

INDUSTRY BROCHURE

# **Installation Products**

# Rail 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**

# Rail industry

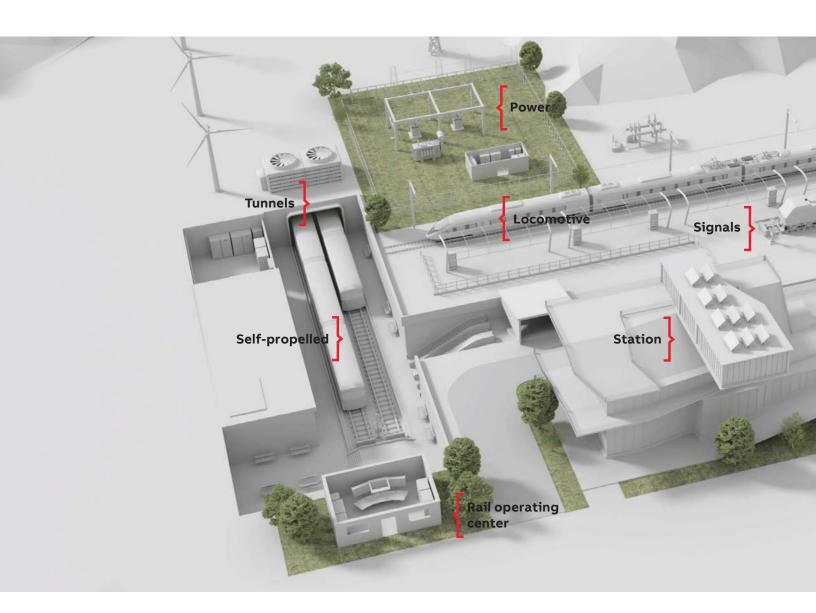
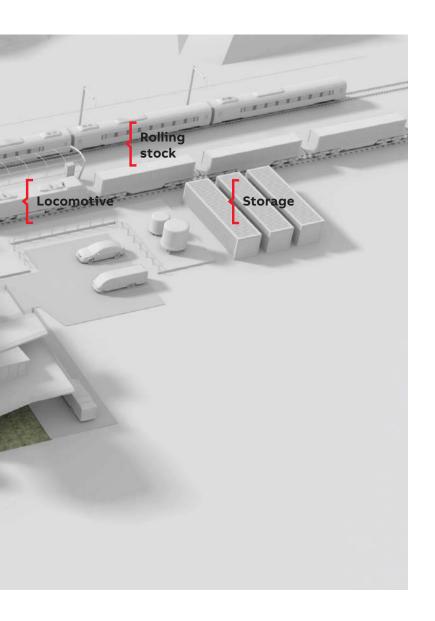


ABB understands the challenges faced in the rail industry and is committed to providing innovative electrical solutions that not only reduce overall project costs, but also increase safety, promote sustainability and even improve cash flow.





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 rail projects in on time, within budget and profitably.

# **Product selection guide**

# for the rail industry

## Product selection guide





Product description	Continuous operation & sustainability	Safety
Kindorf®		
Electro-galvanized, aluminum, and 316 stainless steel modular framing channel, pipe hangers and clamps		•
Ocal®		
Ocal-Blue® PVC-coated conduit	=	_
Ocal-Blue® PVC-coated NEMA type 4X form 8 conduit bodies	-	_
PMA®		
Nylon cable protection systems	•	_
Red-Dot®		
Code Keeper® weatherproof while-in-use covers	_	_
Russellstoll®		
GSUL ground indicator system	•	•
MaxGard® pin-and-sleeve connectors and explosion-proof interlocked receptacles	•	_
Sta-Kon®		
Corrosion-resistant, nickel-plated wire terminals	•	_
Ergonomic Comfort Crimp® tools and disconnect installation tool	•	_
High-temperature wire joints and terminals	•	_
Shrink-Kon® wire and connector insulation products	-	_
Dragon Tooth® insulation-piercing connectors	_	_
Shield-Kon® one- and two-piece coaxial grounding connectors	_	-
T&B® Cable Tray		
Aluminum, stainless steel and fiberglass support and wire management systems	_	-
T&B® Fittings		
ATX high-/low-temperature liquidtight conduit and fittings		_
Blackjack® grounding bushing	<del>-</del>	_
BlueKote® LU® universal conduit elbow	•	-
CorroStall® aluminum conduit boxes	-	_
Ranger® cord connectors	•	-
Silver Grip® tray cord fittings and Type A liquidtight flexible conduit and fittings	_	_
Stainless steel and aluminum hubs	<del>-</del>	_
Stainless steel form 8 conduit bodies	-	_
Stainless steel, aluminum and non-metallic liquidtight conduit and cord fittings	•	-
Star Teck® and Star Teck XP® fittings for jacketed metal-clad and teck cables	_	-
XD expansion/deflection coupling for rigid conduit and XJG expansion fitting with internal bonding jumper	•	_
Xtra Flex® non-metallic liquidtight conduit, tubing and Bullet® fittings	_	_
Ty-Rap®		
Coated and uncoated stainless steel cable ties	•	-
Deltec® outdoor fastening system	-	_
Extra-high temperature and flame-retardant UL94V-O nylon cable ties	•	•
Heat-stabilized/ultraviolet-resistant cable ties	•	-
Nylon 6.6 cable ties	•	-
Ty-Rap Tote® cable tie dispensers and ergonomic installation tools	-	•













	Extreme	Power quality,	Liquid		Corrosive & harsh
Services	temperature	effificiency	ingress	Grounding	environment
& training	protection	& reliability	protection	& bonding	protection
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**Kindorf**®

**Ocal**®

**PMA** 

rededot.

**Russellstoll**\*

Sta-Kon®

**T&B** Cable Tray

**T&B**° Fittings

Ty-Rap®

**Blackburn**°

elastimold

**EZCODE**°

FISHER PIERCE



# **Challenge and commitment**

ABB is a leading supplier of innovative and reliable construction solutions to rail vehicle manufacturers and railway operators. Our solutions help tackle a variety of rail industry issues, including quality, safety and regulatory challenges. Furthermore, our expertise with innovative engineering and manufacturing makes us the trusted advisor helping our customers meet the demands of this challenging market.

We are known for:

- · World-leading brands
- Innovative design and manufacture of high-quality products
- Adherence to industry-specific standards, providing consistent quality and safety

ABB solutions connect and protect a variety of electrical installations in the rail industry. They are relied on by:

- Builders of rail cars, locomotives and component subassemblies
- Manufacturers of infrastructure equipment
- · Infrastructure construction firms
- · Rail operating firms
- · Maintenance and rebuild firms
- Passenger and transit rail agencies

According to the CEO of Berkshire Hathaway, the business of moving things like agricultural products, food, autos, energy supplies and other freight will continue to grow during the next 30 years.

There are several reasons why rail is good for business:

- Sustainability Safety, efficiency, footprint
- Convenience Schedules, location, service
- Costs Compared to other transportation options

In the rail industry, expenses are divided into two categories, capital costs and operating costs.

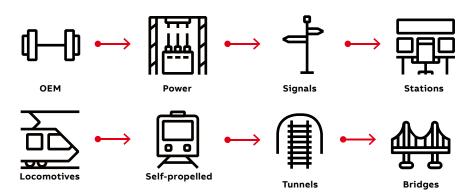
Capital costs include jobs in manufacturing, construction and project management.

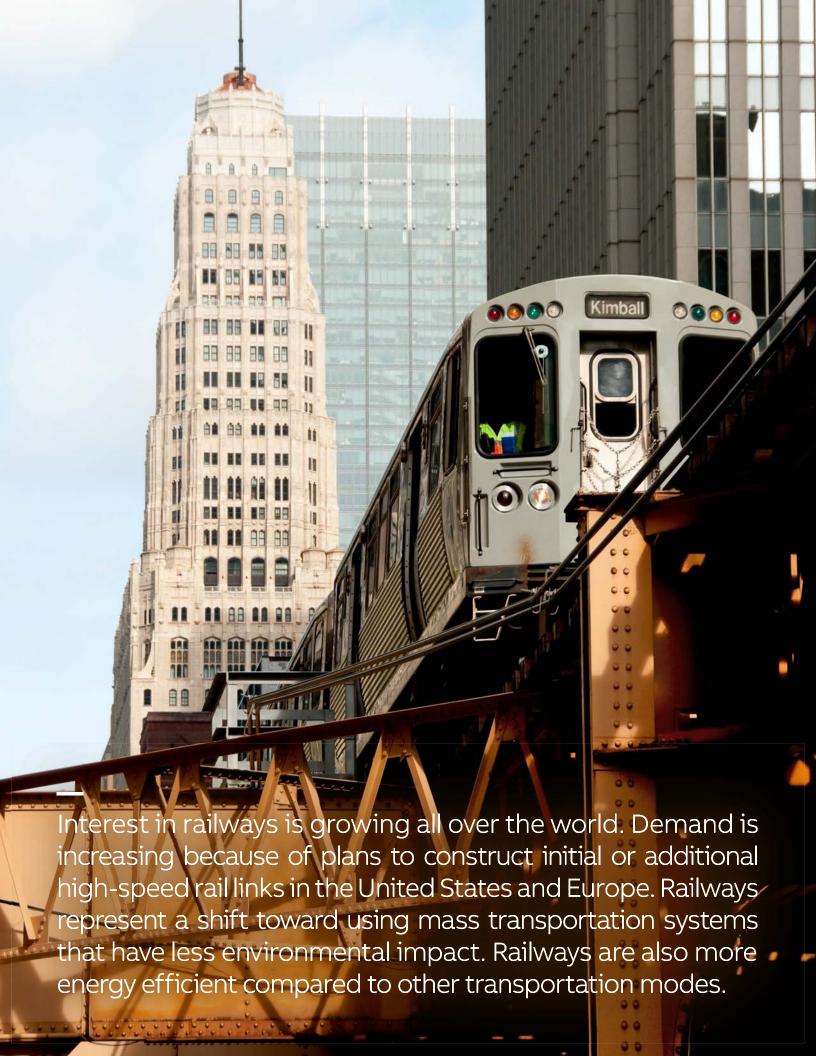
Operating costs support public transit systems and maintenance of vehicles and infrastructure.

By partnering with ABB, you can optimize your capital costs while maintaining a better handle on your operating costs. As more cities and states shift toward using rail as one of their preferred methods of transportation, you can count on our technical expertise and product offerings to help keep your electrical systems on track.

When you need to connect, terminate, fasten or protect, plug into the power and innovation of ABB.









# **Continuous operation** & sustainability

#### 01 ABB

- AF series contactors. Tmax and Emax circuit
- breakers.
- Pro M miniature circuit breakers and surge protection devices.

  • SMISSLINE modular
- power distribution svstem.
- Railway terminal blocks Jokab safety Eden E category 4/PLe safety
- Jokab safety Vital 1 safety controllers and
- Jokab safety switches and E-stops.

#### 02 Blackburn® compression

- Compression connectors. · Motor lead disconnects.

#### 03 **PMA**®

 Nylon cable protection systems

# Elastimold®

 600A and 900A cable accessories.

## Russellstoll®

- GSUL safe ground indicator system.
- MaxGard® and DuraGard® pin-and-sleeve connectors.

- Corrosion-resistant, nickel-plated wire
- Ergonomic Comfort Crimp® tools and disconnect installation tool.
- · Heat-shrink terminals
- High-temperature wire joints and terminals.

- Coated and uncoated stainless steel cable ties.
- · Extra-high temperature and flame-retardant UL94V-0 nylon cable ties.
- Heat-stabilized/ ultraviolet-resistant
- Nylon 6.6 cable ties.

In order to operate at full capacity around the clock, it is critical that rail companies continually evaluate the design, construction, maintenance and operation of their electrical systems.

Single points of failure in electrical systems serving rail infrastructure can significantly impact ongoing operations and production, leading to costly and possibly dangerous outages. For reliable, continuous operation and sustainability, ABB offers the rail industry a comprehensive product line of solutions for almost any application, regardless of environmental conditions.

## PMA® - Nylon cable protection systems

- Provide excellent fl exing and fatigue life in extreme operating temperature ranges
- · Offer excellent resistance to highly corrosive chemicals
- · Meet stringent FST standards for the rail industry
- · IP66, IP68 and IP69K ratings

## Blackburn® compression

#### · Motor lead disconnects

- Minimize motor downtime by eliminating the need for bolting and taping during motor
- Offer a quick, snap-together assembly that is insulated with a slide-on cover
- Featuring the Color-Keyed® compression system that ensures proper connections

## · Compression connectors

- Boost efficiency with fewer crimps that yield superior terminations
- Featuring the Color-Keyed® compression system that ensures proper connections

## ΔRR

#### AF series contactors

- Provide continuous reliable operation, even with voltage fluctuation
- Modular accessories for reduced downtime
- Full range up to 2,050A; NEMA, IEC and horsepower rated
- Complete line of DC versions available

#### · Railway terminal blocks

- DIN-rail modular mounting
- Layered for higher density capacity
- Vibration-resistant IDC technology 80% faster than screw connections

## • Jokab safety Eden E category 4/ PLe safety sensors

- LED diagnostic indication
- High misalignment tolerances (12mm ±2mm)
- Non-contact, non-mechanical and non-magnetic to reduce mechanical failure and downtime

#### T&B® Fittings

- BlueKote® LU® universal conduit elbow
- Ranger® cord connectors
- · Stainless steel, aluminum and non-metallic liquidtight conduit and cord fittings
- XD expansion/deflection coupling for rigid conduit
- · XJG expansion fitting with internal bonding jumper













# **Safety**

ABB provides products that contribute to safe, flexible rail operations worldwide. By drawing on our 100+ years of experience with connection and protection systems in rolling stock and infrastructure, we provide the ideal choices for your applications.

#### 01 **ABB**

- Arc Guard arc flash mitigation system.
- Arc-resistant low voltage switchgear and motor control centers.
- ProLine touch-safe panel boards.
- Jokab safety relays and PLCs.
- Jokab safety sensors, switches, rope pulls and E-stops.
- Jokab safety light
   curtains

#### 02 EZCODE®

- Barricade and burial marking tapes.
- Danger and warning signs.
- Electrical and cable markers.
- Machine warning labels.

  Pofficial in the desired.
- Reflective industrial markers.

# Blackburn® grounding • EZGround™

 EZGround™ compression and mechanical grounding systems.

#### Hi-Tech®

• Trans-Guard® fuses.

#### Russellstoll®

GSUL ground indicator system.

Our products help ensure the safe functioning of signal installation, power supplies to high-voltage rail, train protection and control systems as well as monitoring/information systems.

# 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

#### **ABB**

## · Arc Guard arc flash mitigation system

- Non-contact arc flash detection
- Easily retrofitted to any electrical system
- Reduces energy during arc flash event

#### Jokab safety products

- Safety relays and PLCs
- Safety sensors, switches, rope pulls and E-stops

## Blackburn® compression

- · Compression connectors
- Ergonomic compression tools

#### Elastimold®

- · Separable connectors
- · Solid-dielectric switchgear
- · Fused loadbreak elbows
- Molded canister fuses
- Molded current-limiting fuses

#### Kindorf®

 316 stainless steel modular framing channel, pipe hangers and clamps

#### Ty-Rap®

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















# Corrosive & harsh environment protection

#### 01 Adaptaflex®

 Hi-spec non-metallic flexible conduit systems.

#### 02 Ocal®

OCAL-BLUE®
 PVC-coated conduit.

#### 03 **PMA**®

 Nylon cable protection systems.

#### 04 Ty-Rap®

 Coated and uncoated stainless steel cable ties.

#### Kindorf®

- 316 stainless steel modular framing channel, pipe hangers and clamps.
- Aluminum, PVC-coated or non-metallic framing channel, pipe hangers and clamps.

#### Red•Dot

 Code Keeper® weatherproof while-in-use covers.

#### Russellstoll®

MaxGard® pin-and-sleeve connectors.

#### T&B® Cable Tray

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

#### T&B® Fittings

- BlueKote® LU® universal conduit elbow.
- CorroStall® aluminum conduit boxes.
- Stainless steel form 8 conduit bodies.
- XTRA FLEX® non-metallic liquidtight conduit, tubing and BULLET® fittings.

Kynar is a registered trademark of ARKEMA, Inc.

Corrosion in electrical systems typically represents a fraction of the direct costs for the rail industry but it yields a disproportionately large share of the indirect costs.

Corrosion in electrical contacts creates high resistance and unreliable connections, which lead to poor power quality. In railways, corrosion that causes electrical system failures can result in schedule delays, equipment failure or worse – an accident.

That's why it's imperative to select electrical conduit, fi ttings, support systems and accessories in corrosion-resistant materials appropriate for the environment in which they'll be installed.

An investment in corrosion protection for your electrical systems returns significant cost savings over the long term, as well as increased safety and other benefits.

Protecting against corrosion and harsh environments requires specially designed electrical systems and devices that are able to withstand:

- · Excessive moisture and high winds
- Lightning
- Prolonged exposure to sunlight, ice and hail
- Long maintenance repair time due to corroded parts
- Safety hazards at the grounding level

#### Ocal® - PVC-coated conduit

- Industry leading thread protection through a hotdipped 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

# Adaptaflex® – Hi-spec non-metallic flexible conduit systems

- Enhanced low fire hazard conduit with stainless steel overbraid
- Operating temperature range of -60°C to 260°C
- · Nickel-plated brass fittings Rated IP67

#### PMA® - Nylon cable protection systems

- Provide excellent flexing and fatigue life in extreme operating temperature ranges
- Offer excellent resistance to highly corrosive chemicals
- Meet stringent FST standards for the rail industry
- · IP66, IP68 and IP69K ratings

## 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











Ty-Rap<sup>®</sup>



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PMA

# **Grounding & bonding**

The rail industry relies on proper grounding and bonding so electrical systems that deliver signals, communications and power can continue to operate.

#### 01 **ABB**

- Pro M residual-current circuit breakers.
- Tmax and Emax equipment ground fault circuit breakers
- Grounding terminal blocks.

#### 02 Blackburn® grounding

- EZGround™ compression and mechanical grounding systems.
- High-quality flexible connectors.

#### 03 T&B® Fittings

- Blackjack® grounding bushing.
- Stainless steel and aluminum hubs.
- STAR TECK® and STAR TECK XP® fittings for jacketed metal-clad and teck cables.
- XD expansion/ deflection coupling for rigid conduit.
- XJG expansion fitting with internal bonding jumper.

#### Blackburn® compression

- Compression connectors.
   Ergonomic compression tools.
- KUBE® power connectors and motor lead disconnects.

#### Fisher Pierce®

Faulted circuit indicators.

#### Russellstoll®

 GSUL safe ground indicator system. Grounding absorbs current surges, and bonding eliminates the electrical potential. Together, proper grounding and bonding will:

- · Ensure personnel safety
- · Eliminate lightning interruptions
- · Protect critical equipment
- Meet IEEE, UL® and CSA obligations
- · Provide electrical continuity and reliability

ABB offers a wide-ranging selection of products and sizes to accommodate all grounding and bonding applications. The right product selection will minimize the number of conductors and terminations required.

#### Blackburn® grounding

- 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 copperto-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

## High-quality flexible connectors

- A wide variety of grounding straps and accessories for grounding applications
- Extra-fl exible links for heavy-duty applications up to 3600A

- Standard flexible links for medium-duty applications up to 2350A

## T&B® Fittings - Blackjack® grounding bushings

- Superior ground continuity for rigid conduit and IMC
- Use the same bushing on threaded or threadless conduit
- Innovative design makes installation faster and easier

#### ABB - Pro M residual-current circuit breakers

- UL® 1053 equipment ground fault protection
- 10–500mA trip range for equipment protection flexibility

#### Elastimold®

- · Separable connectors
- Solid-dielectric switchgear

#### **EZCODE®**

- · Barricade and burial marking tapes
- · Danger and warning signs
- · Electrical and cable markers
- · Machine warning labels
- · Reflective industrial markers

## Sta-Kon®

- Dragon Tooth® insulation-piercing connectors
- Shield-Kon® one- and two-piece coaxial grounding connectors



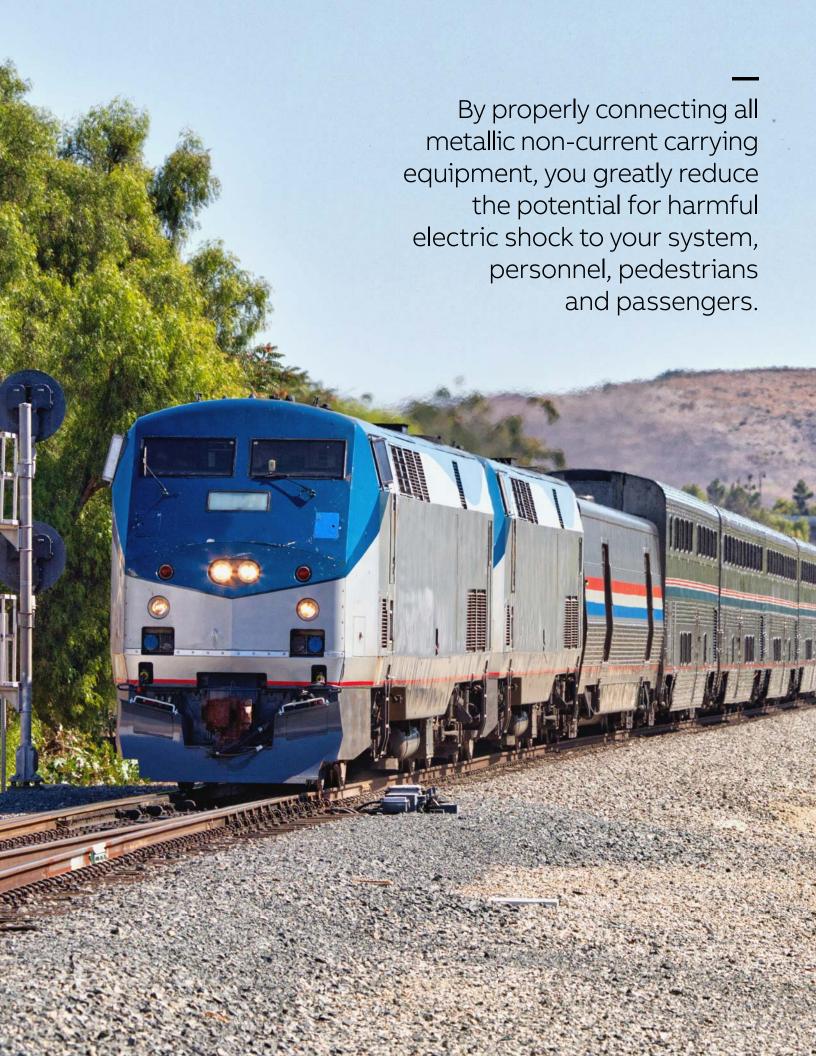








**T&B° Fittings** 





# **Liquid ingress protection**

If your electrical components are buried underground, operate in wet conditions or are continuously exposed to the elements, liquid ingress protection is necessary to maintain operation.

#### 01 Homac®

Flood-Seal® products.

#### 02 Ocal®

- OCAL-BLUE® PVC-coated conduit
- OCAL-BLUE® PVC-coated NEMA type 4X Form 8 conduit bodies.

#### 03 PMA®

 Nylon cable protection systems.

#### 04 Russellstoll®

 MaxGard® and DuraGard® pin-and-sleeve . connectors

## 04 T&B® Fittings

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

#### PMA®

 Nylon cable protection systems.

Kynar is a registered trademark of ARKEMA, Inc. Effectively protecting your electrical system enables consistent operation instead of hassles, such as unscheduled downtime to replace damaged components - or to rebuild the entire system. Consider the following issues related to liquid ingress:

- · Liquid ingress can deteriorate or short out an electrical system immediately or over time
- Electrical system components designed with round surfaces help to shed liquids and contaminants, rather than creating a shelf where they can collect
- Abrasive and corrosive contaminants combined with moisture present extra challenges for liquidtight electrical components

Systems with fittings, electrical housings and conduit that prevent liquid ingress provide longer operational life and higher reliability.

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

- · Rounded gland nut defl ects 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

## Homac® - Flood-Seal® products

- · Make water-tight connections quickly and easily with Homac® Flood-Seal® splice kits and multi-tap connectors
- · Flood-Seal® technology eliminates the need for time-consuming tapes and shrinks - no heat guns
- Range-taking designs provide flexibility in the field and minimize the number of SKUs you have

#### Russellstoll® - MaxGard® pin-and-sleeve connectors

- 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

## PMA® - Nylon cable protection systems

- Ingress protection conforms to recognized
- Connectors are commonly rated IP66, IP68 or IP69K
- Offer excellent resistance to lubricants and highly corrosive chemicals and resistant to weather

#### Adaptaflex®

· Liquidtight metallic conduit connectors

















# Power quality, efficiency & reliability

From a control room's clean environment to the harshest tunnel environment, maintaining a dependable, stable source of electrical power is essential. But as we all know, power disruptions can occur for a variety of reasons.

#### 01 **ABB**

- · AF series contactors.
- Tmax and Emax circuit breakers.
- Pro M miniature circuit breakers and surge protection devices.
- ProLine touch-safe panel boards.
- SMISSLINE modular power distribution system.
- Terminal blocks.

#### 02 Elastimold®

- High-voltage separable connectors.
- High-voltage soliddielectric switchgear.

Power quality problems may originate with the power supply coming into your facility or they may develop from internal equipment problems. Either can cause substantial financial and operational consequences to your organization. Correcting these problems can significantly improve the reliability, process and efficiency of your critical equipment – ensuring it is available all the time.

The potential costs of poor power quality are vast. Needless to say, any degradation in power quality can lead to monetary loss and a considerable reduction in the overall lifespan of your electrical equipment. Any loss of power to a Positive Train Control (PTC) piece of equipment can have catastrophic results for people, equipment and the environment.

#### Elastimold®

- Separable connectors
- Solid-dielectric switchgear

#### **ABB**

- · AF series contactors
  - Provides continuous reliable operation, even with voltage fluctuation
  - Modular accessories for reduced downtime
  - Full range up to 2,050A; NEMA, IEC and horsepower rated
  - Complete line of DC versions available
- Tmax and Emax circuit breakers
  - True RMS-sensing electronic-trip units
  - 600VAC, 750VDC and 1000VDC versions available
  - Four-pole versions available

#### **Current Technology®**

• Surge protection

#### Fisher Pierce®

· Faulted current indicators

#### Joslyn Hi-Voltage®

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











# **Extreme temperature protection**

Electrical systems need to perform consistently in all climates.

ABB electrical solutions address issues that occur in these harsh and hazardous environments.

#### 01 PMA®

 Nylon cable protection systems.

#### 02 Sta-Kon®

High-temperature wire joints and terminals.

## 03 T&B® Fittings

 ATX High-/lowtemperature liquidtight conduit and fittings.

#### 04 Ty-Rap®

- Deltec® outdoor fastening system.
- Extra-high temperature and flame-retardant UL94V-O nylon cable ties.
- Heat-stabilized/ ultraviolet-resistant cable ties.
- Ty-Rap Tote® cable tie dispensers and ergonomic installation tools.

#### **EZCODE®**

- Barricade and burial marking tapes.
- Danger and warning signs.
- Electrical and cable
   markers
- Machine warning labels.

  Before in the strict labels.
- Reflective industrial markers.

#### 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® - Nylon cable protection systems

- Designed for extreme-temperature environments
- More than 20 different conduit types for cable protection
- Conduit for technically demanding applications and special requirements
- Conduit diameters range from 6mm to 125mm

## Ty-Rap® – Deltec® outdoor fastening system

- Provides ease and flexibility in fastening communications cables to messenger strand
- Well suited for copper conductor cable, coaxial cable, fiber optic cable and innerduct in aerial applications
- Includes weather-resistant acetal cable straps, marine grade locking devices and base hanger accessories for mounting wires and cables onto messenger cable



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

- Wire joints and fl uoropolymer-insulated terminals rated for temperatures up to 150°C, 600V maximum
- Wire joints include a molded, one-piece nylon insulator, 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







Sta-Kon<sup>®</sup>



**T&B° Fittings** 



Ty-Rap<sup>®</sup>

# **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.

#### 01 **ABB**

- Warranty extension for breakers and switches.
- Preventive, predictive and corrective maintenance.
- Field retrofit services.

## 02 Blackburn® compression

- Quick turnaround program (QTP) for power connectors.
- · Product configurator.

#### 03 T&B® Tools

 Tool service, loaner and Leasing Programs.

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, improve installer speed and efficiency and assist you in selecting the proper parts for your applications.

## Blackburn® compression / mechanical / grounding

- The QTP program provides a guaranteed two-week shipment of select Blackburn® products
- Cloud-based Product Configurator enables online design of custom connectors
- Product specifi cation specialists available nationwide to train in the proper use and installation of Blackburn® products
- Inside Tech Support group provides 24/7/365 expertise for Blackburn® compression, mechanical and grounding products
- Full tool service, plus loaner and tool rental programs

## Elastimold® and Joslyn Hi-Voltage®

• Power & high voltage field services

#### Ocal®

 Onsite installation training provides hands-on practice of clamping, cutting, threading, assembling and repairing the Ocal® PVC-coated conduit system and extends warranty from 2 to 5 years on a system installed by a certified contractor

#### ABB

- Warranty extension for breakers and switches
- · Preventive, predictive and corrective maintenance
- Field retrofit services

#### Additional services & training

- Tool services and rental programs
- · Mobile solutions team
- Onsite NEC® update training
- Onsite grounding & bonding training
- BIM-compatible floor box and poke through system data
- · Regional product specification specialist teams











# **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.











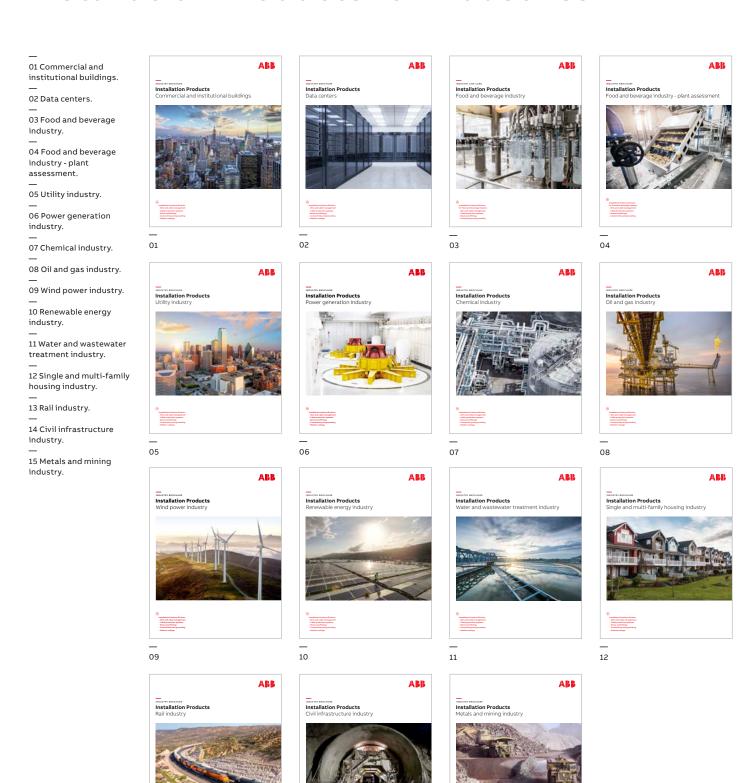








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