

INDUSTRY BROCHURE

Installation Products

Oil and gas industry



Installation Products Division

- Wire and cable management
- Cable protection systems
- Boxes and fittings
- Connectivity and grounding
- Medium voltage

Thomas & Betts is now part of ABB's Installation Products Division, but our long legacy of quality products and innovation remains the same. From connectors that support wire buildings on Earth to cable ties that help put machines in space, we continue to work every day to make, market, design and sell products that provide a smarter, safer and more reliable flow of electricity, from source to socket.

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Designed to perform

Oil and gas industry

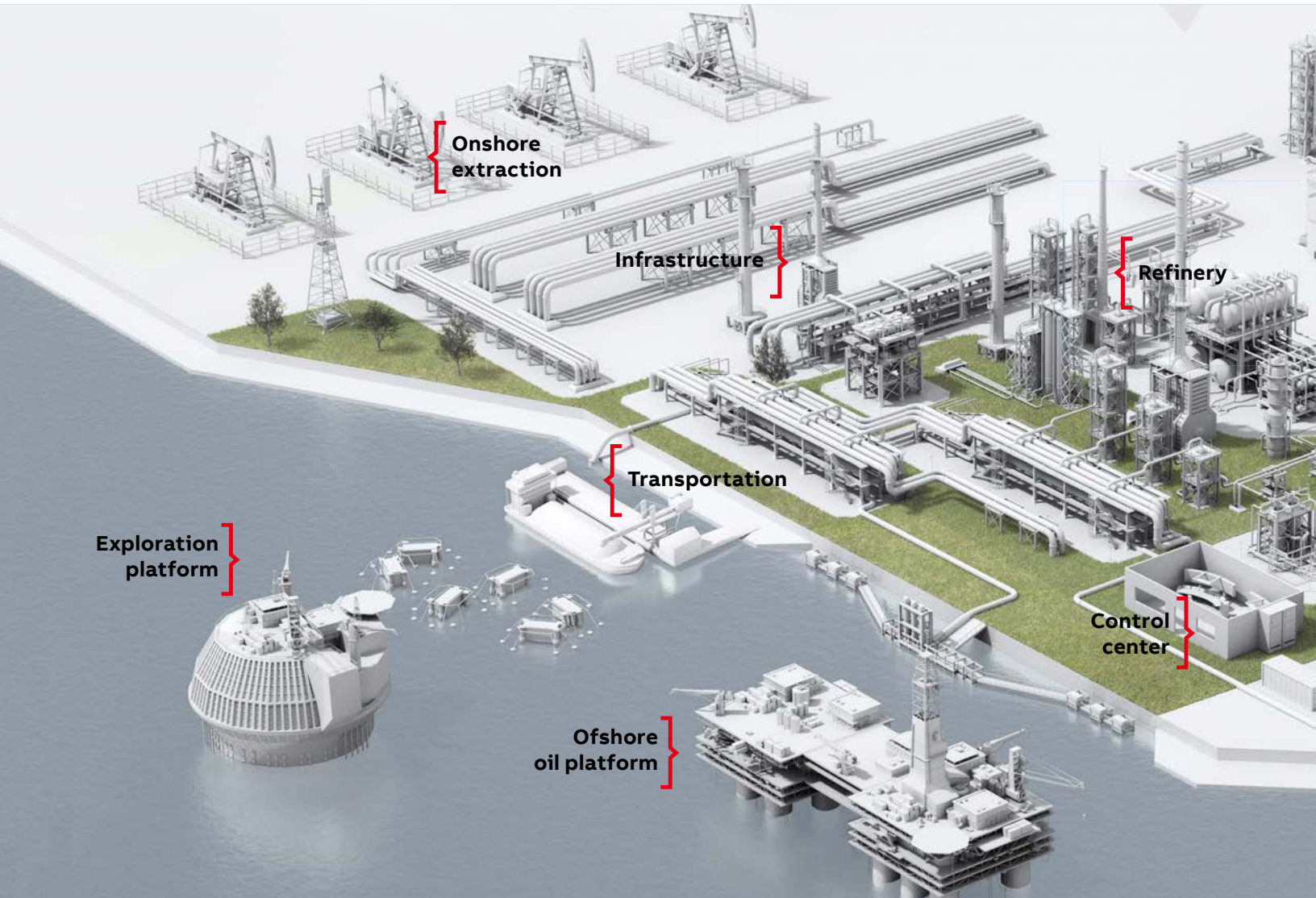


ABB understands the challenges faced in upstream, midstream and downstream processes and is committed to providing innovative electrical solutions that not only reduce overall project costs, but also increase safety, promote sustainability and even improve cash flow.



Installation Products

for the oil and gas industry:



Safety



Continuous operation
& sustainability



Total project
cost reduction



Corrosive & harsh
environment protection



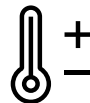
Hazardous location
protection



Grounding & bonding



Power quality,
efficiency & reliability



Extreme temperature
protection



Liquid ingress
protection



Services & training

Whether it's labor-saving rough-in components, custom-designed electrical prefabrication systems, online cloud-based design tools or even our world-class logistics, ABB can help bring oil and gas projects in on time, within budget and profitably.

Product selection guide

for the oil and gas industry

Product selection guide



Product description	Safety	Continuous operation & sustainability	Total project cost reduction	Corrosive & harsh environment protection
Kopex-Ex™				
Explosion-proof raceway systems	–	–	–	•
Ocal®				
PVC-coated conduit and fittings	•	•	–	•
Ocal-Blue® NEMA type 4X Form 8 conduit bodies	–	–	–	•
Ocal installation certification training	–	–	–	–
PMA®				
Nylon cable protection systems	–	•	–	•
Red-Dot®				
Code Keeper® weatherproof while-in-use covers	•	–	–	•
Russellstoll®				
MaxGard® pin-and-sleeve connectors and explosion-proof interlocked receptacles	–	•	–	–
GSUL ground indicator system	•	•	–	–
Sta-Kon®				
Nylon-, vinyl- and non-insulated wire terminals	–	•	–	–
High-temperature wire joints and terminals	–	–	–	–
Luminaire disconnects	•	•	–	–
Corrosion-resistant, nickel-plated wire terminals	–	•	–	•
Heat-shrink terminals, ergonomic Comfort Crimp® tools and disconnect installation tool	–	•	–	–
Shrink-Kon® wire and connector insulation products	–	•	–	–
T&B® Cable Tray				
Aluminum, stainless steel and fiberglass support and wire management systems	–	•	–	•
T&B® Fittings				
Type A liquidtight flexible conduit and fittings	–	•	–	–
LTXE High-/low-temperature liquidtight conduit and fittings	–	–	–	–
Stainless steel Form 8 and BlueKote® conduit bodies	–	–	–	•
Xtra Flex® non-metallic liquidtight conduit, tubing and Bullet® fittings	–	•	–	–
Stainless steel and aluminum hubs	–	•	–	•
Stainless steel, aluminum and non-metallic liquidtight conduit and cord fittings	–	•	–	•
Explosion-proof boxes, elbows, fittings and XP explosion-proof flexible couplings	–	–	–	–
Silver Grip® tray cord fittings	–	•	–	–
Wire-mesh strain-relief cord and conduit grips	–	–	–	–
CorroStall® aluminum conduit boxes	–	–	–	•
Star Teck® and Star Teck XP® fittings for jacketed metal-clad and teck cables	–	•	•	•
XD expansion/deflection coupling for rigid conduit	–	•	•	–
LU® conduit bodies – BlueKote® and stainless steel	–	–	•	•
Ty-Rap®				
Coated and uncoated stainless steel cable ties	–	–	–	•
Extra-high temperature and flame-retardant UL94V-O nylon cable ties	•	–	–	–
Ty-Rap Tote® cable tie dispensers and ergonomic installation tools	•	–	–	•
Deltec® outdoor fastening system	–	–	–	•
Ty-Met™ stainless steel cable ties	–	–	–	•



Hazardous
location
protection

Grounding
& bonding

Power quality,
efficiency
& reliability

Extreme
temperature
protection

Liquid ingress
protection

Services
& training

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Ocal®

PMA

redodot®

Russellstoll®

Sta-Kon®

T&B® Cable Tray

T&B® Fittings

Ty-Rap®

Blackburn®

elastimold®

EZCODE®

HOMAC®

JOSLYN®

Russellstoll®

Challenge and commitment

ABB understands your oil and gas operation must be competitive and profitable as well as maintain a safe environment in process areas classified as hazardous locations.

This includes:

- Meeting unforgiving product delivery deadlines
- Battling corrosion (in all its many forms)
- Managing unpredictable raw material costs
- Adapting to new technologies used to find energy sources
- Complying with environmental and community regulations

The oil and gas industry demands performance from components used in electrical infrastructure. ABB manufactures quality products that reliably connect and protect electrical wiring systems around the world used for upstream, midstream and downstream processes. Our innovative components and systems are designed for safety in classified hazardous locations to save you valuable installation time and stand up to the harshest, most corrosive environments.

From original design and manufacturing excellence to world-class service, ABB meets the demands of this changing market. That's why we are one of the world's largest providers of electrical components.

A few facts about ABB:

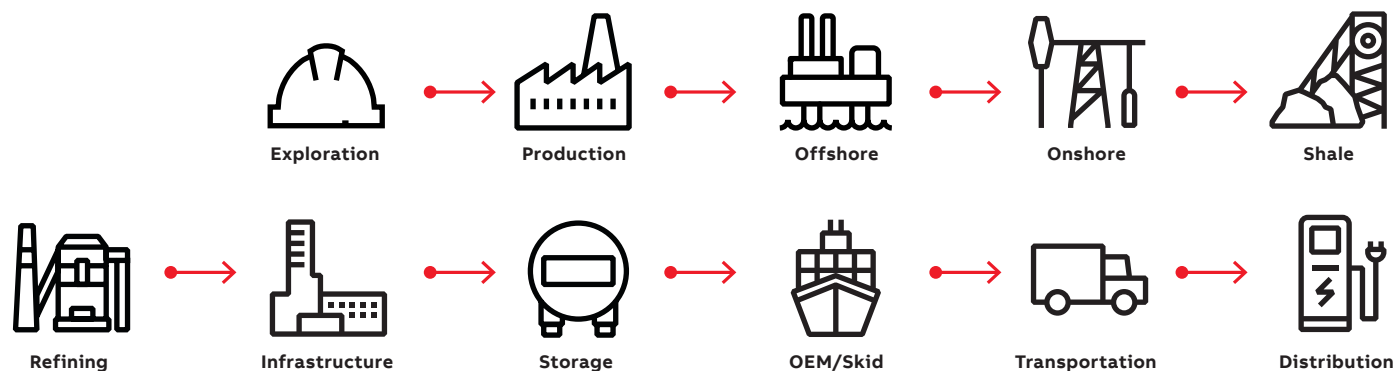
- 46 manufacturing plants in operation around the world
- More than 100,000 electrical components and systems available
- ABB products can satisfy up to 70% of most projects' BOMs
- Efficient service infrastructure offers distributors single-order, single-shipment service on thousands of stocked items

When you need to connect, terminate, fasten or protect, plug into the power and innovation of ABB. Our goal is to be the brand of choice for our products' end users. ABB is committed to developing solutions for the oil and gas industry, staying current with the latest available technology and remaining competitive.

Our electrical solutions:

- Feature built-in safeguards to protect your workplace
- Reduce installation and electrical system changeover and downtimes by 40–50%
- Extend the life of electrical systems by up to 300%
- Safeguard your infrastructure from the consequences of unpredictable power
- Provide the latest technology to connect and protect your electrical systems

Oil & gas applications



Today's global project management emphasizes how maintenance, replacement and downtime affect total cost. In oil and gas installations, the impact of maintenance and downtime costs is even higher.





ABB provides electrical systems and components to ensure continuous operation, minimal downtime and sustainability to meet future needs.

Safety

Accidents, disasters and occupational-related injuries can occur anytime, anywhere. They most often occur because of human errors with technology or an organizational arrangement.

01 Blackburn®

- Ergonomic compression tools.

02 EZCODE®

- Danger/warning labels and signs, industrial/wire markers, barricade/burial tape.

03 Hi-Tech®

- Trans-Guard® fuses, molded current-limiting fuses, molded canister fuses.

Elastimold®

- Fused loadbreak elbows.

Fisher Pierce®

- Faulted circuit indicators.

Kindorf®

- Seismic bracing system.

Joslyn®

- Surge protection devices.

Ocal®

- PVC-coated conduit and fittings.

Sta-Kon®

- Luminaire disconnects.

Red-Dot®

- Code Keeper® weatherproof while-in-use covers.

The identification of and preparedness for such accidents would either prevent their occurrence or mitigate the impact in the case that they do occur. The major stakeholders in safety solutions are (a) the state, (b) the business/organization, (c) employee(s) and (d) the environment/society. Furthermore, there are moral, legal and business implications to safety practices. Every spill is one too many, which is why oil and gas operators, working with regulators, continue efforts to reduce the possibility of spills. Their ultimate goal is having zero spills, zero deaths and zero injuries.

Not only does ABB incorporate safety solutions into our manufacturing plants and offices, we also engineer our products and hold training seminars to incorporate safety in the field. ABB can train you and your staff in the proper methods and use of tools for various applications.

EZCODE® – Safety labels, tags, signs and barricade tapes

- Help to ensure personnel and workplace safety, as well as regulatory compliance
- Visible and long-lasting materials
- Custom labels, tags and signs available
- Barricade and burial marking tapes in a variety of materials and colors

T&B® Fittings

- Over 100 years' technical expertise with a strong reputation for innovation, quality and service
- Uniquely placed to provide a total solution to all your grounding, lightning and transient overvoltage protection needs

Hi-Tech®

- Trans-Guard® fuses, molded current-limiting fuses, molded canister fuses

Joslyn Hi-Voltage®

- Capacitor switches, air disconnect switches and obstruction light-lowering device

Ty-Rap®

- Extra-high temperature and flame-retardant UL94V-O nylon cable ties
- Ty-Rap Tote® cable tie dispensers and ergonomic installation tools



Blackburn®

01



EZCODE®

02



Hi-Tech®

03

Continuous operation & sustainability

The costs associated with downtime in oil and gas operations can be as high as \$1 million per hour. If power is lost during production, the current production may have to be scrapped as well as the process equipment.

01 T&B® Fittings

- Type A liquidtight flexible conduit and fittings.
- XTRAFLEX® non-metallic liquidtight conduit, tubing and Bullet® fittings.
- Stainless steel and aluminum hubs and non-metallic liquidtight conduit and cord fittings.
- Silver Grip® tray cord fittings.
- STAR TECK® and STAR TECK XP® fittings for jacketed metal-clad and teck cables.
- XD expansion/deflection coupling for rigid conduit.

02 Blackburn®

- E-Z-Ground® compression, mechanical and exothermic grounding systems.
- Compression lugs and splices.
- KUBE® power connectors and motor lead disconnects.
- Ergonomic compression tools.

Elastimold®

- High-voltage connectors and solid-dielectric switchgear.

Homac®

- Substation connectors.

Joslyn Hi-Voltage®

- Capacitor switches, air disconnect switches and obstruction light-lowering device.

Due to the high cost of downtime, oil and gas facilities prefer to use better performing materials and products to minimize maintenance, and preventive maintenance is performed at specific intervals instead of waiting for equipment failure. If you do experience plant downtime, ABB offers you:

- The capability to get your electrical system back up and running quickly
- A deep product offering to standardize your electrical system and ensure that you have the products you need on hand to minimize downtime
- High-performance electrical systems to work in clean-in-place (CIP) sanitation processes
- Long-lasting electrical systems to extend the plant life cycle, reduce your capital expenditures and increase operational equipment effectiveness (OEE)
- Installation training certification to ensure plant sustainability
- Qualified technical personnel to help you quickly get your plant back online

T&B® Fittings – Type A liquidtight flexible non-metallic conduit

- Non-metallic, steel and stainless steel fittings
- Ideal for continuous flexing or vibration applications
- Create a liquid-, dust- and oil-tight seal
- Suitable for operating temperatures from -20°C to 60°C

Blackburn® – Motor lead disconnects

- Quick, reliable change-out of electric motors with no bolting, taping or loose connections
- Complete line of motor lead disconnects for 600V and 5kV applications, covering wire ranges from #16 through 4/0 AWG
- Total assembly fits into tight motor housings
- Featuring the Color-Keyed® Compression System that ensures proper connections

Russellstoll®

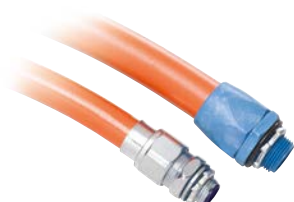
- MaxGard® pin-and-sleeve connectors, explosion-proof interlocked receptacles and GSUL ground indicator system

Sta-Kon®

- Nylon-, vinyl- and non-insulated wire terminals
- Luminaire Disconnects
- Corrosion-resistant, nickel-plated wire terminals
- Heat-shrink terminals, ergonomic Comfort Crimp®
- Tools and disconnect installation tool
- Shrink-Kon® wire and connector insulation products

T&B® Cable Tray

- Aluminum, stainless steel and fiberglass support and wire management systems





Performing routine preventive maintenance is not as expensive as the skyrocketing costs of downtime. Make sure your electrical system runs right with ABB products.

ABB understands the needs of oil and gas companies, which is why we deliver complete solutions that help reduce costs at every stage of operation and maintenance.



Total project cost reduction

When quality products reduce the overall costs associated with an oil or gas operation, the savings add up in so many ways.

01 Blackburn®

- Compression lugs and splices.
- Ergonomic compression tools.

02 T&B® Fittings

- STAR TECK® and STAR TECK XP® fittings for jacketed metal-clad and teck cables.
- XD expansion/deflection coupling for rigid conduit.
- LU® conduit bodies – BlueKote® and stainless steel.

03 Joslyn Hi-Voltage®

- Capacitor switches, air disconnect switches and obstruction light-lowering device.

Many T&B® Fittings reduce inventory expenses. That further translates to installers not needing to carry so many parts, and labor can be performed in a fraction of the time it normally would take.

Other products enable tremendous savings, too. The Kindorf® Trapnut® strut fastener features either a stainless steel, Galv-Krom® or SilverGalv® finish that stands up to corrosion, enabling oil and gas operations to save on replacement and labor costs. The Cobra® one-piece cable and pipe clamp installs quickly and securely right out of the box, attaches to equal trade sizes of EMT and rigid conduit and greatly reduces installation time.

For reducing installation time with teck cable by up to 50%, and for making connections in all those hard-to-reach places, the STAR TECK® EXTREME® DIRECTOR™ fitting comes with a swish-plate design that enables the fitting to adjust from 90° to 180°.

Joslyn Hi-Voltage®

- Capacitor switches, air disconnect switches and obstruction light-lowering device

T&B® Fittings

• Ranger® cord connectors

- Allow for 1/4" more range of cord, providing an opportunity to reduce inventory
- Take twice the cable range of ordinary strain relief connectors
- Straight, 45° and 90° designs

• BlueKote® LU® universal conduit elbow

- Provides a 4-to-1 SKU reduction for conduit body applications
- Reduces installation time and risk of installer strain

• STAR TECK Extreme® Director™

- Fitting adjusts from 90° to 180°
- Saves on Installation time by up to 50%

Blackburn® – Compression lugs

- Accommodate both code and flex cable on the same lug
- Eliminate the need for additional SKUs to accommodate lugs for both cable types
- Featuring the Color-Keyed® Compression System that ensures proper connections



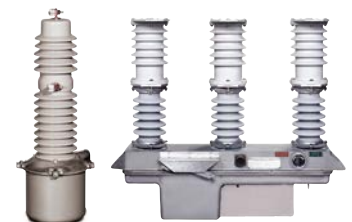
Blackburn®

01



T&B® Fittings

02



JOSLYN

03

Corrosive & harsh environment protection

Most corrosion at refineries is not caused by hydrocarbons that are processed but by various inorganic compounds – such as hydrogen sulfide, hydrochloric acid, sulfuric acid and water – used in the process.

01 **Kopex-Ex™**

- Explosion-proof raceway systems.

02 **Ocal®**

- PVC-coated conduit and fittings.
- OCAL-BLUE® NEMA Type 4X Form 8 conduit bodies.

03 **Ty-Rap®**

- Coated and uncoated stainless steel cable ties.
- Ty-Rap Tote® cable tie dispensers and ergonomic installation tools.
- Deltec® outdoor fastening system.
- Ty-Met™ stainless steel cable ties.

Adaptaflex®

- Stainless steel flexible conduit, cord and cable fittings.

PMA®

- Nylon cable protection systems.

Red-Dot®

- Code Keeper® weatherproof while-in-use covers.

Sta-Kon®

- Corrosion-resistant, nickel-plated wire terminals.

Feed-stock contaminants and process chemicals are two principal sources of these corrosives. The use of corrosion-resistant materials and coatings is the key to extending the life and reliability of your electrical system components.

According to NACE International, corrosion costs the U.S. oil and gas production industry an estimated \$1.3 billion annually. Problems include:

- Equipment failure and shortened life
- Poor electrical system reliability caused by high-resistance connections
- Long maintenance repair time due to corroded parts
- Safety hazards at the grounding level and from product contamination
- Added labor expenses

OCAL® – PVC-Coated Conduit

- Thread protection through a hot-dipped galvanizing process, and industry leading UL® Listed Type 4X PVC-coated conduit bodies
- Meets the requirements of NEMA RN-1 without exception
- UL® Listed with both the zinc coating and the PVC coating investigated and listed per UL6
- UL® Listed including UV resistance testing
- PVC-coated conduit system provides superior corrosion protection against many harmful elements
- Interior blue urethane provides corrosion protection around copper wire or fiber optics

Ty-Rap® – Stainless steel cable ties

- Strong, fireproof and easy to apply – for safe cable bundling
- Resist corrosion and UV light, with the ability to withstand temperature extremes
- Provide a strong, safe installation with a unique duallocking mechanism

Kopex-Ex™

• **Stainless steel liquidtight fittings**

- Rated IP66
- Operating temperature range of -60°C to 130°C

• **Stainless Steel Flexible Conduit**

- Available for oil-resistant, high-temperature and low and limited fire hazard applications
- Made from Type 316 stainless steel

T&B® Fittings

- Stainless steel Form 8 and BlueKote® conduit bodies
- Stainless steel and aluminum hubs
- Stainless steel, aluminum and non-metallic liquidtight
- Conduit and cord fittings
- CorroStall® aluminum conduit boxes
- STAR TECK® and STAR TECK XP® fittings for jacketed metal-clad and teck cables
- LU® conduit bodies – BlueKote® and stainless steel
- Form 7 and Form 9 sand cast Aluminum conduit bodies



KOPEX-Ex



T&B® Fittings



Ty-Rap®

Offshore sites face corrosion from saline water and various chemicals. Onshore petrochemical plants are subject to corrosion from separation, filtration, extraction and distillation processes involving the use of chemical agents.





There is always a concern at petrochemical installations about the significant presence of gases and vapors. Our explosion-proof solutions can prevent or contain an explosion in classified hazardous locations.

Hazardous location protection

There are two ways that equipment is made safe. Either the equipment is located in a safe place outside the hazardous location, or the equipment is designed, installed and maintained to the standards applicable to a hazardous location.

01 **Kopex-Ex™**

- Explosion-proof raceway systems.

02 **T&B® Fittings**

- Explosion-proof boxes, elbows, fittings and XP explosion-proof flexible couplings.
- STAR TECK® and STAR TECK XP® fittings for jacketed metal-clad and teck cables.

03 **Russellstoll®**

- MaxGard® pin-and-sleeve connectors and explosion-proof interlocked receptacles.
- GSUL ground indicator system.

All codes define hazardous locations as areas where the possibility of explosion and fire is created by flammable liquids, gases, vapors, dusts, fibers or flyings. In oil and gas facilities, hazardous locations may be present due to liquids, gases or chemicals.

Typical hazardous locations include:

- Onshore and offshore drilling rigs
- Refineries and chemical plants
- Booster stations and valve areas along pipelines
- Loading and unloading areas in terminals
- Storage areas for tanks, barrels and trucks

To protect both your facility and your employees, ABB offers a wide variety of high performance, explosion-proof solutions designed to prevent or contain an explosion in classified hazardous locations.

T&B® Fittings – STAR TECK® XP Stainless steel and aluminum fittings

- Form a mechanical grip and water- and/or oil-resistant termination
- Provide grounding continuity of cable armor

Kopex-Ex™ – Stainless steel flexible conduit

- Available for oil-resistant, high-temperature and low and limited fire hazard applications
- Made from Type 316 stainless steel

Russellstoll® – MaxGard® pin-and-sleeve connectors

- Copper-free, cast aluminum, epoxy powder-coated housings
- Explosion-proof interlocked receptacles also available

EZCODE®

- Danger/warning labels and signs, industrial/wire markers, barricade/burial tape

T&B® Cable Tray

- Aluminum, stainless steel and fiberglass support and wire management systems



KOPEX-EX



T&B® Fittings



Russellstoll®

Grounding & bonding

An electrical system includes various pieces of conductive equipment connected together to keep them at the same potential. Static sparking cannot take place between objects that are at the same electrical potential. ABB electrical raceway products provide excellent bonding characteristics for the electrical system.

01 Blackburn®

- E-Z-Ground® compression, mechanical and exothermic grounding systems compression lugs and splices.
- KUBE® power connectors and motor lead disconnects.
- Ergonomic compression tools.
- Dragon Tooth® insulation-piercing connectors.
- Shield-Kon® one- and two-piece coaxial grounding connectors.

02 Blackburn®

- High-quality flexible connectors.

EZCODE®

- Danger/warning labels and signs, industrial/wire markers, barricade/burial tape.

Fisher Pierce®

- Faulted circuit indicators.

Grounding the electrical system provides a means in which conductive equipment is connected to an earth potential via the grounding electrode. This prevents potential differences and sparking between conductive equipment and grounded structures.

The National Electrical Code® (NEC®) provides installation rules to follow. ABB manufactures a variety of solutions to meet these rules.

Blackburn®

- **E-Z-Ground® compression connectors**
 - High-conductivity copper and bronze allow connectors for direct burial, OEM or telecomm applications
 - Featuring the Color-Keyed® compression system that ensures proper connections
- **Mechanical grounding connectors**
 - High-strength split-bolt connectors for copper-to-copper connections
 - Service post connectors for steel structures, fence posts or transformers using one or two cables
 - ViceLock® connectors for cable tray, channel and strut applications
- **Exothermic welding system**
 - Simple, self-contained system to form high-quality electrical connections

Russellstoll®

- GSUL Ground Indicator System

Blackburn® – High-quality flexible connectors

- A wide variety of grounding straps and accessories for grounding applications
- Extra-flexible links for heavy-duty applications up to 3600A
- Standard flexible links for medium-duty applications up to 2350A

Elastimold®

- High-voltage separable connectors and solid-dielectric switchgear

T&B® Fittings

- STAR TECK® and STAR TECK XP® fittings for jacketed metal-clad and teck cables
- XD Expansion/deflection coupling for rigid conduit




NEC and National Electrical Code are registered trademarks of the National Fire Protection Association, Inc.

01

Blackburn®

02

Blackburn®

The image shows a large-scale industrial facility, likely an oil or gas processing plant. A massive, corrugated metal cylindrical storage tank dominates the background. In the foreground and middle ground, a dense and intricate network of large-diameter pipes is visible. These pipes are supported by a complex system of blue-painted steel structural beams and ladders. Some pipes are wrapped in silver insulation. The scene is brightly lit, suggesting a sunny day, with shadows cast across the ground and the tank's surface.

By properly connecting all
metallic non-current carrying
equipment at your oil and
gas facility, you greatly reduce
the potential for electric
shock and explosions.



Power is prone to sags, spikes and surges.
But ABB power solutions provide clean,
dependable electric power to facilities – and
they keep your equipment and data safe.

Power quality, efficiency & reliability

The loss of a single data record can mean the permanent loss of a process batch – or the loss of millions of dollars every minute. In this critical industry, the need for stable power is paramount.

01 Joslyn Hi-Voltage®

- Capacitor switches, air disconnect switches and obstruction light-lowering device.

02 Elastimold®

- Solid-dielectric switchgear.
- Separable connectors.

Our power solutions provide the peace of mind that comes from knowing your equipment is safe and secure from the consequences of unpredictable power. By designing the world-class standard in power equipment, ABB has become a leader in custom-designed digital static transfer switches, power distribution and uninterruptible power systems.

From the clean environment of a data center to the harsh conditions of an offshore oil platform, Thomas & Betts products meet the challenge of providing clean, dependable electric power to the oil and gas industry.



Elastimold®

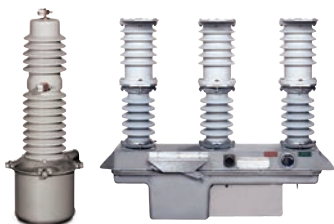
- High-voltage separable connectors and solid-dielectric switchgear

Fisher Pierce®

- Faulted circuit indicators

Joslyn Hi-Voltage®

- Capacitor switches, air disconnect switches and obstruction light-lowering device



01

02



Extreme temperature protection

Whether you are on the North Slope or an arid desert, electrical systems need to perform consistently. Many of the processes require heat tracing to maintain elevated temperatures throughout oil and gas process systems. Oil and gas operations are constantly exposed to nature, sometimes hot, sometimes cold.

01 PMA®

- Nylon cable protection systems.

02 Sta-Kon®

- High-temperature wire joints and terminals.

03 T&B® Fittings

- LTXE High-/low-temperature liquidtight conduit and fittings.

04 Ty-Rap®

- Extra-high temperature and flame-retardant UL94V-O nylon cable ties.
- Ty-Rap Tote® cable tie dispensers and ergonomic installation tools.

To ensure that connections remain properly shielded against undesirable temperatures, and safeguard the uninterrupted transmission of power and data flows, ABB provides tried and tested solutions for a wide variety of applications.

T&B® Fittings

- **52® Series high-temperature flexible metal liquidtight fittings**
 - Handle temperatures up to 150°C
 - Steel or malleable iron construction, electro-zinc plated and chromate coated for corrosion protection
 - Available in 45°, 90° and straight versions
- **LTXE flexible liquidtight conduit**
 - Performs in extreme temperature environments up to 150°C
 - Conduit sizes from 3/8" to 4"

PMA® – High-temperature nylon conduit and fittings

- Offer good fire protection (flammability and smoke generation)
- Provide high impact strength even at low temperatures
- Also resistant to weather

Adaptaflex®

- Stainless steel flexible conduit, cord and cable fittings

Ty-Rap®

- **Extra-high temperature nylon cable ties**
 - For use in temperatures from -40°C to 150°C
 - Feature “The Grip of Steel®” stainless steel locking device and offer infinite adjustability
- **Fluoropolymer cable ties**
 - Perfect for low-smoke applications
 - UL® 94V-0 flammability rating
 - For use in temperatures ranging from -46°C to 140°C

Sta-Kon® - High-temperature wire joints and terminals

- Rated for temperatures up to 150°C, 600V maximum
- Molded, one-piece nylon construction for electrical insulation, rated UL94V-2
- Wire joints feature brazed copper sleeves that prevent separation of connection during crimping
- Wire joints' internal serrations enable cold flow for increased conductivity and pull-out strength

EZCODE®

- Danger/warning labels and signs, industrial/wire markers, barricade/burial tape

Kopex®

- High-temperature protection



PMA

01



Sta-Kon®

02



T&B® Fittings

03



Ty-Rap®

04

—
At remote locations, temperatures can go to extremes. But ABB solutions provide the protection that electrical systems need to fight the cold and beat the heat.



A high-angle, top-down view of an offshore oil rig's deck. In the center, a large, complex piece of industrial equipment is visible, featuring a prominent yellow cylindrical section and a white base. This equipment is surrounded by a network of thick, dark steel cables and pipes. The rig's deck is made of metal grating, and the surrounding ocean is a deep blue with white-capped waves. The overall scene conveys a sense of industrial scale and maritime environment.

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Water, water everywhere, except in your connections. ABB solutions provide superior liquid ingress protection. Our products keep your electrical equipment – and those who use it – safe.

Liquid ingress protection

A single drop of oil seeping into an electrical control box is all it takes to knock out your production line for days. And a faulty fitting can be the culprit causing that failure.

01 Homac®

- Flood-Seal® and Squid® products.

02 Ocal®

- PVC-coated conduit and fittings.
- OCAL-BLUE® NEMA Type 4X Form 8 conduit bodies.

03 Russellstoll®

- MaxGard® pin-and-sleeve connectors and explosion-proof interlocked receptacles.

04 T&B Fittings®

- Type A liquidtight flexible conduit and fittings.
- LTxE High-/low-temperature liquidtight conduit and fittings.
- Stainless steel Form 8 and BlueKote® conduit bodies.
- XTRA FLEX® non-metallic liquidtight conduit, tubing and BULLET® fittings.
- Stainless steel, aluminum and non-metallic liquidtight conduit and cord fittings.
- Silver Grip® tray cord fittings.
- CorroStall® aluminum conduit boxes.
- STAR TECK® and STAR TECK XP® fittings for jacketed metal-clad and teck cables.

Adaptaflex®

- Liquidtight metallic conduit connectors.

PMA®

- Nylon cable protection systems.

Kopex®

- Liquidtight glands.

At ABB, we realize that while most of our products are small, the jobs they do are big. And big jobs demand the right product engineering, testing and quality control. That's what you get with ABB.

We engineer more into our products, so you get more out of them – important extras not found in ordinary fittings, like a ground cone that improves pull-out strength while reducing the risk of stripping wires, or a sealing ring with tough, durable plating.

Our quality liquidtight fittings stay on the job even under the toughest conditions. Why do we put more effort into our products and quality control? It's simple. The more effort we put in, the better the product. We've been doing it right for over 100 years. And you can be sure that if a product is right for ABB, it will be right for you, too.

T&B® Fittings – Stainless steel liquidtight conduit and cord fittings

- Stainless steel construction resists corrosion
- Rounded gland nut deflects water from connector
- Continuous sealing ring ensures a liquidtight seal

Ocal® – Ocal-Blue® PVC-coated NEMA Type 4X Form 8 conduit bodies

- Double coated inside and out for corrosion protection
- Stainless steel encapsulated cover screws can be hand-tightened – using only 15 in.-lbs. of torque – to achieve the UL® Listed Type 4X watertight rating increased redundancy and reliability

Homac® – Flood-Seal®

- Unaffected by liquid ingress, sun, and soil
- Flood-Seal® compression splice kits' insulating cover seals perfectly every time and is prefilled with an oxide inhibitor that keeps out moisture

Russellstoll® – MaxGard® interconnection systems

- Standard Neoprene O-ringed interior components provide separation at the front of each device
- 24 single-rate device polarizations ensure exact-voltage, frequency and phase differentiation
- All system components use mating screw collars



01 **HOMAC**



02 **Ocal**



03 **Russellstoll**



04 **T&B Fittings**

Services & training

In the highly specialized field of electrical equipment design, installation and inspection, the manufacturer plays a key role in helping customers understand the nuances of their equipment.

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NEC and National
Electrical Code are
registered trademarks
of the National Fire
Protection
Association, Inc.

Our services

From the simple task of fastening a Ty-Rap® cable tie to programming a UPS system, ABB provides training in the field or in the classroom to help minimize scrap at the job site and improve installer speed and efficiency.

Blackburn®

- The QTP program provides a guaranteed two-week shipment of Blackburn® products
- Configurator enables special connectors to be designed with a guaranteed two-week shipment
- Product specification specialists and Mobile Technical Specialists are available nationwide to train in the proper use and installation of Blackburn® and Color-Keyed® products
- Inside Tech Support group provides 24/7/365 expertise for Color-Keyed® and Blackburn® products
- Full tool service as well as loaner and tool leasing programs

Elastimold®

- High-voltage separable connectors and solid-dielectric switchgear

Joslyn®/Elastimold®

- Power & High Voltage Field Service group provides field maintenance for Joslyn Hi-Voltage® and Elastimold® equipment

Ocal®

- Onsite installation training provides a review and hands-on practice of clamping, cutting, threading, assembling and repairing the Ocal® PVC-coated conduit system
- Training also extends warranty from two to five years on a system installed by a certified contractor

Ty-Rap®

- Ty-Rap Tote® cable tie dispensers and ergonomic installation tools

Additional services & training

- On-site NEC® update training
- On-site grounding & bonding training

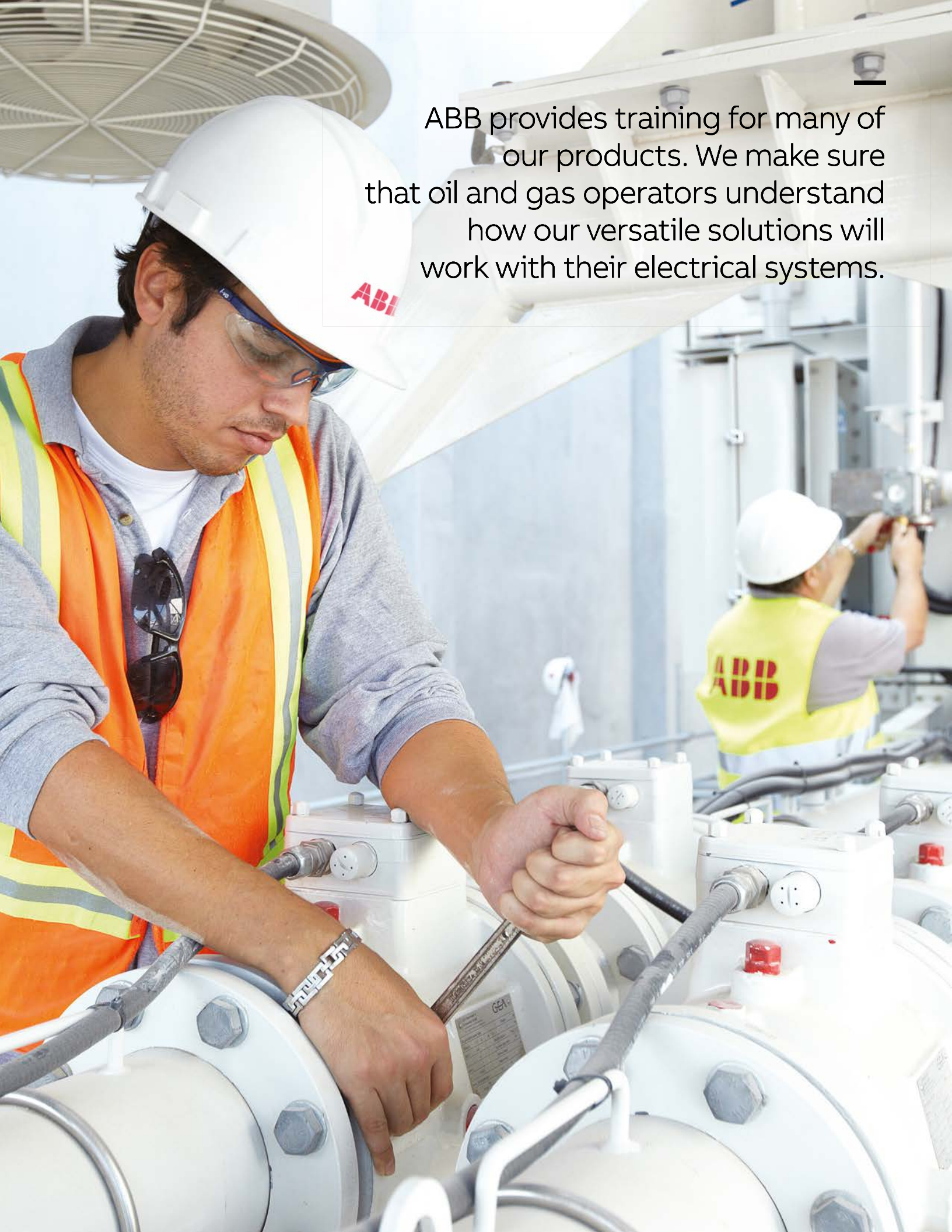
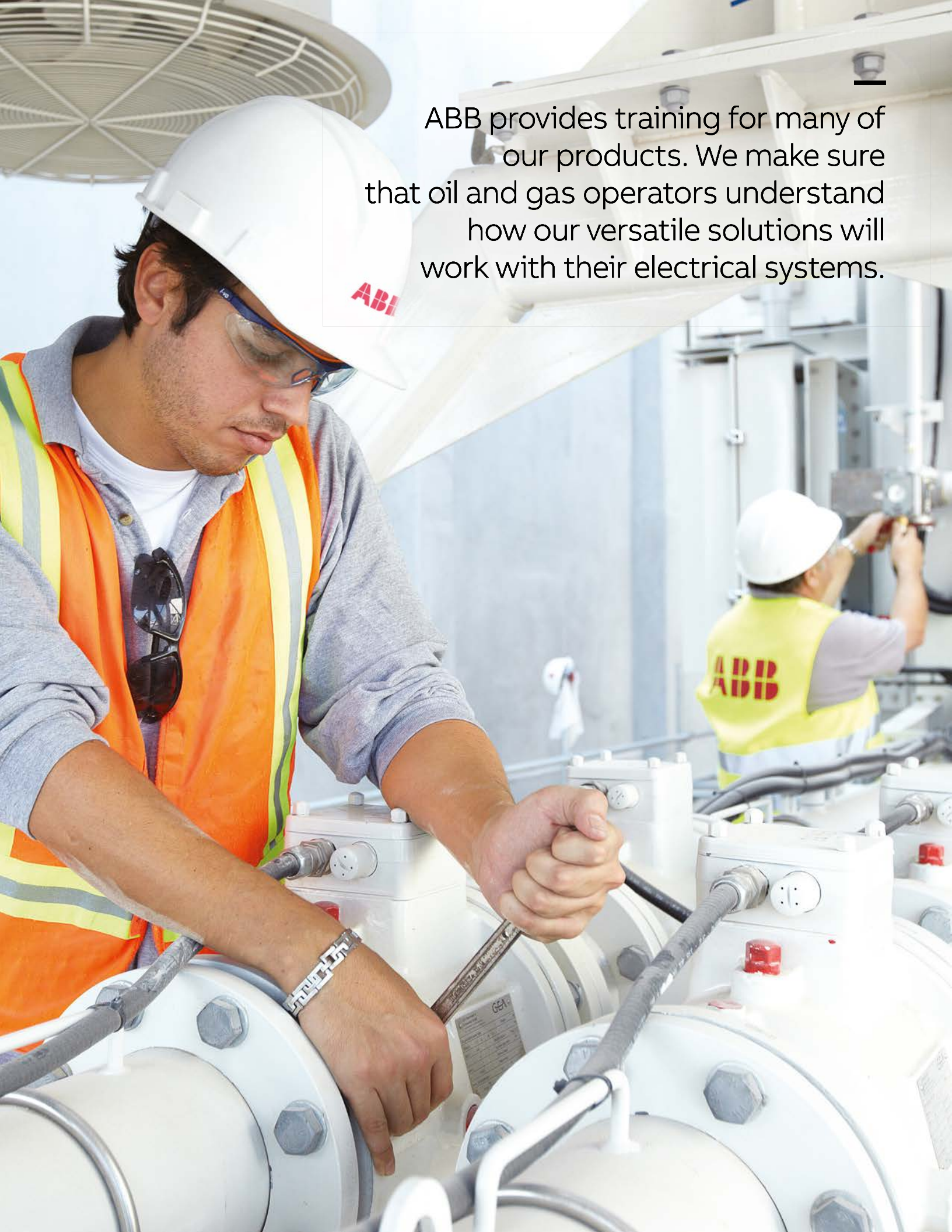


ABB provides training for many of our products. We make sure that oil and gas operators understand how our versatile solutions will work with their electrical systems.



Installation Products for applications

01 Continuous operation and sustainability.

02 Corrosion and harsh environment protection.

03 Safety and contamination.

04 Emergency electrical solutions.

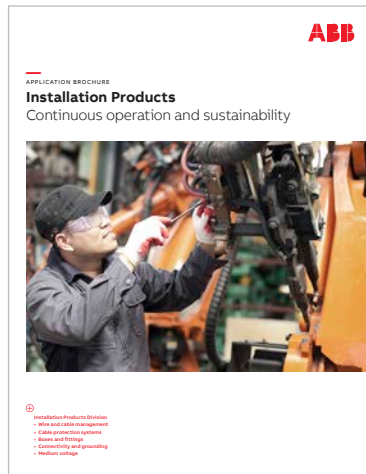
05 Total project cost reduction.

06 Liquid ingress protection.

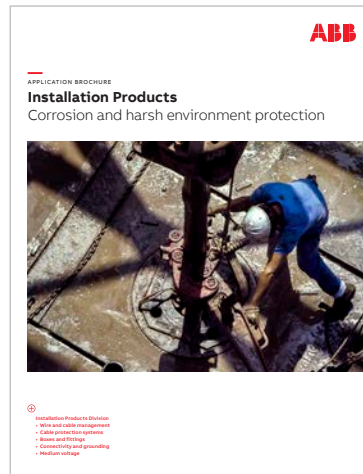
07 Extreme temperature protection.

08 Grounding and bonding.

09 SKU Reduction.



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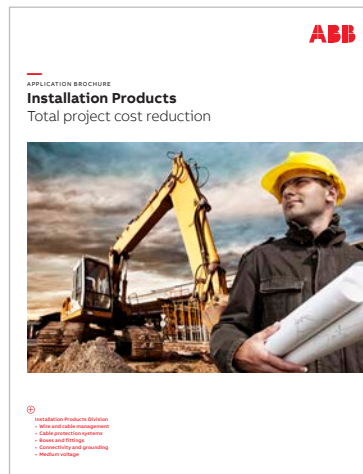
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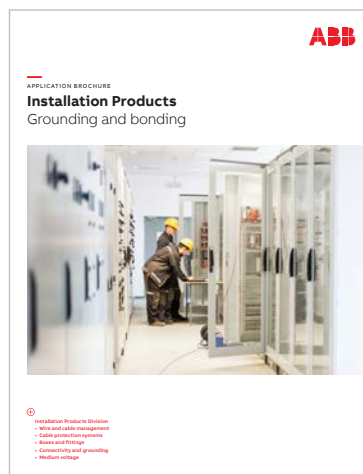
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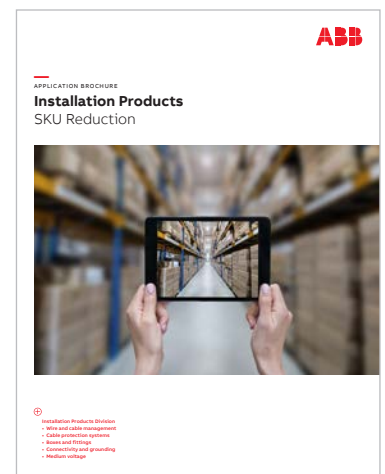
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- 01 Commercial and institutional buildings.
- 02 Data centers.
- 03 Food and beverage industry.
- 04 Food and beverage industry - plant assessment.
- 05 Utility industry.
- 06 Power generation industry.
- 07 Chemical industry.
- 08 Oil and gas industry.
- 09 Wind power industry.
- 10 Renewable energy industry.
- 11 Water and wastewater treatment industry.
- 12 Single and multi-family housing industry.
- 13 Rail industry.
- 14 Civil infrastructure industry.
- 15 Metals and mining industry.





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US

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