Case Study

Achieving Less Downtime and Faster Deployment with Enhanced Installation Tools and a Reliable Grounding System

Panduit supports industrial contractors in efficiently reducing deployment times, enhancing productivity, and ensuring worker safety.

Our client is a leading industrial contractor, celebrated for their exceptional facility design, engineering, construction, and maintenance services. With over 20,000 dedicated professionals and a presence in 400 locations, they are highly regarded in the heavy-duty industrial, energy, and oil and gas sectors. Their commitment to reliability and expertise makes them a trusted partner for all industrial needs.

BlackFin

PANDUIT®

infrastructure for a connected world

Country
United States

Industry
Oil & Gas

Business Challenges

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

Business Benefits

- Less downtime
- More reliable installation tools
- Installation speed

> "The BlackFin® installation tools have been substantially more reliable than our previous tools. We couldn't be happier to have made the switch."
>
> - SUPERINTENDENT OF A LARGE INDUSTRIAL CONTRACTOR

Business 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 liquified 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 liquefaction trains (each rated at 4.4 million tons per year) under construction, with a fourth train in the planning stages. The completed facility will be able to export 13.9 million tons per year of LNG. This equals 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 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 and the IEEE 837-2014 standard for grounding.

In addition to needing a new grounding system, the customer required new installation tools to replace the existing ones, as they broke often. This meant additional costs to replace them and slowed production, which could result in 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 abundant dirt and mud, so the tools needed to withstand this harsh environment. Finally, the company needed the capability to identify products, premises, and equipment properly. 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. They would put the budget at risk, so the company needed a solution provider to accommodate the time frame and other requirements.

Panduit Solution

The customer chose the Panduit StructuredGround™ Direct Burial Compression Grounding System based on a presentation highlighting differential benefits. This 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.

The company can continue installations in hot and humid weather because no open flame is involved in the installation process. 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 recommended the 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 with Panduit connectors and lugs. The tool allows 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 the 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 the 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 and automatic retraction when crimping is complete. It also has 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 the crimping operation is complete
- **Rotating Crimp Head** – facilitates ease of tool operation in constrained spaces
- **Auto Piston Retraction** – provides visual verification that the crimp cycle is complete
- **LED Signal Light** – notifies when tool requires maintenance to extend tool life

These tools have a quick motor stop for high user safety and automatic retraction when crimping is complete.

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

- Pan-Ty® Cable Ties feature a one-piece design for consistent performance and reliability and are ideal for high-temperature applications up to 260° C.
- Dome-Top® Cable Ties features a two-piece design, incorporating a stainless-steel locking barb for infinite adjustability throughout the bundle range. The low-thread force design reduces operator fatigue and improves productivity.
- Pan-Steel® Self-locking Stainless Steel Cable Ties deliver strength, long life, and resistance to chemicals, vibration, radiation, weathering, and extreme temperatures.
- Identification solutions that are fire-resistant and manufactured for long-term use ensure hazards are properly recognized and identified while delivering long-term durability and legibility for optimum pipe, conduit, cable, and related equipment identification.
- Safety solutions are engineered for maximum reliability and workplace safety and comply with OSHA, ANSI, and NFPA requirements. They withstand extreme exposure to intense heat, chemical corrosion, flames, high radiation, moisture and are ideal for the company's outdoor applications. The components used in this project included lockout/tagout devices, facility signage, and labeling systems.
- Category 6A/6 Copper Cable and Fiber Optic connectivity delivers consistent performance and network reliability throughout the construction site.

Business Benefits

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

> "The Panduit grounding system, BlackFin® Installation Tools, safety and identification solutions, assured our equipment will function at peak performance at deployment—with no disruption to the project schedule."
>
> - SUPERINTENDENT OF A LARGE INDUSTRIAL CONTRACTOR

PANDUIT® BlackFin

Panduit Corp
World Headquarters
Tinley Park, IL 60487

cs@panduit.com
US and Canada: 800.777.3300
Europe, Middle East, and Africa: 44.20.8601.7200
Latin America: 52.33.3777.6000
Asia Pacific: 65.6305.7575

www.panduit.com

For more information about the BlackFin offering highlighted in this case study, visit **www.panduit.com/wire-termination** or scan the QR code.