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PG 4	Milwaukee® Enhances Safety, Puts Distance Between Cablemen and Live Wires
PG 6	Automated Test Equipment Revival
PG 12	Fortifying the Future: Accelerating the Construction of Resilient Homes
PG 20	Ad Index



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**PRESIDENT**

---

Glen Hobson  
205-441-5591  
glen@handfmedia.net

**ASSOCIATE PUBLISHER**

---

Steven Goodwin  
205-624-2181  
steve@handfmedia.net

**ADMINISTRATIVE DIRECTOR**

---

Steven Hobson  
steven@handfmedia.net

**EDITOR**

---

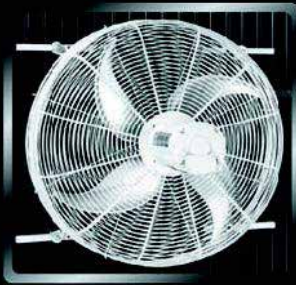
Brandon Greenhill  
brandon@handfmedia.net

**CREATIVE/ WEB DIRECTOR**

---

Jacklyn Greenhill  
jacklyn@handfmedia.net

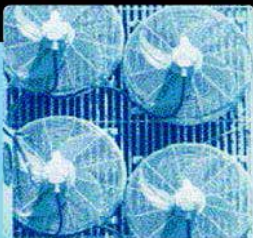
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[info@theelectriccurrent.com](mailto:info@theelectriccurrent.com)



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# Milwaukee® Enhances Safety, Puts Distance Between Cablemen and Live Wires

Driving innovation while improving safety for underground cable professionals, Milwaukee Tool introduces the new M18™ FORCELOGIC™\* 5" Underground Cable Cutter with Wireless Remote, the smartest way to cut. Integrated with cutting-edge Bluetooth® Technology, this solution eliminates the need for direct tool handling, significantly enhancing jobsite safety. Featuring an ergonomic design with advanced electronics, Milwaukee's new Underground Cable Cutter sets a standard for intelligent cutting solutions.

Simplifying the set-up and application process, the M18™ FORCELOGIC™ 5" Underground Cable Cutter with Wireless Remote features an enhanced ergonomic design for improved balance and maximum control. Designed with a guillotine jaw style, this cable cutter allows Cablemen to cut up to 5-inch (127 mm) Diameter Communications, Armored, Lead Sheath, Copper, and Aluminum Power Cables wirelessly. The adaptable forward handle rotates and pivots independently of the head to provide users maximum control, while its balanced design and hang hook enable the easiest setups in vaults. Featuring a head that rotates 180 degrees, the quick-release and turn-to-close style latch pin is easily opened or secured with just one touch. For added confidence, an integrated Last Cut application shut-off ensures a battery will never die in the middle of a remote cut and leave the application incomplete. Whether cutting locally or with a wireless remote, Milwaukee delivers an optimized cutting experience.

Potentially live cables create additional hazards



on the jobsite. Increasing the distance between cable professionals and potential live wires serves as an effective strategy to mitigate these risks and build reassurance of a safe working environment. Utilizing cutting-edge Bluetooth® Technology, the M18™ FORCELOGIC™ 5" Underground Cable Cutter with Wireless Remote provides cut confirmation confidence for advanced user safety. The wireless remote operates via an exclusive connection, eliminating the possibility of interference from other smart devices. Following setup, Cablemen can activate the remote cutter and remove themselves from the hazardous area. Once the tool has completed the cut, a green LED on the wireless remote gives a positive indication to provide users confidence in the cut's completion. By providing the ability to remotely cut and separate the user from the tool, Milwaukee's Underground Cable Cutter eliminates the hazard of cutting potentially live cables for professionals on the job, driving safety and productivity.

Integrated with Milwaukee's advanced ONE KEY™\*\* technology, the M18™ FORCELOGIC™ 5" Underground Cable Cutter with Wireless Remote allows users to sync their tool with their phone wirelessly. Tracking capabilities create custom reports for Cablemen as they upload their tool's

history and data while integrated location services and tool security technology allow users to stay up to date on their tools' usage and inventory.

Milwaukee is committed to improving productivity by providing performance-driven and trade-focused solutions so users can perform an entire day's work on one battery system. The new M18™ FORCELOGIC™ 5" Underground Cable Cutter with Wireless Remote is fully compatible with the entire M18™ line, now offering more than 250 power tool solutions.

\*FORCE LOGIC™ is engineered to not only improve upon, but fundamentally change the way high-force tools are used in the field. Through thoughtful design focused on workflow, each tool simplifies a complicated process to deliver the best user experience of its kind and the smartest way to work. \*\*ONE-KEY™ is the first digital platform for tools and equipment. By integrating industry-leading tool electronics with a custom-built cloud-based program, ONE-KEY™ provides a new level of control and access to information that revolutionizes the way work gets done. The ability to customize, track, and manage through ONE-KEY™ fundamentally changes the way users interact with their tools.

### Specifications

M18™ FORCELOGIC™  
5" Underground Cable  
Cutter w/ Wireless Re-  
mote - 2875R-21

- Cut Capacity: Copper and Aluminum Cables up to 5" in Diameter
- Jaw Style: Guillotine
- Length/Width/Height (without battery): 37" / 4.75" / 12"
- Weight: 37.25 lbs.

*Kit Includes: (1) M18™ FORCE LOGIC™ 5" Underground Cable Cutter, (1) Wireless Remote, (1) 3H Rated Grounding Ball Stud, (1) M18™ XC HO 8.0AH Battery, (1) M12™ & M18™ Rapid Charger, and (1) Carrying Case*

### About Milwaukee Tool

*Milwaukee Tool, founded in 1924, is a global leader in delivering innovative solutions to the professional construction trades that increase productivity and safety. Milwaukee® is known for their world-leading M12™, M18™, and MX FUEL™; cordless tool systems, the ground-breaking performance of their cordless innovations, safety solutions, battery-powered outdoor power equipment, jobsite lighting and clean-up, time-saving tool accessories, and innovative hand tool and PACKOUT™; Modular Storage products. The company is dedicated to delivering a steady stream of advanced, trade-specific solutions.*

*Milwaukee Tool is a Brookfield, Wisconsin-based subsidiary of Techtronic Industries Co. Ltd. (TTI) (HKEx stock code: 669, ADR symbol: TTNDY). For more information on the full line of Milwaukee® products, please call 1-800-SAWDUST or [www.milwaukeetool.com](http://www.milwaukeetool.com)*





# Automated Test Equipment Revival

## *Repurposing and Extending the Life of Aging ATE Systems*

Automated Test Equipment (ATE) and Automated Test Systems (ATS) serve the critical purpose of ensuring that electronic devices operate according to specifications in the field. As such, these systems are widely utilized for testing automotive electronics, batteries, telecom infrastructure, renewable energy systems, and consumer electronics. The aerospace and defense sectors also make substantial investments in ATE due to the criticality of electronics utilized in military equipment such as aircraft, naval vessels, and ground vehicles, as well as in various systems like weapons, radar, and wireless communication.

The dilemma, however, is that ATE stations are specifically engineered to validate the functionality of the units being tested. A substantial investment in testing equipment is necessary, and then... everything changes. Government contracts may not be renewed or could be entirely terminated. Hardware components become obsolete. Test specifications undergo modifications, sometimes necessitating a complete reconfiguration of the test.

At this point, the purpose-built ATE system that costs hundreds of thousands to millions is often left to gather dust, redistributed to another program, sold, salvaged for parts, or scrapped altogether.

“Some companies essentially have \$300,000 paperweights sitting in their laboratory. At that point, they face a choice – they can find a way to get rid of it or have it refurbished or repurposed to meet the requirements of a new program or test,” says Andrew Engler of Intepro Systems. Founded in 1981, Intepro has supplied





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Automated Test Equipment (ATE) systems that test power electronics used in various applications.

Engler emphasizes that many ATE equipment customers are not aware that updating or repurposing the equipment is even an option. However, experienced ATE system integrators like Intepro can upgrade any hardware component, replace the existing test program, and even reconfigure the entire test. There are significant benefits to this approach, including cost savings when compared to purchasing an entirely new system.

### *ATE Revival*

ATE encompasses apparatus designed to conduct tests on a device, referred to as the device under test (DUT), equipment under test (EUT), or unit under test (UUT). Through automation, these systems efficiently execute measurements and assess test outcomes.

The ATE system typically consists of hardware, software, test instruments, signal sources, and test harnesses, probes or handlers. The hardware components are typically consolidated into all-in-one test stations, which vary in size and portability from compact test stations on wheels to large stationary test towers. Each system also includes test program software, which plays a critical role in test development and the management of data collection, storage, reporting, and analysis.

Engler says that these systems typically require long support paths since test requirements often extend 10-15 years. When this occurs, hardware components may fail or become obsolete.

Replacing hardware components is a relatively simple process. Although ATE systems can be used for different types of tests, Engler says Intepro specializes in power electronic testing, which includes testing power converters, inverters, chargers, batteries, adapters, and other power components. Although some of the test parameters may be different, there are many commonalities in the components of such systems.

Intepro's ATE test systems feature an open architecture for hardware and software that permits complete flexibility to configure and integrate off-the-shelf

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instrumentation with a wide range of Intepro and customer hardware. The systems are based on universal buses (VXI, PXI, LXI, CAN, Ethernet, GPIB, and Serial) that provide choice to the customer and are not limited to one brand of equipment.

Intepro offers many of the products used in test stations including AC and DC power sources, AC loads, and other standalone equipment. They offer service and repair work on all products, even on the equipment that they do not distribute. Intepro serves as a distributor for several well-known and established manufacturers.

The ATE test program software is a critical component and extensive reprogramming is required when changes need to be made, often at a substantial cost.

Intepro offers flexible test program software called PowerStar that streamlines and adapts to inevitable changes without extensive new programming. With more flexible software, ATE stations are 'future-proof' to ensure that as hardware requirements change and evolve, the test programs can adapt accordingly to ensure long-term usability.

PowerStar provides hundreds of fill-in-the-blank test

routines that provide a range of control, from single instrument functional control to full test procedures with easy-to-use parameter entries. Engineers can customize their programs, without having to write code or assemble graphical components.

"[PowerStar] can be seamlessly integrated to operate across various hardware configurations and platforms. Even if there is already an incumbent software, our solution can be implemented and call on the other software when applicable" says Engler.

ATE systems are useful data acquisition and diagnostic tools for testing a variety of electronics in various industries for automatically testing and identifying faults in electronic packaged components. However, as these systems age, integrators can modify or even repurpose as needed. Given the initial investment in these systems, squeezing more value out of existing automated test equipment is the best way to reduce costs and ensure an adequate return on investment.

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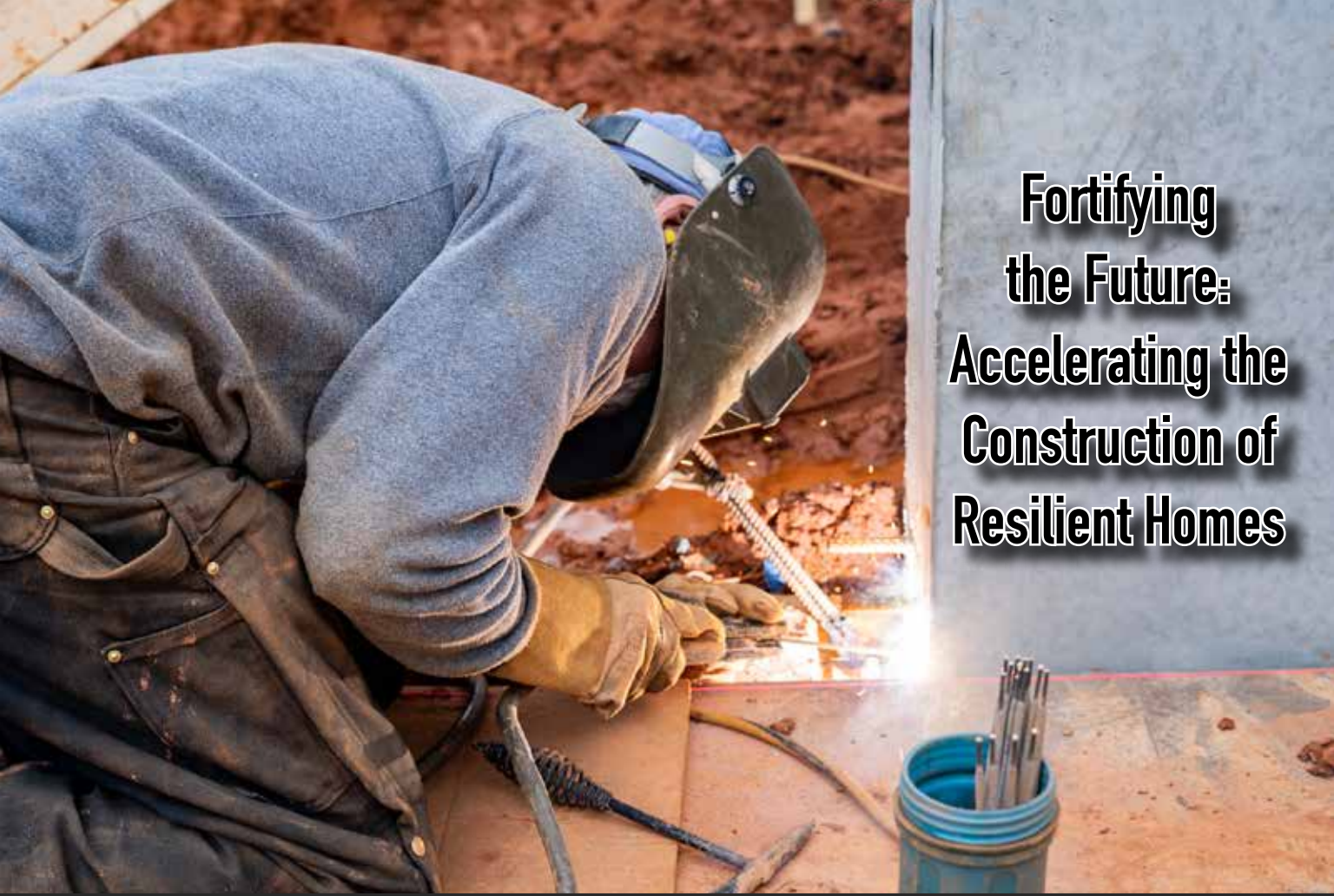


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## Fortifying the Future: Accelerating the Construction of Resilient Homes

*Building more durable homes begins with transitioning to concrete construction but doing so requires developing cost-effective building methods and retraining the workforce.*

Home building in the United States has reached a tipping point. The frequency, severity, and duration of natural disasters – including wildfires, hurricanes, tornados, and flooding – have created a critical need for more resilient housing. Wood-framed homes, while cost-effective, are proving to be the weak link. In fact, many insurers have started pulling out of hazard-prone areas due in part to increased risk and the high cost of rebuilding.

Building homes out of concrete has long been viewed as a superior option, but legitimate concerns have contributed to their lack of widespread adoption up to this point. Chief among them has been the high cost of construction when compared to wood-framed homes. However, those concerns are being mitigated as new building methods for single-family concrete homes are bringing costs down.

In fact, when lifetime upkeep, insurance, and other expenses are factored in, concrete homes are expected to greatly reduce the total cost of ownership. With this turning of the tide comes the critical need to train more contractors on building cost-effective, energy-efficient, designer-friendly concrete homes.

### ***A case for concrete***

With 30 years of experience as a structural engineer, Evan Reis serves as the executive director and co-founder of the California-based U.S. Resiliency Council, a non-profit organization that advocates for well-engineered structures built with resilient materials. He contends that one of the primary reasons con-



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tractors continue to build wood-framed homes is due to their familiarity with the process.

“Right now, there are simply not enough contractors that know how to efficiently build a home out of concrete,” adds Reis. “However, with more people moving to hazard-prone areas and the increase in natural disaster-related losses, something has got to change.”

There are several advantages to utilizing concrete over wood. Not only is it much more durable – able to withstand fire, high winds, and even earthquakes – concrete is also not vulnerable to external factors like insects, moisture, and mold.

“Concrete is by its nature a very durable and resilient material regardless of the hazard,” explains Reis. “So, from the performance side of things, concrete homes make a ton of sense.”

### ***Build it and they will come***

Getting contractors on board with the shift to concrete requires a proven process that would ideally reduce both the time and cost associated with building each home. That’s exactly what the industry has recently accomplished with new tilt-up, prestressed concrete panels.

Similar to the tilt-up design common in commercial

construction, new residential concepts allow builders to utilize prestressed sandwich panels without the use of expensive cranes. Instead, the panels can be maneuvered by forklifts – which also cuts down on labor.

“An entire house can now go up with just 3 or 4 people onsite to tilt up the panels and set them in place,” says Alonso Forcado, an engineer from Non-quit Homes who helped design and build the first residential home outside of Atlanta using this style of construction.

The panels can also be poured on site which eliminates the need to transport heavy panels from a precast manufacturer, where every mile increases their cost.

The time associated with building concrete homes can also be greatly reduced when compared to traditional wood-framed designs. For example, depending on the size, a wood-framed home can take 6 months to a year to complete. Once a builder can properly train their crew on the new concrete building process, building times can also be greatly reduced to as little as 120 days, depending on the size of the residence.

### ***Resilience relies on retraining***

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concrete construction, companies like Texas-based Nonquit Homes have begun offering educational courses for contractors. The program takes 8 days and includes hands-on training that will provide builders and skilled workers with the knowledge and ability to pour and erect prestressed concrete panels for quick and cost-effective residential construction. "It took us almost two years to perfect the process of building with these prestressed concrete sandwich panels," adds Forcado. "Now we want to pass along what we have learned to builders before it is too late. It's a race against time."

To further speed development, the U.S. Resiliency Council is also pushing for incentives for builders who construct more durable homes. Recently, Alabama became the first state to adopt such measures. Reis believes many more states will soon follow suit.

### Shield Our Shelters

The transition to concrete homes cannot come soon

enough for lenders and the insurance industry, which have seen losses escalate over the last decade.

Those costs are then passed on to homeowners who are already running out of options when it comes to protecting their homes. In fact, according to a report from First Street Foundation – a nonprofit research group – almost 1/3rd of all homeowners in the lower 48 states are already struggling to find affordable insurance. Without cost-effective coverage, the housing market's future is in peril.

"Insurance rates are skyrocketing because of the increased risk. At the same time lenders don't want to be left holding the bag," says Reis. "The good news is that they are both beginning to recognize that they can greatly reduce their risks if homes are built with the right materials."

### Addressing Vulnerabilities

Beyond cost and training, there are some traditional

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drawbacks to building homes out of concrete. These include concrete's poor insulation capacity, less appealing finishes, and a lack of architectural design options. However, these too are being resolved with recent innovations.

For example, while concrete is very dense and therefore airtight, it is not considered a good insulator. However, builders – including Nonquit Homes – have begun incorporating a thick layer of insulation inside the concrete panels. This has allowed the energy

efficiency of the home to exceed that of traditional wood-framed homes. In addition, adding the insulation into the casting process further reduces construction time and costs by eliminating the need for insulation and sheetrock along the inside of the exterior walls.

When it comes to design, the concrete industry has come a long way and options are now almost endless with colored, patterned, and textured concrete. Additionally, builders can utilize traditional exteriors such as stone, brick, or stucco to add the coveted curb appeal.

Concrete homes are proving to be a safer, greener, more durable option with lower energy consumption and fewer repairs providing a more sustainable solution.

“Sustainable design has always been translated into green design, or having a low impact on the environment,” concludes Reis. “That is only half of the equation. The other part is the environment having a low impact on us. By combining green design with resilient design, together we can achieve sustainability.”

For more information about concrete residential homes contact Nonquit Homes via phone at (361) 972-6260, email [info@nonquithomes.com](mailto:info@nonquithomes.com) or visit [www.nonquithomes.com](http://www.nonquithomes.com)



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## Ad Index

Company	Pg.	Website
Conduit Repair	9	<a href="http://www.conduitrepair.com">www.conduitrepair.com</a>
CopperWeld	13, 19	<a href="http://www.copperweld.com">www.copperweld.com</a>
Critter Guard	18	<a href="http://www.critterguard.com">www.critterguard.com</a>
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Grace Industries	BC	<a href="http://www.graceconnectedsafety.com">www.graceconnectedsafety.com</a>
Krenz Vent	2	<a href="http://www.krenzvent.com">www.krenzvent.com</a>
LAN Shack	16	<a href="http://www.lanshack.com">www.lanshack.com</a>
Maddox	1	<a href="http://www.maddox.com">www.maddox.com</a>
Mobile Desk	IBC	<a href="http://www.mobiledesk.com">www.mobiledesk.com</a>
Resa Power	7	<a href="http://www.resapower.com">www.resapower.com</a>
Rhino Switchboard Mat	IFC	<a href="http://www.rhinoswitchboardmat.com">www.rhinoswitchboardmat.com</a>
Ronk Electrical	17	<a href="http://www.ronkelectrical.com">www.ronkelectrical.com</a>
Voltec	8	<a href="http://www.voltecpowerlighting.com">www.voltecpowerlighting.com</a>
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