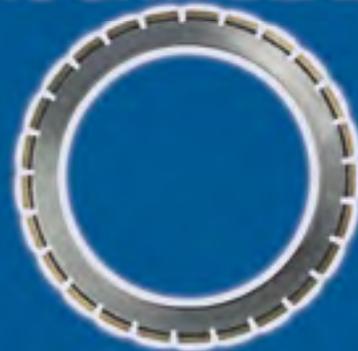
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OPERATOR CERTIFICATION

CSDA's Operator Certification is a comprehensive six-day program that combines detailed classroom instruction with on-slab demonstration and evaluation of advanced concrete cutting techniques. Safety, proper equipment use and efficiency are emphasized. CSDA certified operators are recognized industry-wide for their proficiency in the full range of sawing and drilling applications.

MINIMUM REQUIREMENTS

- Successful completion of CSDA Cutting Edge, Slab Sawing & Drilling 101, Wall Sawing 101 or Wire Sawing 101
- Three years field experience (4,500 hours)
- Successful completion of 10-hour OSHA Construction Safety course
- No more than one lost-time injury within the last three years
- Unrestricted driver's license
- Negative drug test within 30 days of taking the course



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**TRUE LINE CORING AND CUTTING
OF MARYLAND, INC.**
Baltimore, MD

WALKER CUTTING SERVICES
Hammonton, NJ



COMPANY CERTIFICATION

The CSDA Company Certification Program is the first of its kind in the industry. This program has been created for cutting contractors to provide owners, architects, engineers, general contractors and government officials with a valuable pre-qualification tool that acknowledges sound business practices. It is available to all sawing and drilling contractors.

A COMPANY MUST MEET THE FOLLOWING CRITERIA TO ACHIEVE CERTIFICATION:

- Meet the basic safety and insurance requirements of the industry
- Undertake sound operational and financial best practices
- Provide evidence it has taken part in basic training or certification programs to better its employees and the company as a whole
- Successfully pass a written application review

ADVANCED CONCRETE SAWING
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WALKER CUTTING SERVICES
Hammonton, NJ



GPR CERTIFICATION

GPR Certification is for experienced GPR operators who have expanded their knowledge of the methods, theory and practical application of GPR imaging. Certified operators receive classroom and hands-on time with experienced instructors and representatives from leading GPR manufacturers.

A GPR CERTIFIED OPERATOR:

- Has shown proficiency in performing scans and reading and interpreting results
- Can select the appropriate GPR scanner for the job
- Passed a written and practical test
- Was issued a certification card upon completion of the class

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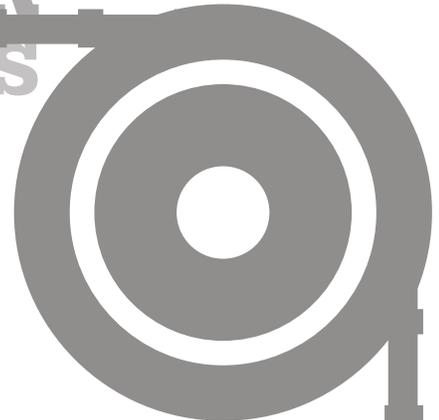
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INDIVIDUAL MEMBER:

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MEMBER BENEFITS



SAFETY RESOURCES AND TOOLBOX SAFETY TIPS (TSTS)

- 230-page CSDA Safety Manual
- Safety Handbook in English/Spanish
- Safety Videos for concrete cutters
- Over 100 Toolbox Safety Tips (TSTS)



DISCOUNT PROGRAMS

The Association negotiates member benefit programs with national vendors like Staples, UPS and V-beltsupply.com in order to provide cost-savings opportunities for CSDA Members.

NETWORKING AT THE ANNUAL CONVENTION AND QUARTERLY MEETINGS

The number one benefit for members has always been the opportunity to network with cutting professionals at the annual convention and quarterly meetings. This networking provides opportunities to forge new relationships and learn from other experienced professionals.

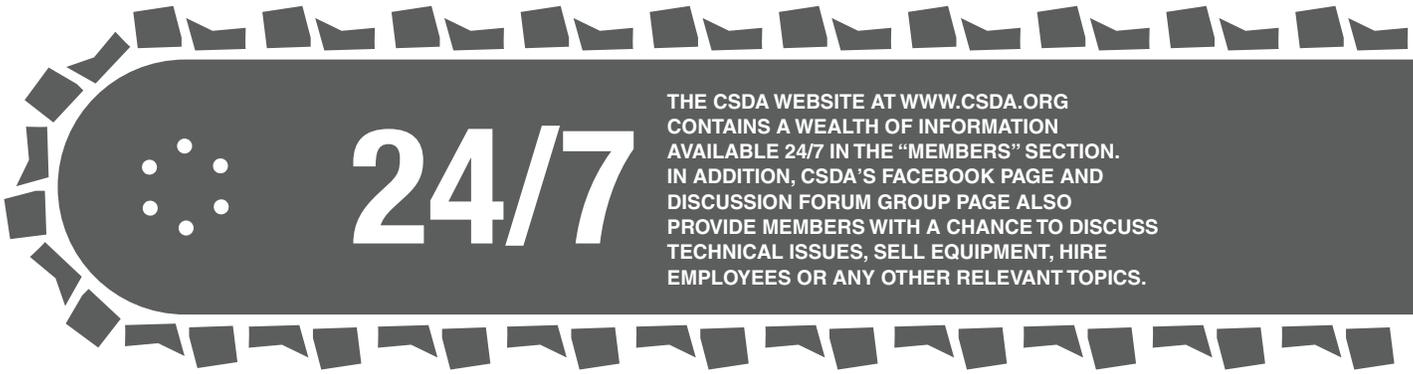
NETWORKING



NEXT GEN

CSDA NEXT GENERATION GROUP

The group aims to continue the growth of the association while serving the needs and wants of the younger generation, with the goal of continuing to set a standard of excellence.



24/7

THE CSDA WEBSITE AT WWW.CSDA.ORG CONTAINS A WEALTH OF INFORMATION AVAILABLE 24/7 IN THE "MEMBERS" SECTION. IN ADDITION, CSDA'S FACEBOOK PAGE AND DISCUSSION FORUM GROUP PAGE ALSO PROVIDE MEMBERS WITH A CHANCE TO DISCUSS TECHNICAL ISSUES, SELL EQUIPMENT, HIRE EMPLOYEES OR ANY OTHER RELEVANT TOPICS.

TRAINING

OVER 4,000 INDUSTRY PROFESSIONALS HAVE GRADUATED FROM MORE THAN 20 CLASSROOM, HANDS-ON AND ONLINE CSDA TRAINING AND CERTIFICATION PROGRAMS FOCUSED ON CUTTING DISCIPLINES, ESTIMATING, POLISHING AND SAFETY. ONLINE TRAINING AT WWW.CSDATRaining.COM OFFERS A COST-EFFECTIVE ALTERNATIVE TO THOSE NOT ABLE TO AFFORD THE TIME OR THE MONEY TO SEND OPERATORS TO CLASSES.



DUES SCHEDULE

REGISTER ONLINE AT WWW.CSDA.ORG

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\$2 - 3M	\$1,740	\$1,425	\$1,425	\$2,765	\$2,070		
\$3 - 5M	\$2,335			\$4,425	\$3,330		
\$5 - 10M	\$2,955			\$5,985			
> \$10M	\$3,705			\$7,375			



For more information about CSDA membership, visit www.csda.org, call 727-577-5004 or email info@csda.org.



CSDA Spring Board & Committee Meetings **March 28-29, 2022**

The Scott Resort
Scottsdale, AZ
Tel: 727-577-5004
Email: info@csda.org

Canadian Concrete Expo **May 18-19, 2022**

The International Centre
Toronto, ON
Tel: 519-300-2635
Email: rod@exposition.com

CSDA Annual Convention & Tech Fair **March 30- April 1, 2022**

The Scott Resort
Scottsdale, AZ
Tel: 727-577-5004
Email: info@csda.org

CSDA Summer Board & Committee Meetings **June 8-9, 2022**

Hilton Charlotte University Place
Charlotte, NC
Tel: 727-577-5004
Email: info@csda.org

Chicago Build 2022 Expo **March 31- April 1, 2022**

McCormick Place
Chicago, IL
Tel: 312-924-9772
Email: marketing@chicagobuildexpo.com

Bauma **Oct 24-30, 2022**

Messe München
Tel + 49 89 949-11348
Email: info@bauma.de

CSDA Annual Meeting **April 1, 2022**

The Scott Resort
Scottsdale, AZ
Tel: 727-577-5004
Email: info@csda.org

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concrete openings



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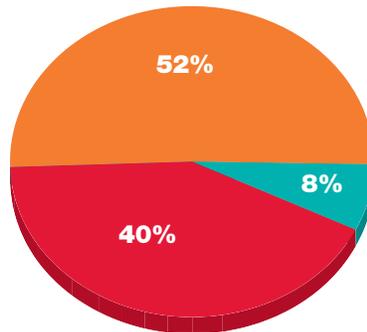
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Each issue of *Concrete Openings* magazine is sent to more than 12,000 operators, equipment manufacturers and suppliers in the concrete cutting, polishing and imaging industry, and more than 7,000 specifiers of these services around the world.

READERSHIP BY PROFESSION



- Specifiers
- Contractors
- Manufacturers, Distributors

CSDA Social Media

CSDA's social media pages are packed with all the latest news, updates, photos and videos from the association and *Concrete Openings* magazine. Look out for exclusive content and become "friends" with others who are looking to network and promote the sawing and drilling industry. Join our growing fan base and stay in touch with the association through your PC, laptop or mobile device. Find direct links to these pages at www.csda.org.



Circulation

- 19,000+** minimum, per issue
- 12,000+** member and prospective member companies made up of contractors, manufacturers, distributors and affiliates
- 7,000+** general contractors, engineers, architects and government officials who specify cutting, polishing and imaging



Readership Per Issue

A poll of *Concrete Openings* subscribers revealed that 66% pass on their copy of the magazine to at least one other person, with almost 25% stating that the magazine is passed on to four or more people each issue. This translates to an average of four people reading each issue of the magazine for a total readership per year of approximately 60,000.



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Inside Front Cover, 30-31, Inside Back Cover	Diamond Products Limited	800-321-5336	jjpalmer@diamondproducts.com
51	DDM Concut Diamond Tools	770-921-2464	ggundrum@ddmconcut.com
27	Diamond Vantage	866-322-4078	tlaidlaw@diamondvantage.com
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CSDA Launches NEW Online Training Site!

Check out our updated Cutting Edge course—perfect for your new hires, operators with less than two years of experience or anyone who needs to learn more about diamond tools. The course is completely online and can be taken at the student's own pace.

This course covers:

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ERIN O'BRIEN
Executive Director

Happy Birthday CSDA!

Can you believe that 50 years ago next month, CSDA held its first official gathering in California? So much has changed since then, not just in the industry, but also around the globe. The power players of the 70s and 80s are now enjoying retirement, but the tech-savvy and innovative leaders of the 2000s are paving the way for the next generation of the concrete renovation industry.

It's an exciting time for all of us, and I'm thrilled that you are here for this journey. CSDA will celebrate 50 years twice! The first celebration marking the official 50-year mark will take place at the Annual CSDA Convention & Tech Fair in Scottsdale, AZ, from March 28–April 1, 2022. Here, we will mark the occasion with the usual networking, social events and cutting edge presentations as well as celebrate the service and achievements of Lifetime Achievement Award recipient Kevin Baron. We hope you will join us!

We'll follow that celebration with the official 50th Anniversary Convention in Bermuda in 2023! This will give us, and you, more

time to plan a celebration and event worthy of the past half-century of CSDA achievements, accomplishments and a lifetime of making industry connections whom we also count as friends.

While I have missed out on seeing many of you over the past two years since I became Executive Director, I am looking forward to reconnecting again soon, whether it be at the Convention, World of Concrete, a Board meeting or a training class. CSDA would not be the association that it has become without the hard work, time, dedication and determination of so many who came before us. And it will not be successful in the future without all of you taking the reins and being a part of the next group of leaders to make your own name within this industry. I sincerely hope you'll join us, because in the words of the great Vince Lombardi, "Individual commitment to a group effort—that is what makes a team work, a company work, a society work, a civilization work."

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