



CUSTOMER PROFILE

A large industrial contractor involved in the design, engineering, construction, and maintenance of facilities. With over 20,000 employees and 400 locations, the company participates in the heavy industrial, energy, and oil and gas industries.

COUNTRY

United States

INDUSTRY

Oil & Gas

CHALLENGES

- Deploy a solid grounding solution
- Replace existing crimping tools with more reliable tools to minimize downtime
- Complete project within tight deadline

PANDUIT® SOLUTIONS

- BlackFin™ Installation Tools
- StructuredGround™ Direct Burial Compression Grounding System
- Category 6A/6 copper cabling and connectivity
- Fiber optic connectivity assemblies and accessories
- Pan-Ty® Cable Ties, Dome-Top® Cable Ties, Pan-Steel® Cable Ties
- Identification and Safety Solutions

BENEFITS

- Less downtime
- More reliable installation tools
- Speed to installation

Case Study: Industrial Construction

Saving Time and Money with a Reliable Grounding System and Improved Installation Tools

Panduit helps an industrial contractor quickly reduce deployment time while increasing productivity and worker safety

CHALLENGES

A large industrial company known for high quality services within the oil and gas industry was contracted to provide its construction expertise for a \$14 billion dollar liquefied natural gas (LNG) export facility in Texas. Slated to last at least three years, this was the largest industrial construction project within the U.S. at the time.

The multifaceted project has three liquification trains (each rated at 4.4 million tons per year) under construction with a fourth train in the planning stages. The completed facility will have the ability to export 13.9 million tons per year of LNG. This equals to processing approximately 2.0 Bcf/d of pipeline-quality natural gas (feed gas).

The feed gas will originate from the interconnecting intrastate pipeline systems through the existing meter station. The gas will be pretreated near existing metering, compression, and underground storage facilities.

To accommodate project specifications, the customer needed a grounding system that could provide connection reliability and withstand the corrosive elements such as acids and salts, electromagnetic forces from fault surges, and damage from construction equipment that can occur before burial or during later site renovations. An important grounding requirement for the project was to meet the UL 467 standard and the IEEE 837-2014 standard for grounding.



Besides needing a new grounding system, the customer required new installation tools to replace the existing ones because they were breaking often. This meant additional costs to replace them and slowed production that could cause penalties for not completing project tasks on time. The new tools needed to be sturdy, easy to use, efficient, and reliable. Also, the construction site was hot and humid with an abundance of dirt and mud, so the tools needed to withstand this harsh environment.

Finally, the company needed the capability to properly identify products, premises, and equipment.

With the completion of the initial three trains expected to bring the facility to its full capacity in 2019, the project schedule was critical. Delays to the timetable would jeopardize the entire project and would put the budget at risk so the company needed a solution provider that could accommodate the time frame along with the other requirements.

PANDUIT SOLUTION

Based on a presentation highlighting differential benefits, the customer chose Panduit's grounding system. The Panduit StructuredGround™ Direct Burial Compression Grounding System provides a dedicated below-floor grounding path to maintain system performance, reduce intermittent failures, and protect the customer's equipment and personnel. It combines the installation efficiencies of a compression system with the long-term reliability of connections that meet IEEE Std. 837-2014 and the UL 467 standard for grounding and bonding. Because there is no open flame involved in the installation process, the company can continue installations in the hot and humid weather. Open-burn permits are not required and bonds can be visually inspected on the spot. The company used the system to bond copper conductors, the reinforcing bar (rebar), ground rods, and building steel. The system addresses the following risks to the construction site:

- Damage from construction equipment before burial or during later site renovations
- Electromotive forces from fault and lightning surges
- Freeze-thaw cycles
- Corrosive forces due to acids or salts



Leveraging the success of the grounding solution, Panduit introduced its BlackFin™ installation tools to replace the company's existing tools. The company used the BlackFin battery-powered hydraulic crimping tool to install the grounding system and Panduit's connectors and lugs. The tool allows for many more crimps on a single battery charge while providing the crimping force tonnage necessary to achieve certified connections. This crimping tool is the first in the industry to meet Occupational Safety and Health Administration (OSHA) and international safety standards for battery-operated hand tools. This innovative tool leads the industry in safety and reliability:

- Certified by CSA, an OSHA accredited NRTL (nationally recognized test lab) to meet mandatory OSHA requirements
- Meets requirements of EU Machinery Directive and EMC Directive
- Meets ISO 12100, Machinery Safety Risk Assessment, including ergonomics

The BlackFin installation tool has a quick motor stop for high use safety along with automatic retraction when crimping is complete. There is also an integrated pressure measurement with a visual and audible signal if full crimp force is not attained.

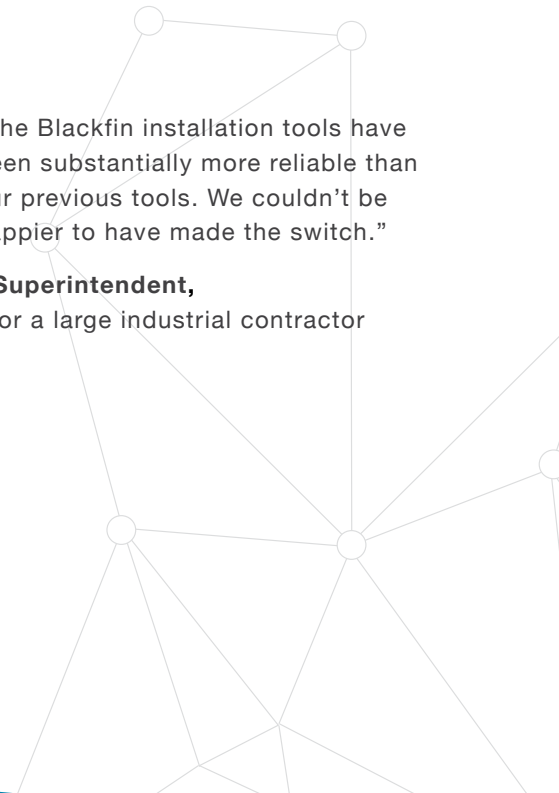
The tool provides the following features:

- No-Slip Grips – comprised of soft composite materials for secure and comfortable tool operation
- Quick Motor Stop – stops motor immediately upon release of activation trigger to prevent damage to components or injury to the operator
- Audible and Visual LED Warning – signals when crimping operation is complete
- Rotating Crimp Head – facilitates ease of tool operation in constrained spaces
- Auto Piston Retraction – provides visual verification that crimp cycle is complete
- LED Signal Light – notifies when tool requires maintenance to extend tool life

**This tool has
a quick motor
stop for high
user safety along
with automatic
retraction when
crimping is
complete.**

"The Blackfin installation tools have been substantially more reliable than our previous tools. We couldn't be happier to have made the switch."

– **Superintendent,**
for a large industrial contractor



The company also chose the following Panduit solutions to support its requirements:

- Fiber optic connectivity assemblies and accessories – custom fiber optic patch cords, ferrules, lugs, and terminals deliver high performance and reliability for harsh environments
- 6A/6 copper cable and connectivity – delivers consistent performance and reliability throughout the construction site
- Pan-Ty® Cable Ties – one-piece design for consistent performance and reliability. Excellent for high temperature applications up to 260°C
- Dome-Top® Cable Ties – two-piece design that incorporates a stainless steel locking barb for infinite adjustability through the entire bundle range. The low-thread force design reduces operator fatigue and improves productivity
- Pan-Steel Self-locking Stainless Steel Cable Ties – designed to promote worker safety and speed up installation, these cable ties deliver strength, long life and resistance to chemicals, vibration, radiation, weathering, and extreme temperatures
- Permanent Identification Solutions – ideal for the customer's industrial environment, these fire-resistant solutions are manufactured for long-term use. They ensure that hazards are properly recognized and identified. They also deliver long-term durability and legibility for optimum identification of pipes, conduit, cables, and related equipment
- Safety Solutions – withstand the extreme exposure to intense heat, chemical corrosion, flame, high radiation, and moisture present within the company's outdoor application. The components that the company selected (lockout/tagout devices, facility signage, and labeling systems), are all safe, quick, and easy to install. All safety components are engineered for maximum reliability, improved productivity, and workplace safety and are compliant with OSHA, ANSI, and NFPA requirements.



BUSINESS BENEFITS

To achieve competitive differentiation, the company wanted to ensure top performance and reliability of its installation tools and grounding system. By adopting the latest technology that includes fully compliant tools that meet the strictest standards, the company now enjoys less downtime and improved speed to installation. This helps the company meet its aggressive construction schedules and project ROI goals.

“Panduit's StructuredGround™ Direct Burial Compression Grounding System, BlackFin™ Installation Tools, and safety and identification solutions provide the assurance that the company's equipment will function at peak performance at deployment—with no disruption to the project schedule.”

– **Superintendent**
for a large industrial contractor.



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