

INDUSTRY BROCHURE

Installation Products

Chemical 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

Chemical industry

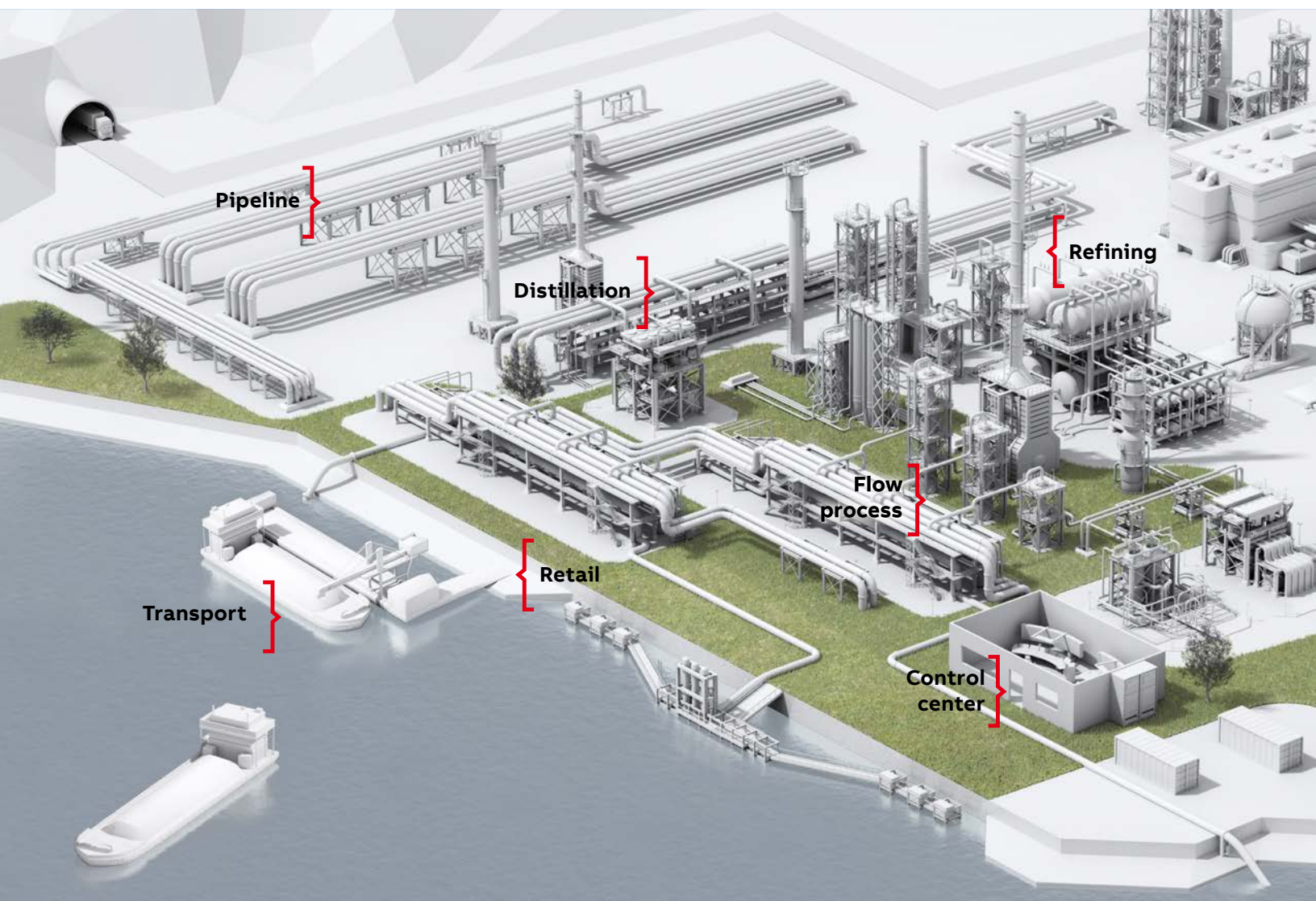
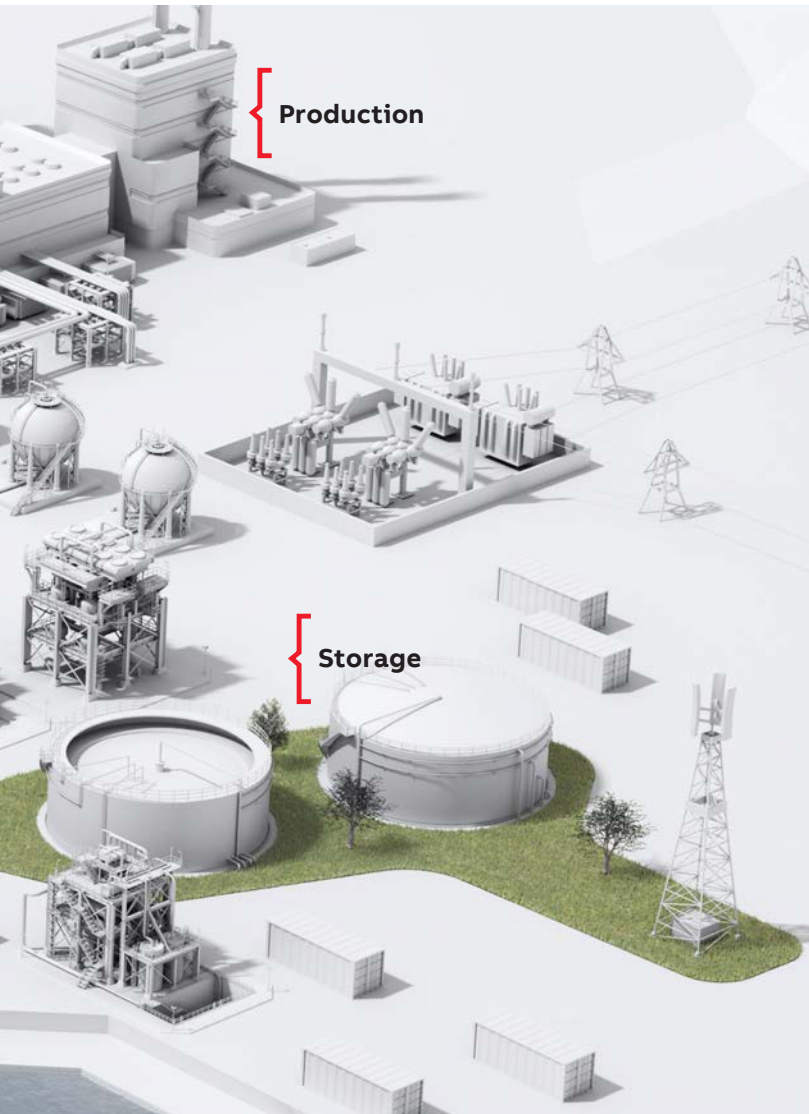


ABB understands the challenges faced in the chemical industry and is committed to providing innovative electrical solutions that not only reduce overall project costs, but also increase safety, promote sustainability and even improve cash flow.



Installation Products for the chemical industry:



Safety



Continuous operation
& sustainability



Corrosive & harsh
environment protection



Grounding & bonding



Hazardous location
protection



Liquid ingress
protection



Power quality,
efficiency & reliability



Extreme temperature
protection



Total project
cost reduction



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 chemical industry projects in on time, within budget and profitably.

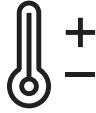
Product selection guide

for the chemical industry

Product selection guide



Product description	Safety	Continuous operation & sustainability	Corrosive & harsh environment protection	Grounding & bonding
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	–	•	–	–
Shield-Kon® one- and two-piece coaxial grounding connectors	–	–	–	•
Superstrut®				
Seismic bracing system	•	–	–	–
T&B® Cable Tray				
Aluminum, stainless steel and fiberglass support and wire management systems	–	•	•	–
T&B® Fittings				
Type A liquidtight flexible conduit and fittings	–	•	–	–
ATX 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	–	•	–	–
Grounding fittings	–	–	–	•
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	Liquid ingress protection	Power quality, efficiency & reliability	Extreme temperature protection	Total project cost reduction	Services & training
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Ocal®

PMA

redodot®

Russellstoll®

Sta-Kon®

Superstrut®

T&B® Cable Tray

T&B® Fittings

Ty-Rap®

Blackburn®

EZCODE®

HOMAC®

KOPEX-EX

Challenge and commitment

ABB understands your operation in the highly automated chemical industry must stay competitive and profitable.

This includes:

- Safety and security issues, ranging from accidents to terrorism
- Waste management and other processes impacting the environment
- Continuous operations producing specialty batches or commodity chemicals
- Changeover and startup cycles for specialty chemical plants

The chemical 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:

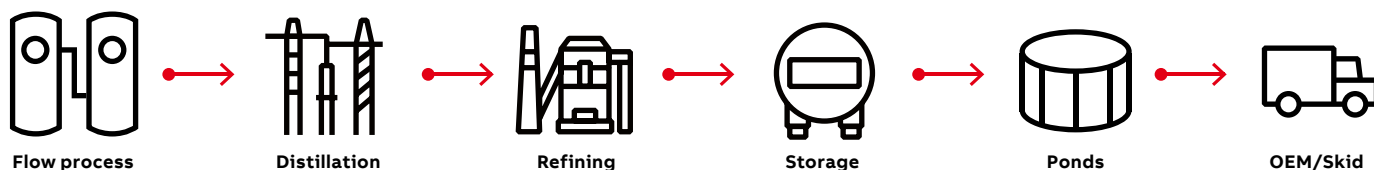
- 46 manufacturing plants in operation around the world
- More than 100,000 electrical components and systems available
- ABB products can satisfy up to 70% of most projects' BOMs
- Efficient service infrastructure offers distributors single-order, single-shipment service on thousands of stocked items

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 chemical 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

Chemical applications



In critical manufacturing environments like chemical plants, the costs of maintenance, replacement and downtime can add up quickly. That's why ABB engineers and manufactures solutions that meet specifications and performance demands. Get the most uptime with ABB products.



Accidents can happen anytime, anywhere. Preparing for accidents, however, can prevent their occurrence or mitigate the impact in case they do occur.



Safety

Human error is often a factor in accidents, disasters and occupational illness. Identification of and preparation for such accidents translates to accident prevention and impact mitigation.

01 EZCODE®

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

02 Russellstoll®

- GSUL ground indicator system.

Elastimold®

- Fused loadbreak elbows.

Fisher Pierce®

- Faulted circuit indicators.

Hi-Tech®

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

Joslyn®

- Surge protection devices.

Joslyn Hi-Voltage®

- Obstruction light-lowering device.

Kindorf®

- Seismic bracing system.

Ocal®

- PVC-coated conduit and fittings.

Red-Dot®

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

Sta-Kon®

- Luminaire disconnects.

Superstrut®

- Seismic Bracing System.

The major stakeholders in safety solutions are (a) the state, (b) the business/organization, (c) employee(s) and (d) the environment/society. The goal of safety practices is zero accidents, zero injuries and zero deaths.

The U.S. chemical industry provides cutting-edge solutions that protect our drinking water and food supply, improve health and save lives. The chemical industry is tightly regulated, and rightly so. If chemicals are not managed safely, they pose significant consequences to our health and the environment. The U.S. Environmental Protection Agency is the primary governmental body regulating the chemical industry.

We engineer our products and hold training seminars to deliver safety in the field. ABB can train you and your staff in the proper methods and use of our tools for various applications.

Blackburn®

- E-Z-Ground® compression, mechanical and exothermic grounding systems
- Compression lugs and splices
- Ergonomic Compression Tools

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

Russellstoll® – GSUL ground indicator system

- Intrinsically safe circuitry
- Instant visual confirmation of safe ground provided by indicator lights
- Prevents pumps from operating until a safe ground is established

Ty-Rap®

- Extra-high temperature and flame-retardant UL94V-0 nylon cable ties
- Ty-Rap Tote® cable tie dispensers and ergonomic installation tools



EZCODE®



Russellstoll®

Continuous operation and sustainability

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

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.

02 PMA®

- Nylon cable protection.

Joslyn®

- Surge protection devices.

Kindorf®

- 316 stainless, aluminum, PVC-coated or non-metallic channel, hangers and clamps.
- Seismic bracing system.

Ocal®

- PVC-coated conduit and fittings.

Russellstoll®

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

Due to the high cost of downtime, chemical facilities use better performing materials and products to minimize maintenance, and they perform preventive maintenance at specific intervals instead of waiting for equipment failure.

If plant downtime is experienced, ABB offers:

- 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
- 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

T&B® Fittings®

- Type A liquidtight flexible conduit and fittings
- XTRA FLEX® 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 with internal bonding strap for rigid conduit

Blackburn®

• Motor lead disconnects

- Quick, reliable change-out of electric motors with no bolting, taping or loose connections
- Minimize motor downtime
- Offer the only pin-spring and insulation system on the market
- Featuring the Color-Keyed® compression system that ensures proper connections

• Compression lugs

- Provide robust performance and reliability with the ABB installation method
- 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

PMA® – Nylon cable protection systems

- Protect power cables, data lines and control leads
- Provide high impact strength even at low temperatures
- Weather resistant



01

Blackburn®



02

PMA



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

Chemical plants are subject to corrosion from separation, filtration, extraction and distillation processes involving the use of chemical agents.



Corrosive & harsh environment protection

Corrosion is the enemy of electrical systems. According to NACE International, corrosion costs the U.S. chemical processing industry an estimated \$1.3 billion annually.

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.

The use of corrosion-resistant materials and coatings, however, is the key to extending the life and reliability of your electrical system components.

Problems caused by corrosion 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

- Industry leading 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

T&B® Cable Tray

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

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 dual-locking 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



KOPEX-EX



T&B Fittings



Ty-Rap

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 Elastimold®

- Solid-dielectric switchgear.

EZCODE®

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

Fisher Pierce®

- Faulted circuit indicators.

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

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

Elastimold®

- High-voltage separable connectors and solid-dielectric switchgear

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

Russellstoll®

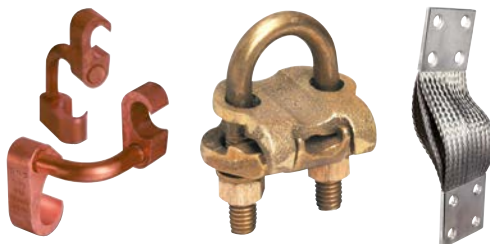
- GSUL ground indicator system

Sta-Kon®

- Shield-Kon® one- and two-piece coaxial grounding connectors

T&B® Fittings

- Blackjack® grounding bushing
- Revolver® bonding liquidtight fitting
- Bonding locknuts
- Bonding hubs and wedge
- XD expansion/deflection coupling with internal bonding strap for rigid conduit
- XJG conduit expansion coupling with internal bonding strap



01

Blackburn®

02


elastimold®

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



There is always a concern at chemical 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:

- Chemical plant process areas
- Booster stations and valve areas along pipelines
- Loading and unloading areas in terminals
- Storage areas for tanks, barrels and trucks

To protect both your employees and your facility, ABB offers a wide variety of high performance, explosion-protective 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

- Designed to meet UL®, CSA, IECEx and ATEX standards for hazardous environments
- 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®

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 Ocal®

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

02 Russellstoll®

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

03 T&B Fittings®

- Type A liquidtight flexible conduit and fittings.
- ATX 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-Ex™

- 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.

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

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

Russellstoll® – MaxGard® interconnection systems

- Provide waterproof pin-and-sleeve connections inside copper-free, cast aluminum, epoxy powder-coated housings
- O-ring-sealed interior components ensure watertight protection
- Support ranges from 30 to 400 amps, with explosion-proof systems for 30, 60 and 100 amps

Red•Dot®

- Code Keeper® weatherproof while-in-use covers



Ocal®



Russellstoll®



T&B® Fittings

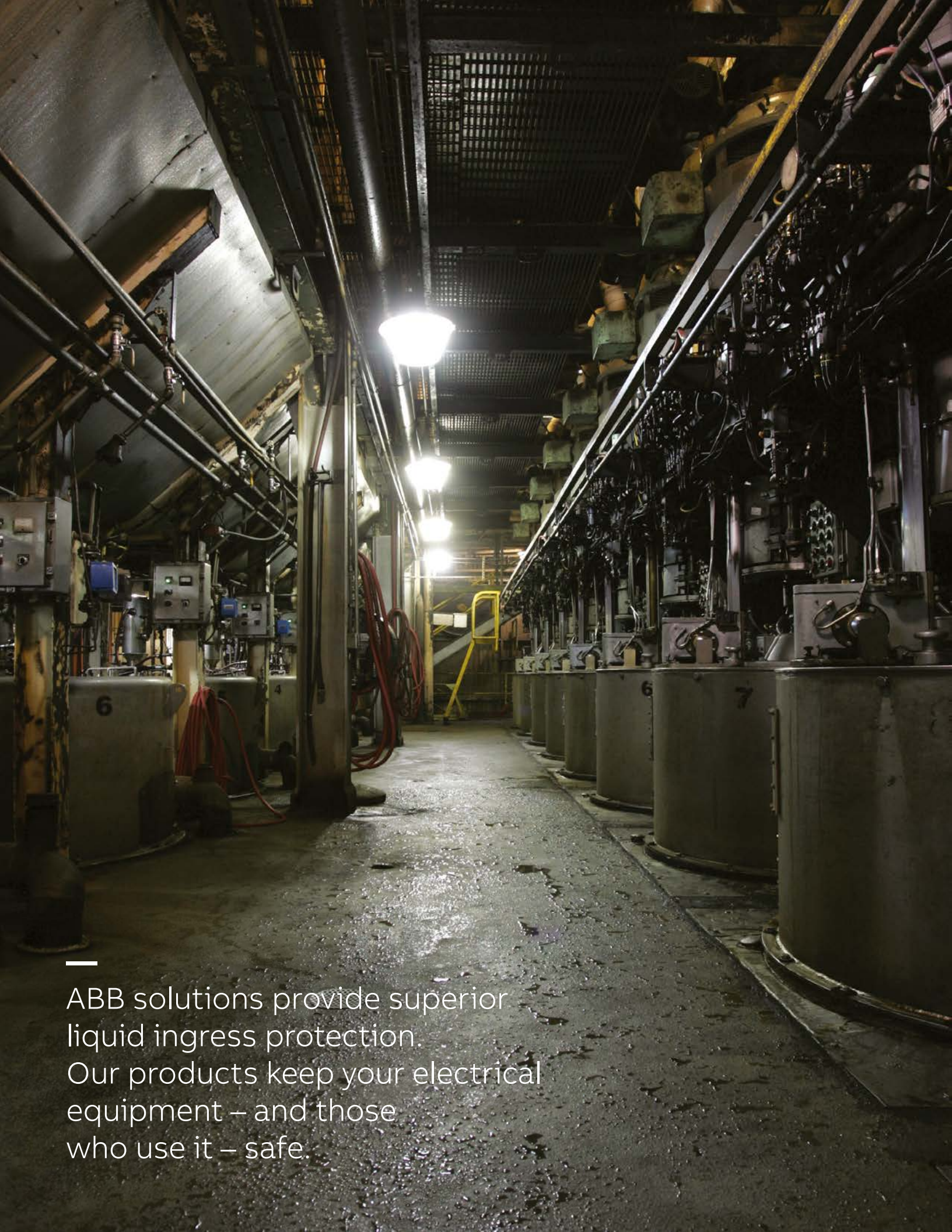
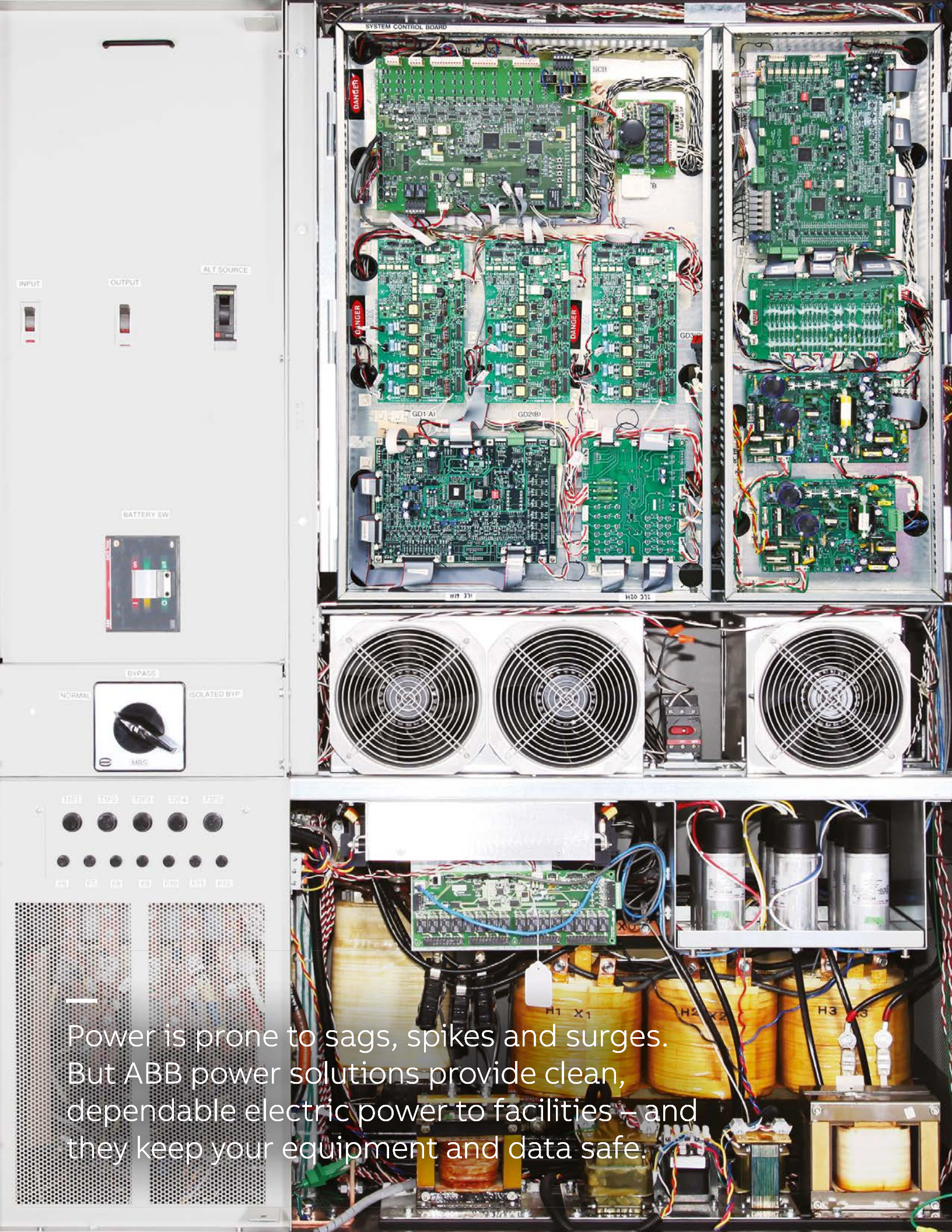


ABB solutions provide superior liquid ingress protection. Our products keep your electrical equipment – and those who use it – safe.



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. In continuous operations, missing data translates to the loss of thousands of dollars every minute.

01 Fisher Pierce®

- Faulted circuit indicators, voltage and current sensors.

02 Elastimold®

- Solid-dielectric distribution switchgear for riser pole, vault and padmount applications.
- Switchgear automation and source transfer packages.
- Underground Arresters.
- Reclosers.

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, ABB products meet the challenge of providing clean, dependable electric power to the chemical industry.



Fisher Pierce®

Fault Circuit Indicators (FCIs) for both overhead and underground applications are cost-effective tools to quickly locate faults thereby reducing outage duration and customer issues.

- **Adaptive logic** – FCIs use adaptive trip reset logic to eliminate the need for replacement as the load changes
- **Locate temporary faults** – Offers temporary fault detection to eliminate time-consuming intermittent failures
- **High-visibility** – Include highly visible strobe, LED and fluorescent orange flag indicators
- **SCADA** ready for remote communication



Joslyn Hi-Voltage®

Overhead products that improve the efficiency and reliability of electrical power systems and include capacitor switches, reclosers and switches that reduce the frequency and duration of outages.

- **Sustainable** – No oil or gases
- **Compatible** – With existing oil or vacuum switches. Complete fixed capacitor bank retrofit
- **Efficient** – Transient mitigation of system over-voltages and inrush current
- **Lifecycle cost reduction** – With solenoid operators



Extreme temperature protection

Electrical systems need to perform consistently in boiler rooms, furnace operations and around evaporators. Many of these processes require heat tracing to maintain elevated temperatures throughout chemical process systems.

01 PMA®

- Nylon cable protection systems.

02 Sta-Kon®

- High-temperature wire joints and terminals.

03 T&B® Fittings

- ATX 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

• ATX 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



Sta-Kon®



T&B® Fittings



Ty-Rap®



Temperatures can go to extremes
at chemical processing facilities.
That's why ABB provides the
products electrical systems need to
fight the cold and beat the heat.

ABB understands the needs of chemical manufacturers, 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 a chemical plant's operation, the savings add up in so many ways.

01 Blackburn®

- Compression lugs and splices.
- Ergonomic compression tools.

02 T&B® Fittings

- Ranger® series of liquidtight flexible cord and cable connectors.
- STAR TECK® and STAR TECK XP® fittings for jacketed metal-clad and teck cables.
- XD expansion/deflection coupling for rigid conduit.
- XJD expansion/deflection coupling for rigid conduit.
- LU® conduit bodies – BlueKote® and stainless steel.

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

Kindorf®

- 316 Stainless, aluminum, PVC-coated or non-metallic channel, hangers and clamps

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



01

Blackburn®

02

**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.

—
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 Hi-Voltage® / 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

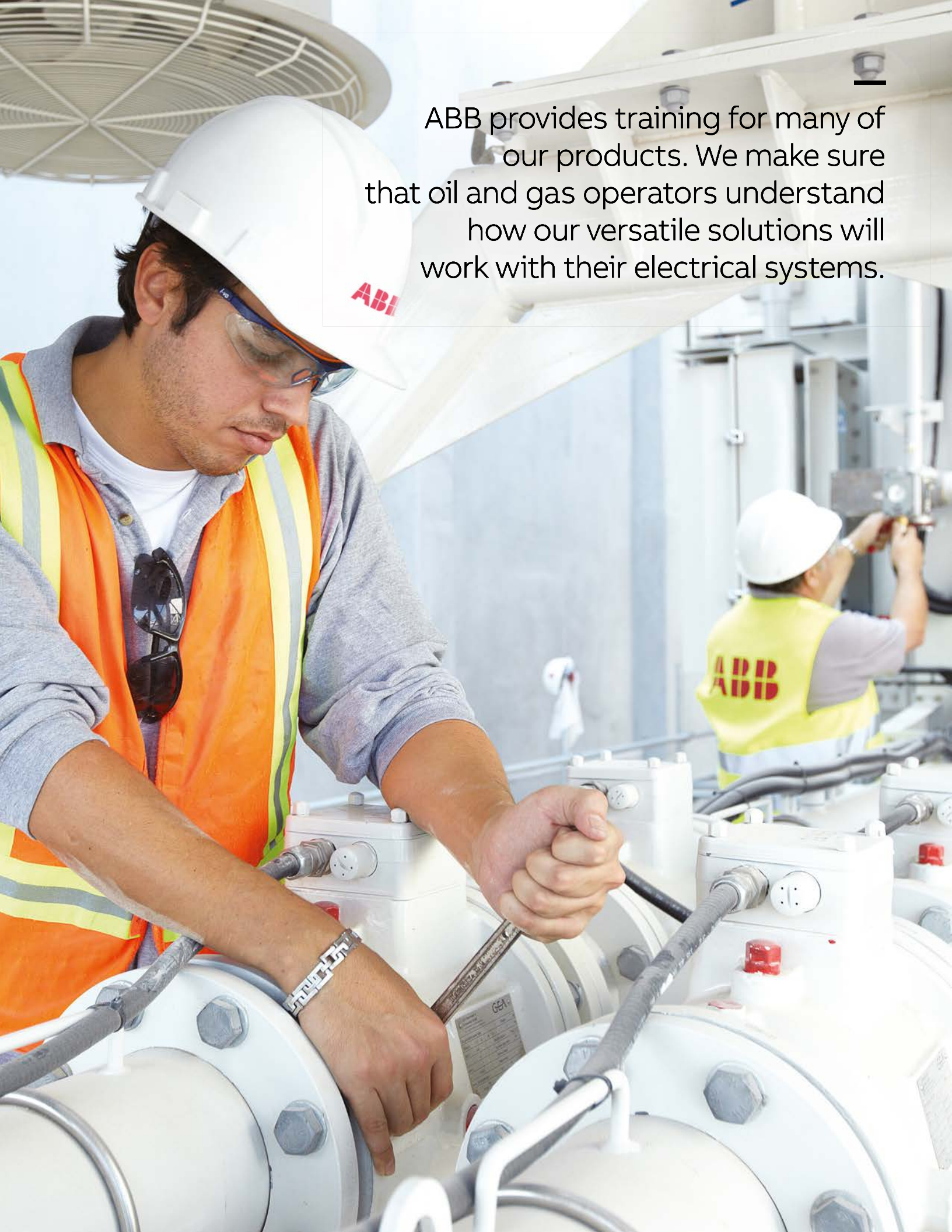
A male worker in a white hard hat and orange safety vest is focused on adjusting a large industrial machine. He is wearing a grey long-sleeved shirt and has a watch on his left wrist. In the background, another worker in a yellow safety vest with 'ABB' on the back is also working on similar equipment. The scene is set in an industrial environment with large white machinery and a large circular fan visible in the upper left.

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.

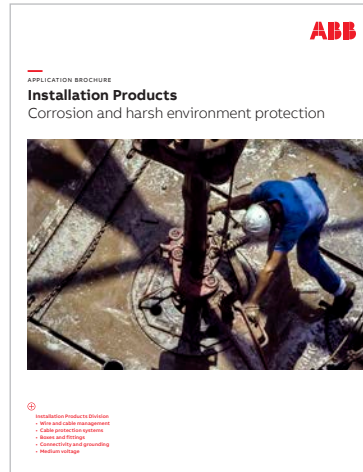
07 Extreme temperature protection.

08 Grounding and bonding.

09 SKU Reduction.



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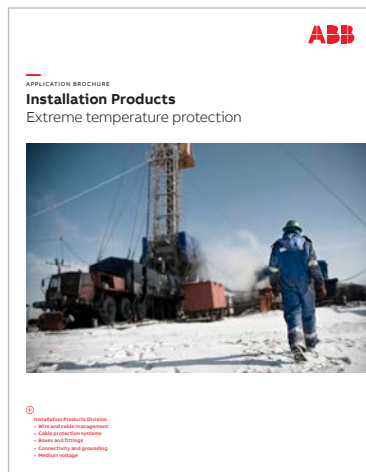
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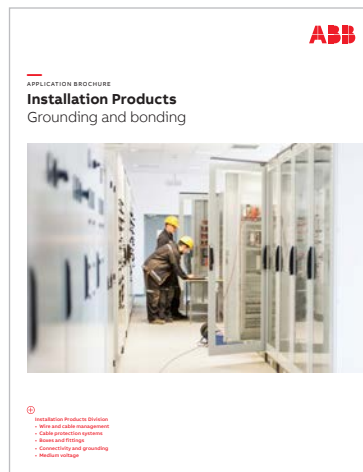
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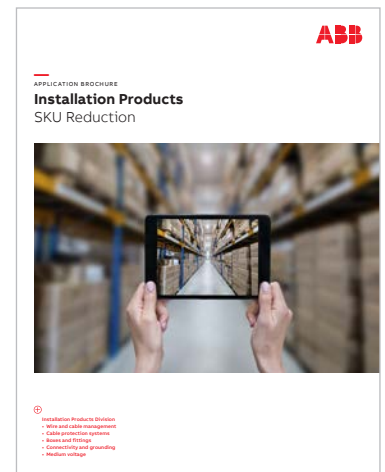
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Installation Products for industries

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.

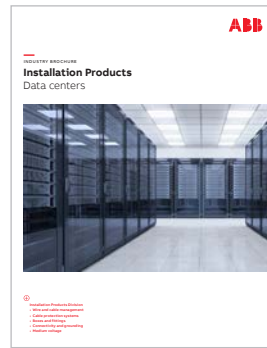
13 Rail industry.

14 Civil infrastructure industry.

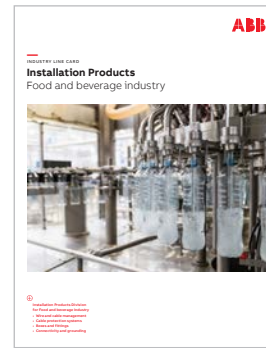
15 Metals and mining industry.



01



02



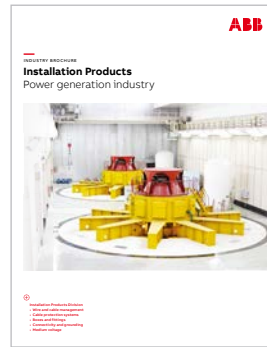
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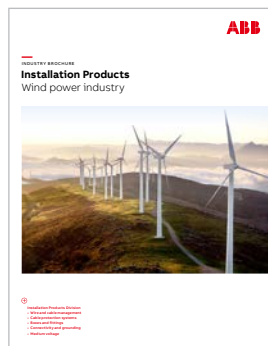
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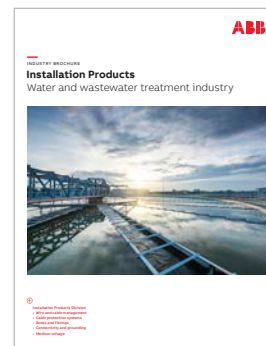
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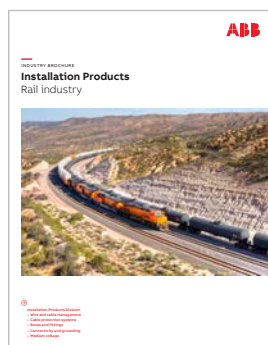
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