

INDUSTRY BROCHURE

Installation Products

Metals and mining 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.

Table of contents

004–005	Designed to perform
006–009	Product selection guide
010–011	Challenge and commitment
012–013	Continuous operation & sustainability
014–015	Corrosive & harsh environment protection
016–017	Liquid ingress protection
018–019	Safety
020–021	Extreme temperature protection
022–023	Hazardous location protection
024–025	Power, quality, efficiency and reliability
026–027	Grounding & bonding
028	Installation Products for applications
029	Installation Products for industries

Designed to perform

Metals and mining industry

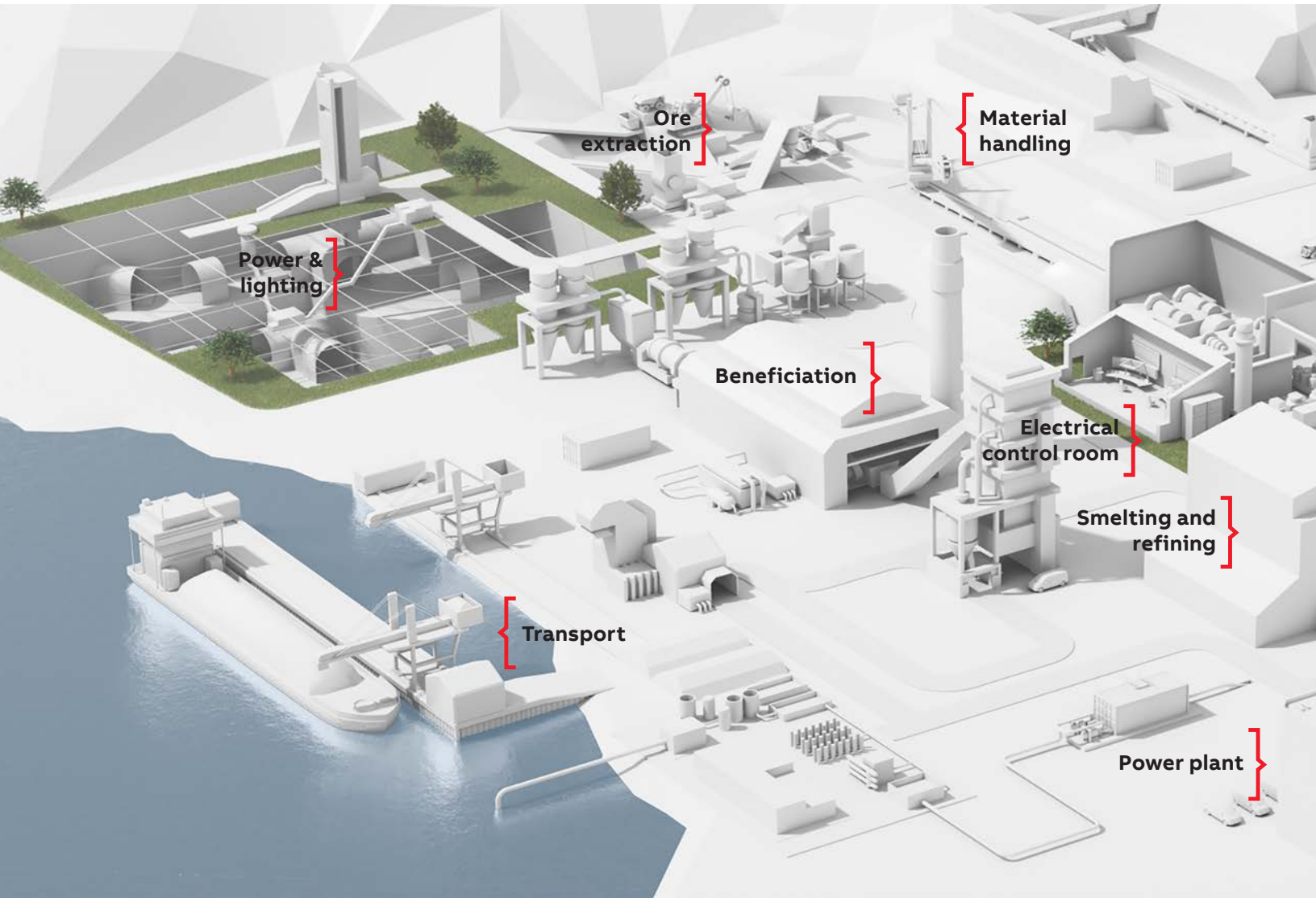
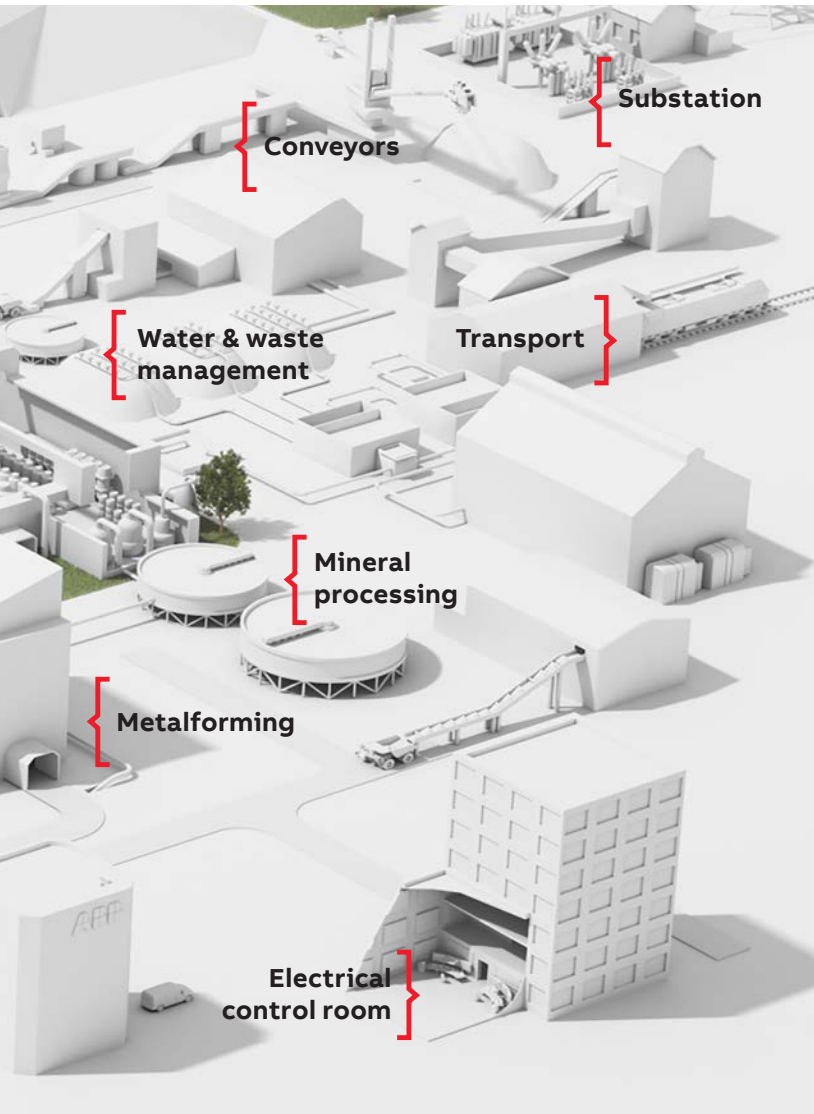


ABB understands the challenges faced in the metal and mining industry and is committed to providing innovative electrical solutions that not only reduce overall project costs, but also increase safety, promote sustainability and even improve cash flow.



Installation Products

for the metals and mining industry:



Continuous operation
& sustainability



Corrosive & harsh
environment protection



Liquid ingress
protection



Safety



Extreme temperature
protection



Hazardous location
protection



Power quality,
efficiency & reliability



Grounding & bonding

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 metal and mining projects in on time, within budget and profitably.

Product selection guide

for the metals and mining industry



Product selection guide

Product description	Continuous operation & sustainability	Corrosive & harsh environment protection
Adaptaflex®		
Cable protection systems - Conduit and connectors	•	•
Blackburn®		
E-Z-Ground® compression, mechanical and exothermic grounding systems	–	–
KUBE® power connectors and motor lead disconnects	•	–
Compression lugs and splices	–	–
Ergonomic compression tools	–	–
Color-Keyed® system training	–	–
DTS®		
Hazardous location lighting, junction boxes and controls	•	–
Elastimold®		
High-voltage separable connectors and solid-dielectric switchgear	–	–
EZCODE®		
Danger/warning labels and signs, industrial/wire markers, barricade/burial tape	–	–
Fisher Pierce®		
Faulted circuit indicators	–	–
Homac®		
Copper Flood-Seal® compression splice kits	•	•
Substation connectors	•	–
Joslyn Hi-Voltage®		
Capacitor switches and air disconnect switches	–	–
Kindorf®		
Electro-galvanized, aluminum, and 316 stainless steel channel, hangers and clamps	•	•
Kopex-Ex™		
Explosion-proof conduit and coupling 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®		
Pin-and-sleeve connectors and explosion-proof interlocked receptacles	–	•
GSUL ground indicator system	–	–

Continued on page 8.

Liquid
ingress
protection

Safety

Extreme
temperature
protectionHazardous
location
protectionPower quality,
efficiency
& reliabilityGrounding
& bonding

•

•

•

-

-

-

-

•

-

-

-

•

-

-

-

-

-

•

-

•

-

-

-

•

-

•

-

-

-

•

•

•

-

•

-

•

-

-

-

-

•

•

-

•

•

•

-

•

-

•

-

-

•

•

•

•

-

-

•

•

-

-

-

-

•

•

-

•

-

-

•

-

-

-

-

-

-

-

•

•

•

•

•

•

•

-

-

-

-

-

•

-

-

-

-

-

•

•

•

-

-

-

•

•

-

-

-

-

-

-

•

-

-

-

•

-

•

-

•

•

Product selection guide

for the metals and mining industry (continued)



Product selection guide

Product description	Continuous operation & sustainability	Corrosive & harsh environment protection
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, comfort crimp® tools and disconnect installation tool	–	–
Shrink-Kon® wire and connector insulation products	–	–
Superstrut®		
Electro-galvanized, aluminum, and 316 stainless steel channel, hangers and clamps	•	–
T&B® Cable Tray		
Aluminum, steel, stainless steel and fiberglass support/wire management systems	–	•
T&B® Fittings		
Type A liquidtight flexible conduit and fittings	•	•
ATX high-/Low-temperature liquidtight conduit and fittings	•	•
Form 8 conduit bodies - stainless steel and BlueKote®	–	•
XTRA FLEX® non-metallic liquidtight conduit, tubing and BULLET® fittings	•	•
Hubs - stainless steel and aluminum	–	•
Steel, stainless steel, aluminum and non-metallic liquidtight flexible conduit fittings	•	•
Steel, stainless steel, aluminum and non-metallic cord connectors	•	•
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	–	•
XD Expansion/Deflection coupling for rigid conduit	•	•
BlueKote® and stainless steel LU® conduit bodies	•	•
STAR TECK® and STAR TECK XP® fittings for jacketed metal-clad and teck cables	•	•
Ty-Rap®		
Coated and uncoated stainless steel cable ties	–	•
Extra-high temperature and flame-retardant UL94V-0 nylon cable ties	–	–
Ty-Rap Tote® cable tie dispensers and ergonomic installation tools	–	•
Deltec® outdoor fastening system	–	•

Liquid
ingress
protection

Safety

Extreme
temperature
protectionHazardous
location
protectionPower quality,
efficiency
& reliabilityGrounding
& bonding

-

-

-

-

-

-

-

-

•

-

-

-

-

•

-

-

-

-

-

-

-

-

-

-

-

-

-

-

-

-

•

-

-

-

-

-

-

-

-

-

-

-

-

-

-

•

-

-

•

-

-

-

-

-

•

-

•

-

-

-

•

-

-

-

-

-

•

•

-

-

-

-

-

-

-

-

-

-

•

•

-

-

-

-

•

•

-

-

-

-

-

-

-

•

-

-

•

-

-

-

-

-

•

-

-

-

-

-

•

-

-

-

-

-

•

-

-

-

-

-

-

-

-

-

-

•

-

-

-

-

-

-

•

-

-

•

-

•

-

-

•

-

-

-

-

•

•

-

-

-

-

•

-

-

-

-

-

•

-

-

-

-

Challenge and commitment

As new mining, processing and metallurgical equipment with complex and sensitive electrical systems controls and automation replaces older equipment, MRO expenses are rising with increasing maintenance time, technical support and power costs.

Metals and mining operations require a high sustainability level from their electrical systems, because any kind of shutdown can be costly. Today's metals and mining operations must remain competitive and profitable while facing:

- Price volatility and global economic uncertainty
- Challenges to find quality resources
- Resource nationalism
- Labor and regulatory concerns
- Risks to – and from – the environment

Mining and metallurgy workers, machinery and processing equipment are often deployed in remote locations and harsh environments. The industrial processes involved with metals and mining operations are strongly dependent on the use of natural resources that need to be conserved. In order to maintain profitability in the today's volatile market – and meet labor, political and environmental challenges – operations must minimize costs while maximizing availability, quality, flexibility and throughput.

The metals and mining market is also driven by the demand to find quality resources, which are becoming more and more difficult to find. Operations demand uptime from electrical systems to meet not only demand for base and precious metals, but a mix of products as well. If your

operation frequently experiences downtime and can't meet that demand, globalization will cause customers to seek an operator who can.

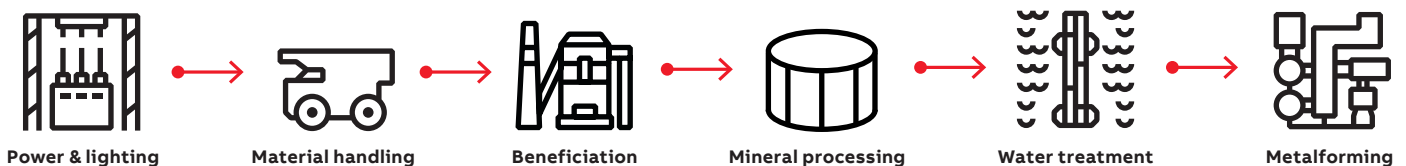
Government regulation is also a major concern. Resource nationalism, a term that describes a country's government asserting control over its natural resources from a metals or mining operation, looms as a threat in some parts of the world. Other risks also exist in the political landscape, such as permitting and taxation volatility. Increasingly stringent safety and environmental standards must also be addressed, and ABB solutions can help you meet these regulatory demands and continue operations.

ABB provides electrical system solutions to metals and mining operations that:

- Minimize operation and maintenance costs
- Maximize plant availability and throughput
- Ensure safety for personnel, machinery, materials and property
- Conserve natural resources and reduce emissions
- Save energy

Our solutions enable metals and mining operators to increase sustainability, meet market demand, comply with safety and environmental regulations and enhance revenues.

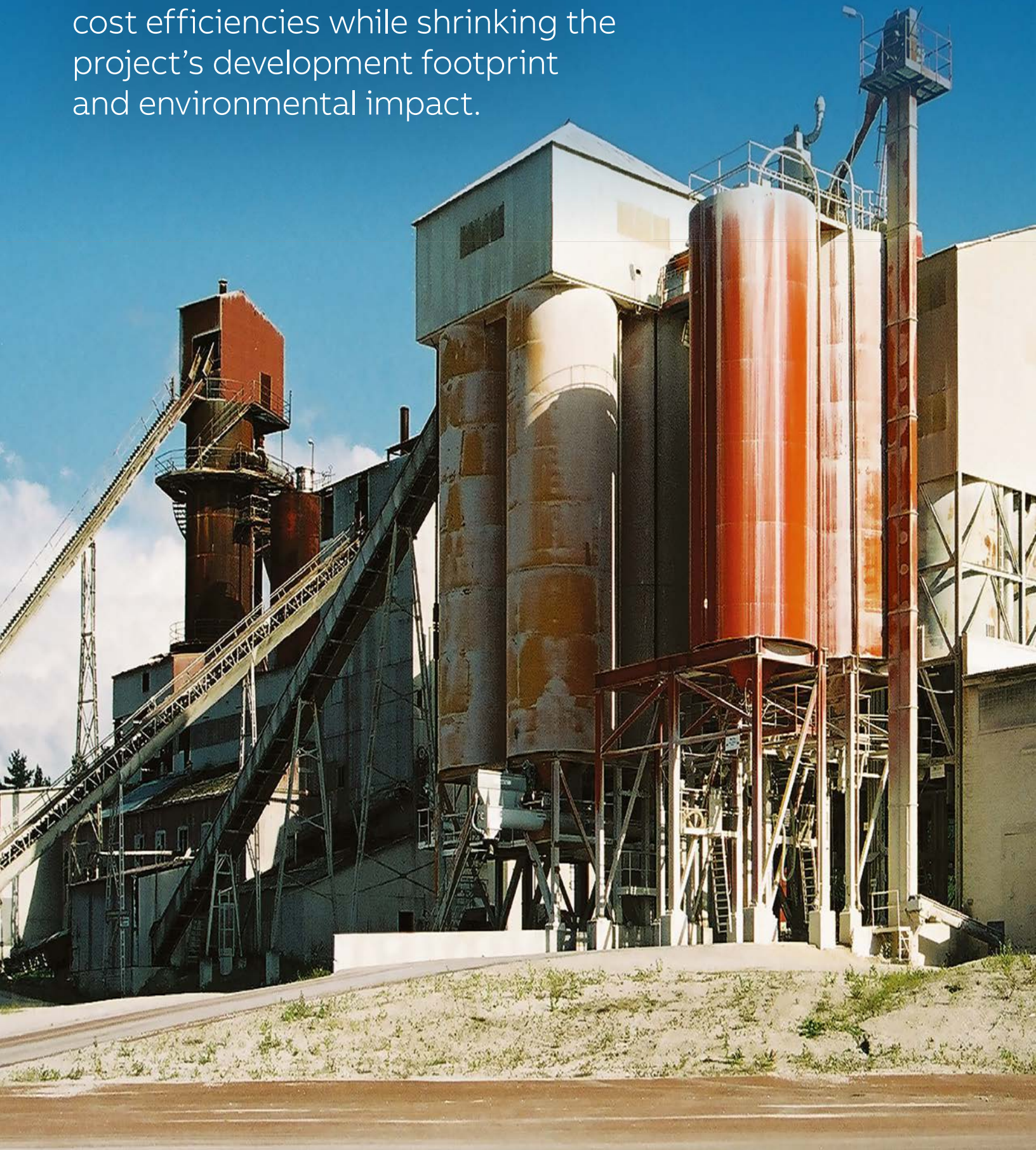
Metals & mining applications





Key metals and mining business drivers include; minimizing operation and maintenance costs, maximizing plant availability and throughput, ensuring safety for personnel, machinery, materials and property, conserving natural resources and reducing emissions and energy saving.

ABB electrical packages deliver significant capital and operating cost efficiencies while shrinking the project's development footprint and environmental impact.



Continuous operation & sustainability

Mining and metallurgy plants need skilled operators and good maintenance management to produce at sustainable yields. But costs associated with unscheduled downtime – replacement of ruined equipment, idle manpower, late-penalty fees, rental equipment expenses and intangibles for dissatisfied customers – can add up quickly.

01 Blackburn®

- AF Series contactors.
- Tmax and Emax circuit breakers.
- Pro M miniature circuit breakers and surge protection devices.
- Terminal blocks.
- Jokab Safety Vital 1 safety controllers and relays.

02 Sta-Kon®

- DuraGard® pin-and-sleeve connectors.

03 T&B® Fittings

- Crimped wire termination systems.

Adaptaflex®

- Cable protection systems – conduit and connectors.

DTS®

- Hazardous location lighting, junction boxes and controls.

PMA®

- Nylon cable protection systems.

T&B® Fittings®

- Type A liquidtight flexible conduit and fittings.
- ATX high-/low-temperature liquidtight conduit and fittings.
- XTRA FLEX® non-metallic liquidtight conduit, tubing and BULLET® fittings.
- Steel, stainless steel, aluminum and non-metallic liquidtight flexible conduit fittings.
- Steel, stainless steel, aluminum and non-metallic cord connectors.
- Silver Grip® tray cord fittings.
- Wire-mesh strain-relief cord and conduit grips.
- XD expansion/deflection coupling for rigid conduit.
- BlueKote® and stainless steel LU® conduit bodies.
- STAR TECK® and STAR TECK XP® fittings for jacketed metal-clad and teck tables.

To avoid cost-prohibitive unscheduled downtime and to enforce safe and environmentally friendly production, most metals and mining facilities choose higher performing electrical materials and products to boost plant availability. ABB offers the following solutions to sustain continuous operation safely and at high yields:

- Long-lasting electrical systems to optimize lifecycle costs and capital expenditures
- High-performance electrical systems to withstand harsh environments and increase operational equipment effectiveness (OEE)
- Installation training certification to help ensure plant sustainability
- Qualified technicians to assist you in quickly getting your plant back online
- Product solutions to standardize your electrical system and ensure that you have the required products available at your local supplier when you need them

Sta-Kon® – Crimped wire termination systems

- Metal insulation grip sleeve included on all nylon terminals for strain relief
- Long barrel selectively annealed
- UL® Listed and CSA Certified

Carlton®

- PVC fittings and Snap-Loc® Spacers
- P&C® Flex Conduit

T&B® Fittings – Type A liquidtight flexible non-metallic conduit with non-metallic or stainless steel fittings

- Ideal for continuous flexing or vibration applications
- Creates a liquid-, dust- and oil-tight seal
- Suitable for operating temperatures from -4° to 140°F (-20° to 60°C)

Blackburn® – Motor lead disconnects

- Quick and easy change-out of electric motors – with no bolting, taping or loose connections
- UL® Listed to 600V, 125°C
- Available for wire sizes up to 500 kcmil
- Featuring the Color-Keyed® compression system that ensures proper connections

Kopex-Ex™

- Explosion-proof conduit and coupling systems



Blackburn®

01



Sta-Kon®

02



T&B® Fittings

03

Corrosive & harsh environment protection

01 Ocal®

- PVC-coated conduit and fittings.
- OCAL-BLUE® NEMA type 4X form 8 conduit bodies.
- Ocal installation certification training.

02 T&B® Cable Tray

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

03 T&B® Fittings®

- Type A liquidtight flexible conduit and fittings.
- ATX high-/low-temperature liquidtight conduit and fittings.
- XTRA FLEX® non-metallic liquidtight conduit, tubing and BULLET® fittings.
- Steel, stainless steel, aluminum and non-metallic liquidtight flexible conduit fittings.
- Steel, stainless steel, aluminum and non-metallic cord connectors.
- Silver Grip® tray cord fittings.
- Wire-mesh strain-relief cord and conduit grips.
- XD expansion/deflection coupling for rigid conduit.
- BlueKote® and stainless steel LU® conduit bodies.
- STAR TECK® and STAR TECK XP® fittings for jacketed metal-clad and teck tables.

04 Ty-Rap®

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

Kindorf®

- 316 stainless steel, aluminum, PVC-coated or non-metallic channel, hangers and clamps.

PMA®

- Nylon cable protection systems.

Corrosion – the enemy of electrical systems – costs an estimated \$2.1 billion annually in lost equipment, plus labor and downtime.

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 and product contamination

Harsh environmental factors inherent in mining and metallurgy applications – such as liquid and dirt ingress, heat, vibration and shock – can greatly accelerate corrosion and cause failures in the electrical and automation systems if not properly addressed. ABB solutions are made with corrosion-resistant materials to extend the life and reliability of your electrical system.

Our aluminum, stainless steel, specialty alloy, and PVC or PVCcoated products are the solutions to your corrosion issues.

T&B® Fittings

• Stainless steel form 8 and BlueKote® conduit bodies

- Marine-grade Type 316 stainless steel construction
- in rugged Form 8 design in sizes to 2" and LB, T, TB and LU® shapes
- Ferrous Form 7 and Form 8 designs in all popular sizes and shapes with triple-layer, corrosion-resistant BlueKote® finish
- Sand Cast Aluminum Form 7 and Form 9

• Stainless steel liquidtight conduit connectors

- Type 304 stainless steel body and gland nut resist corrosion far better than other metallic fittings
- Rated for temperatures up to 105°C

Ocal® – OCAL-BLUE® PVC-coated conduit

- PVC-coated, hot-dipped galvanized conduit and threads
- Provides superior corrosion protection against many harmful elements
- Interior blue polyurethane provides corrosion protection around cables

T&B® Cable Tray – Stainless steel cable tray

- Does not channel moisture to electrical equipment, preventing corrosion and failure
- Does not channel corrosive, explosive or toxic gases

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

Adaptaflex®

- Cable protection systems – conduit and connectors

Carlton®

- PVC fittings and Snap-Loc® spacers
- P&C® Flex Conduit

Homac®

- Copper Flood-Seal® compression splice kits

Kopex-Ex™

- Explosion-proof conduit and coupling systems



Ocal®



T&B® Cable Tray

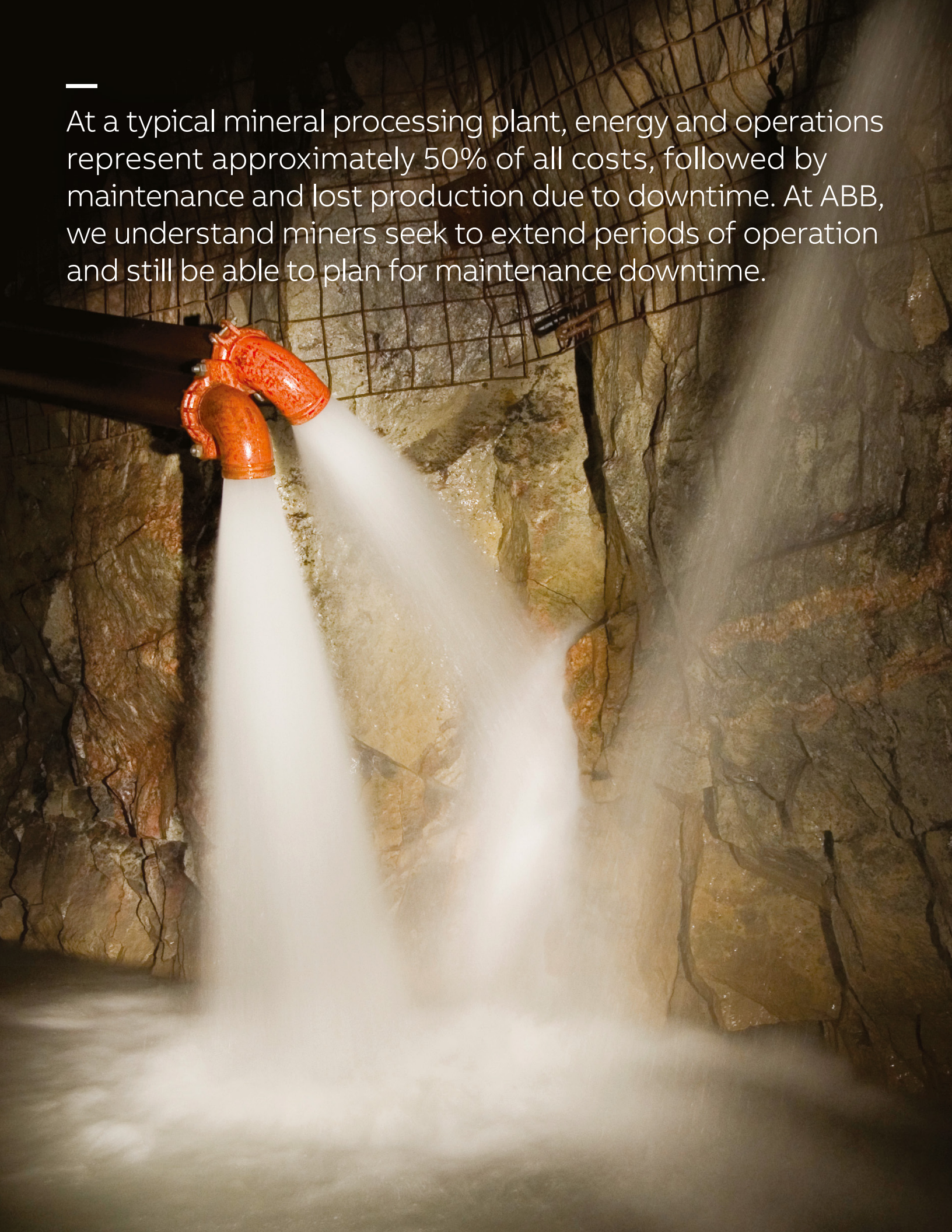



T&B® Fittings



Ty-Rap®

At a typical mineral processing plant, energy and operations represent approximately 50% of all costs, followed by maintenance and lost production due to downtime. At ABB, we understand miners seek to extend periods of operation and still be able to plan for maintenance downtime.





Metals and mining electrical systems are often directly exposed to liquid, dirt, dust and chemicals. ABB offers thousands of high-performing products to protect these systems from liquid and dust ingress.

Liquid ingress protection

Liquid ingress protection is a critical element to keeping electrical systems operational. Exposure to water in indoor or outdoor applications, dust in suspension, condensation and accidental spills of machine oils and lubricants can all shorten the life of your electrical system.

01 Ocal

- PVC-coated conduit and fittings.
- OCAL-BLUE® NEMA type 4X form 8 conduit bodies
- Ocal installation certification training.

02 Red-Dot®

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

03 Russellstoll®

- DuraGard® pin-and-sleeve connectors.

04 T&B® Fittings®

- Type A liquidtight flexible conduit and fittings.
- ATX high-/low-temperature liquidtight conduit and fittings.
- Form 8 conduit bodies – stainless steel and BlueKote®.
- XTRA FLEX® non-metallic liquidtight conduit, tubing and BULLET® fittings.
- Steel, stainless steel, aluminum and non-metallic liquidtight flexible conduit fittings.
- Steel, stainless steel, aluminum and non-metallic cord connectors.
- 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 tables.

DTS®

- Hazardous location lighting, junction boxes and controls.

Homac®

- Copper Flood-Seal® compression splice kits.

Kopex-Ex™

- Explosion-proof conduit and coupling systems.

PMA®

- Nylon cable protection systems.

Red-Dot®

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

One drop can be enough to ruin your production, so when specifying electrical components for mining and mineral processing applications, consider the following issues related to liquid ingress:

- Liquid exposure can cause deterioration of electrical connections or short circuits
- Electrical system components designed with round surfaces help to shed contaminants, rather than creating a shelf where they can collect
- Abrasive and corrosive mine waters combined with moisture present extra challenges for liquidtight electrical components in mining and metal applications
- Appropriate product design, materials and labor skills are required to ensure reliability, maintainability and safety of electrical connections subject to liquid and dust ingress

ABB electrical solutions offer protection against liquid, moisture and dust ingress.

Russellstoll® – DuraGard® pin-and-sleeve connectors

- Not just watertight, but waterproof, mated or unmated
- Tested to 1000 psi for washdown applications
- Full line of 20–60A (600VAC/250VDC max.) connectors, plugs and receptacles in UL94V-0 flammability-rated, corrosion-resistant, non-metallic housings

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

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

Red-Dot – Code Keeper® weatherproof covers

- Rugged aluminum construction resists corrosion
- Cover wet location receptacles to ensure personnel safety

Adaptaflex®

- Cable protection systems – Conduit and connectors

Carlton®

- PVC fittings and Snap-Loc® spacers
- P&C® flex conduit

Hazlux®

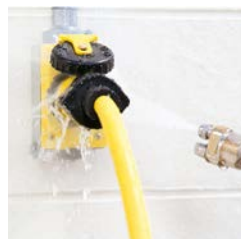
- Explosion-proof lighting fixtures for hazardous locations
- Strobe lighting fixtures



Ocal®



red dot®



Russellstoll®



T&B® Fittings

Safety

During the years 2000–2009, electrical accidents were the leading cause of fatalities in the U.S. mining industry, accounting for 6% of all deaths. Electrical injuries in mining are also disproportionately deadly, with 1 out of every 22 such injuries a fatality compared with an average of 1 out of every 203 for all other types of injuries.*

01 EZCODE®

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

02 Russellstoll®

- GSUL safe ground indicator system and safety interlocks.

03 Ty-Rap®

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

Adaptaflex®

- Cable protection systems – conduit and connectors.

Hazlux®

- Strobe lighting fixtures.

Homac®

- Copper Flood-Seal® compression splice kits.

Kopex-Ex™

- Explosion-proof conduit and coupling systems.

* Source: U.S. Occupational Safety and Health, <http://www.cdc.gov/niosh/mining/topicspage1.htm>

Safety in metal and mining industries encompasses personnel, vehicles, machinery, the material and also the mine, with issues such as roofing and ground sustainability. Common hazards requiring preventive safety measures in these industries include:

- Fire or explosion
- Electrical shock from exposed wiring, lightning or improper grounding
- Release of toxic materials
- Temperature extremes
- Heavy vehicles and projection of debris
- Large equipment and bulk conveyor systems
- Drilling, climbing, hoisting and excavation machinery

ABB products address safety concerns in mining and metal processing workplaces.

Ty-Rap® – Flame-retardant cable ties

- Perfect for low-smoke applications
- UL94V-0 flammability rating
- For use in temperatures ranging from -46°C to 140°C

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

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

DTS®

- Hazardous location lighting, junction boxes and controls

Russellstoll®

• GSUL safe ground indicator system

- Prevents operation of pumps without a safe ground
- Lights indicate the establishment of a safe ground

• Safety interlocks

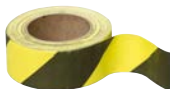
- 30A and 50A ranges and polarizations to 480VAC
- 22kA interrupt capacity breaker
- UL94V-0, NEMA Type 4X

Blackburn®

- E-Z-Ground® compression, mechanical and exothermic grounding systems
- Compression lugs and splices
- Ergonomic compression tools
- Color-Keyed® system training

T&B® Fittings

- XTRA FLEX® non-metallic liquidtight conduit, tubing and BULLET® fittings
- Steel, stainless steel, aluminum and non-metallic liquidtight flexible conduit fittings and cord connectors



EZCODE®




Russellstoll®



Ty-Rap®



— The number of total injuries in metal, nonmetal and coal mining operations in the U.S. has greatly decreased from 30,986 cases in 1990 to 8,525 cases in 2010. Fatalities also decreased, from 122 deaths in 1990 to 71 lives lost in 2010.*

A large industrial crane is shown in a steel mill, pouring molten metal from a large ladle into a mold. The scene is filled with intense orange and yellow light from the molten metal, and the background shows the complex structure of the mill with various beams and pipes.

— ABB products provide equipment installed in remote areas and in extreme temperatures a high degree of production safety over a long service life. Our product technology helps avoid downtime to the greatest possible extent.

Extreme temperature protection

Outdoor and indoor machinery and process equipment at metal processing, coal and cement plants must stand up to extreme temperatures, UV radiation, humidity and corrosive substances.

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®

- Coated and uncoated stainless steel cable ties.
- Extra-high temperature and flame-retardant UL94V-0 nylon cable ties.

Electrical systems must perform in these harsh conditions and be protected against condensation, water and sludge. Whether you're operating a conveyor belt in snowy longitudes or in tropical zones, a high-temperature slurry pump or a furnace application, ABB electrical solutions address issues that can result from extreme temperatures, including:

- Repeated thermal expansion and contraction damaging conduit systems and electrical connections
- Components softening and failing due to high temperatures
- Components melting and destroying other nearby equipment
- Components near flames catching fire and burning
- Components becoming brittle and failing at low temperatures
- Condensation occurring due to rapid temperature changes, stressing electrical systems

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
- **Heavy-duty stainless steel cable ties**
 - For use in temperatures from -80° to 538°C
 - Available in both Type 304 and Type 316 stainless steel
 - Quick, easy installation and secure locking



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

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



PMA

01



Sta-Kon®

02



T&B® Fittings

03



Ty-Rap®

04

Hazardous location protection

During the years 1990–2001, more than 975 reported fires occurred in the U.S. mining industry, causing over 470 injuries, 6 fatalities and the temporary closing of several mines.* A large number of metals and mining processing personnel are in danger of being killed or permanently disabled because of exposure to many different hazardous sources inherent in these industries.

01 Russellstoll®

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

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.

The National Electrical Code® (NEC®) defines hazardous locations as areas where the possibility of explosion and fire is created by the presence of flammable gases, vapors, dust, fibers or flyings. In metals and mining facilities, hazardous locations include areas where substances in suspension, mine gases or fuels and chemicals may be present.

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

Hazlux® – Hazardous location lighting

- Explosion-proof fixtures for Class I, II and III hazardous locations
- Enclosed, gasketed and rated NEMA 4X, IP66 and UL1598 for wet and marine locations

Russellstoll® – MaxGard® explosion-proof interlocked receptacles

- Copper-free, cast-aluminum, epoxy-coated housing
- O-ring-sealed interior components ensure watertight protection whether connections are mated or not
- Explosion-proof systems for 30A, 60A and 100A

T&B® Fittings

- **GUP explosion-proof enclosure**
 - Compact design is ideal for fuel pumps
 - Constructed of ductile iron for superior strength
 - Dust-ignition-proof, raintight and listed for wet locations
- **XP explosion-proof flexible couplings**
 - Explosion proof and corrosion resistant for use in hazardous and wet locations
 - Ideal for making tight bends in conduit systems or for applications subject to movement or vibration

DTS®

- Hazardous location lighting, junction boxes and controls

EZCODE®

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

Kopex-Ex™

- Explosion-proof conduit and coupling systems

* Source: U.S. Occupational Safety and Health, <http://www.cdc.gov/niosh/mining/topics/page19.htm>

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



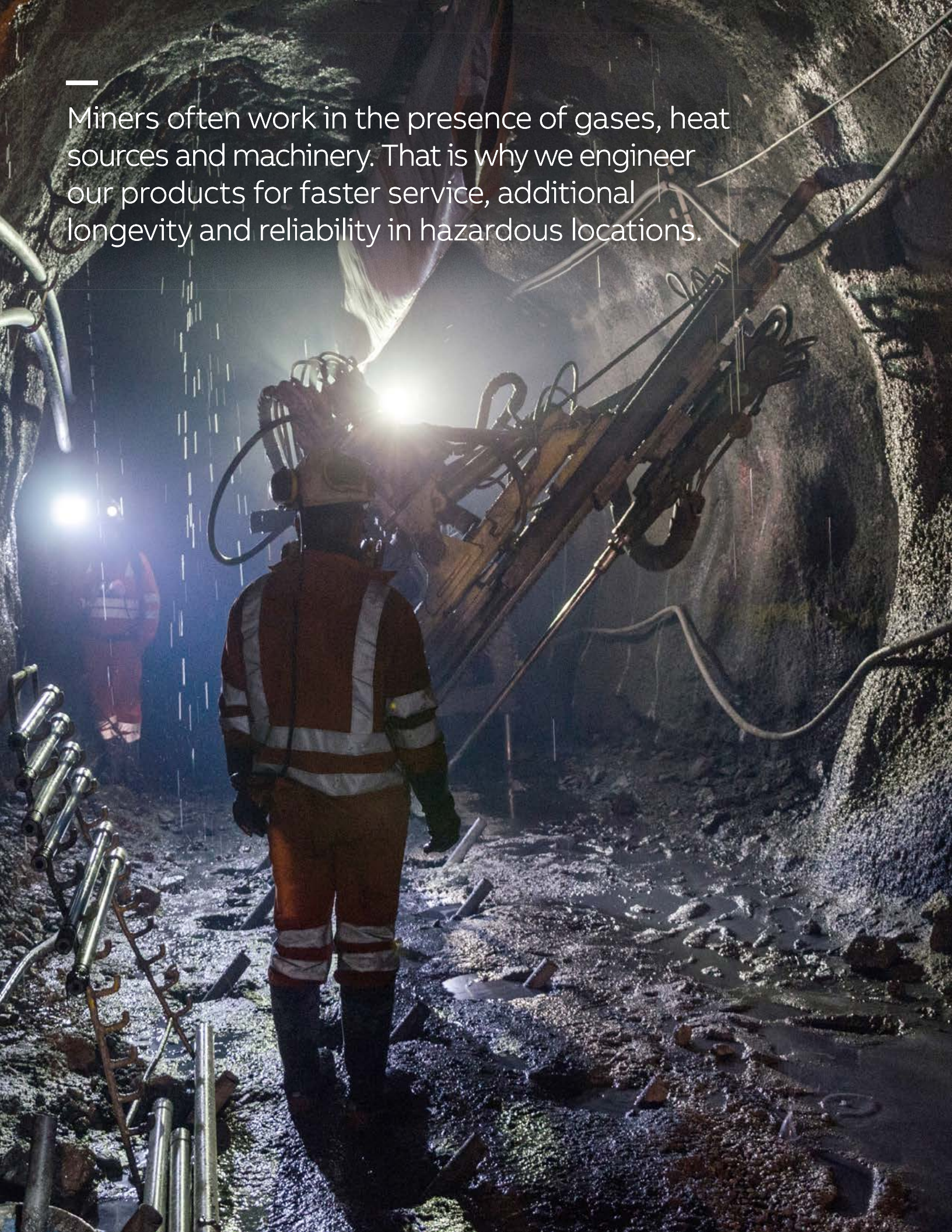
01

Russellstoll®

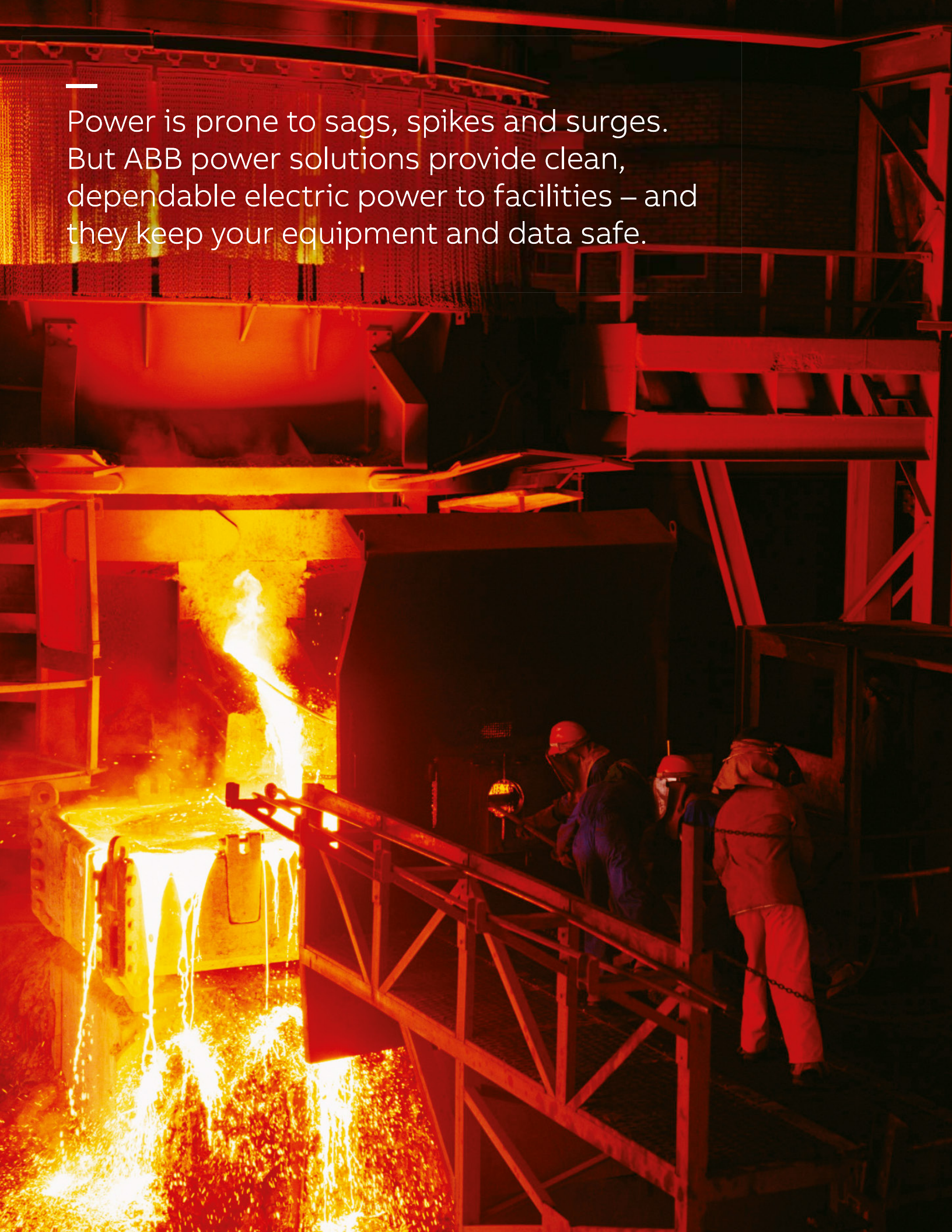
02

T&B® Fittings

Miners often work in the presence of gases, heat sources and machinery. That is why we engineer our products for faster service, additional longevity and reliability in hazardous locations.



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

When the reliable connection and intelligent control of electrical power are necessities, the ABB Power Connection and Control range offers a wide selection of products.

01 Elastimold®

- Separable connectors and solid-dielectric switchgear.

02 Joslyn Hi-Voltage®

- Capacitor switches & controllers and air break switches.

From 120V to 230kV, our products are specified worldwide in the industrial, construction and utility markets.

Elastimold® – Cable accessories

- A full line of loadbreak and deadbreak separable connectors, cable joints and cable terminations
- Developed for 5 to 35kV distribution systems

Fisher Pierce®

- Faulted circuit indicators

Homac®

- Copper Flood-Seal® compression splice kits
- Substation connectors

Joslyn Hi-Voltage®

- Capacitor switches & controllers and air break switches

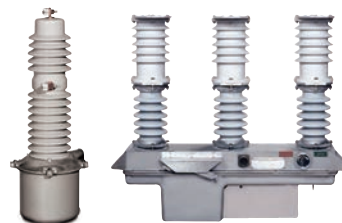
Kopex-Ex™

- Explosion-proof conduit and coupling systems



01

The logo for Elastimold, featuring a stylized diamond shape to the left of the word "elastimold" in a lowercase, sans-serif font.



02

The logo for Joslyn, featuring a stylized diamond shape to the left of the word "JOSLYN" in a bold, uppercase, sans-serif font.

Grounding & bonding

Grounding and bonding are achieved in many ways. ABB provides Grounding & Bonding products that can meet exothermic, compression and mechanical requirements.

02 Blackburn®

- High-quality flexible connectors.

01 T&B® Fittings

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

A ground is a critical part of an electrical system. In some cases, redundant grounds are used to ensure operations are not interrupted.

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-voltage

T&B® Fittings – Grounding fittings

- Malleable iron construction with tapered hub threads
- Many include Revolver® ground ring
- Straight, 45° angle and 90° angle versions available

Blackburn®

- E-Z-Ground® compression, mechanical and exothermic grounding systems
- KUBE® power connectors and motor lead disconnects
- Compression lugs and splices
- Ergonomic compression tools
- Color-Keyed® system training
- High-quality flexible connectors

EZCODE®

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

Furse®

- Lightning protection

Fisher Pierce®

- Faulted circuit indicators

Homac®

- Copper Flood-Seal® compression splice kits
- Substation connectors

Kopex-Ex™

- Explosion-proof conduit and coupling systems

Russellstoll®

- GSUL ground indicator system

T&B® Fittings

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



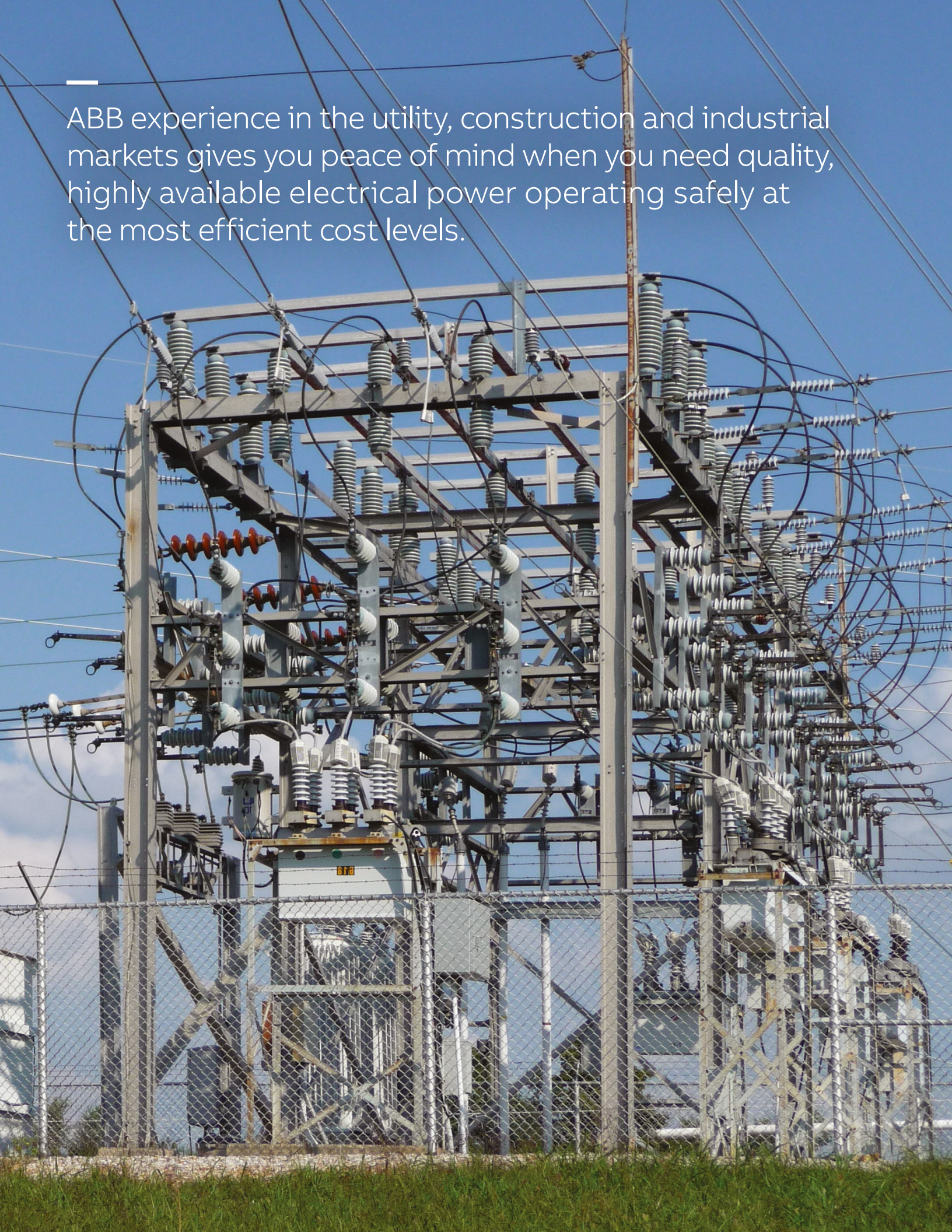
01

Blackburn®


02

T&B® Fittings

ABB experience in the utility, construction and industrial markets gives you peace of mind when you need quality, highly available electrical power operating safely at the most efficient cost levels.



Installation Products for applications

01 Continuous operation and sustainability.

02 Corrosion and harsh environment protection.

03 Safety and contamination.

04 Emergency electrical solutions.

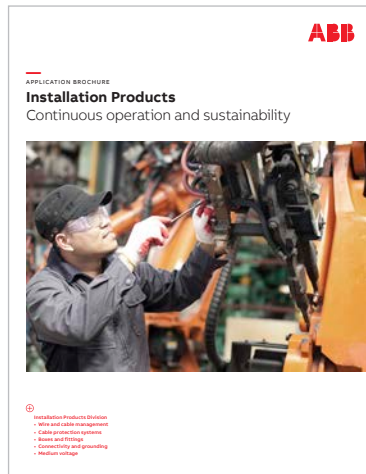
05 Total project cost reduction.

06 Liquid ingress protection.

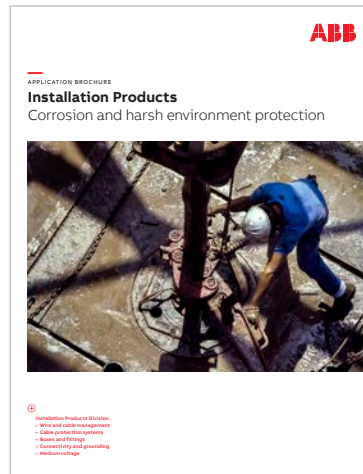
07 Extreme temperature protection.

08 Grounding and bonding.

09 SKU Reduction.



01



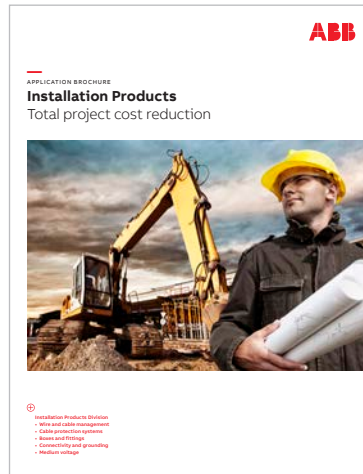
02



03



04



05



06



07



08



09

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.

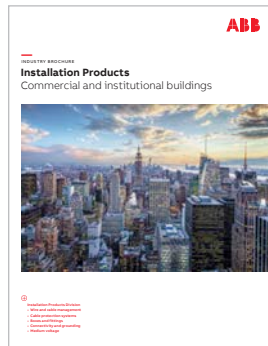
11 Water and wastewater treatment industry.

12 Single and multi-family housing industry.

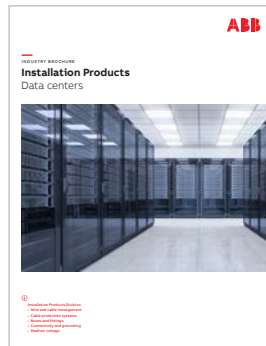
13 Rail industry.

14 Civil infrastructure industry.

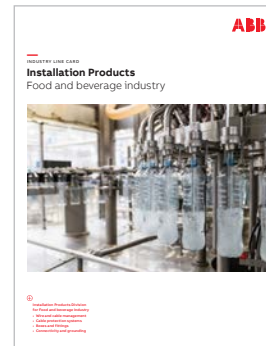
15 Metals and mining industry.



01



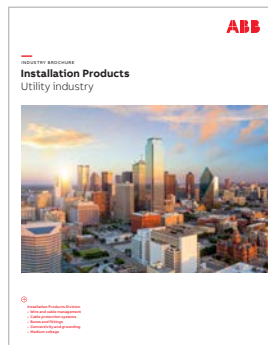
02



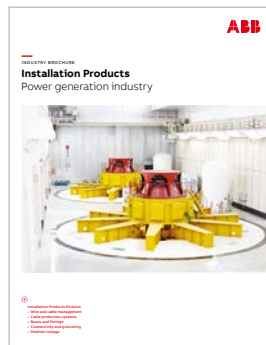
03



04



05



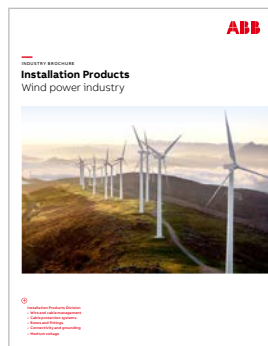
06



07



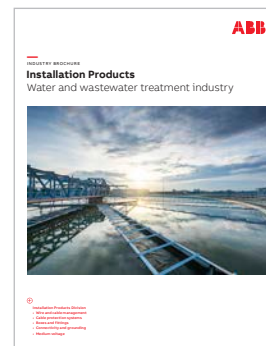
08



09



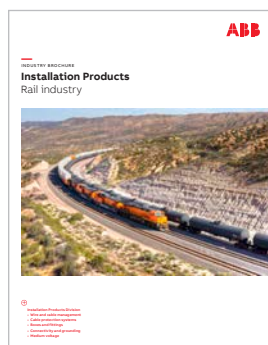
10



11



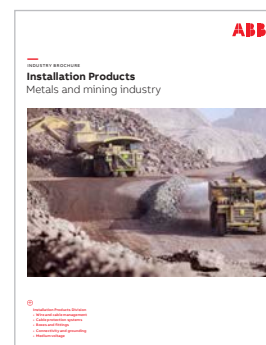
12



13



14



15

ABB understands the challenges faced in the metal and mining 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.







—
US

ABB Installation Products Inc.

electrification.us.abb.com