The financial impact of allowing liquid to migrate into electrical systems can be significant — whether the result of downtime or having to replace damaged components.
Liquid Ingress Can Wreak Havoc

If your electrical components are buried underground, operate in wet conditions or continuously exposed to the elements, liquid ingress protection is a critical element in keeping your electrical systems operational. Exposure to water in indoor or outdoor applications, condensation and accidental spills of machine oils and lubricants can all shorten the life of your electrical system. Effective protection of your electrical system can mean the difference between consistent operations, or unscheduled downtime while liquid-damaged components are replaced or the system is rebuilt.

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 present in many processing environments, combined with moisture, present extra challenges for liquidtight electrical components

Electrical systems with components that prevent liquid ingress — like fittings, electrical housings and conduit — help prevent corrosion and deterioration, meaning longer system life and higher operational reliability.

A Complete System To Keep You Dry

Thomas & Betts offers not only solutions for protecting your electrical system, but a complete catalog of components specifically designed to prevent liquid ingress at every level.

From T&B® Fittings Stainless Steel Liquidtight Fittings to Russellstoll® Waterproof Pin-and-Sleeve Interconnections, T&B provides components built to ensure that your equipment and systems are protected from corrosion and deterioration caused by liquid ingress.

When building an electrical system or upgrading or maintaining your current system, trust Thomas & Betts to provide the products and solutions that lead to long-lasting electrical systems that prevent liquid ingress — from the wires up.
**Delivering value through system solutions based on engineering innovation.**

**Our Value Commitment**

Thomas & Betts is committed to helping you meet the challenges of corrosion prevention with electrical solutions, services and systems that deliver value. These include:

**T&B Engineered solutions** — Our products are designed to perform dependably under conditions such as constant moisture, harsh chemicals, extreme temperatures, high-pressure washdown, ultraviolet exposure, hazardous areas, high-vibration equipment and continuous operation.

**Tested reliability** — Our products are rigorously tested for use in harsh environments, with proven results in thousands of installations.

**Expert support** — Thomas & Betts trained sales representatives and technical services experts are available at every stage of a project, from planning and site preparation through construction and MRO.

**Training and certification** — Thomas & Betts conducts training programs on specific products and systems and works closely with accredited electrical industry associations. Contact us for details.

**Product availability** — Our industry-leading distributor network assures you of reliable and on-time delivery. This global electrical product support system ensures that our solutions are available when and where you need them.

**Product Platforms**

For over a century, Thomas & Betts has provided customers with electrical system solutions to help protect their people and assets, while meeting applicable codes, lowering installed costs and providing overall value.

**Wire and Cable Management** — Thomas & Betts invented the Ty-Rap® Cable Ties in 1958 and continues to lead the industry in innovative wire and cable management solutions. For harsh and corrosive environments, we offer Ty-Rap® Cable Ties in coated and uncoated stainless steel as well as polypropylene and fluoropolymer materials.

**Cable Protection Systems** — Electrical systems exist in harsh and corrosive environments, extreme temperatures and hazardous locations. Thomas & Betts has engineered, tested and certified raceway solutions for all types of wires, cables and cords, offering long life and safe, reliable, maintenance-free performance, regardless of environmental conditions.

**Power Connection and Control** — Advanced electronic and electrical systems require signals and controls to be extremely accurate, consistent and reliable. Our power connection and control system solutions make this expectation a reality for your low-, medium- and high-voltage electrical system needs.

**Safety Technology** — Thomas & Betts is a worldwide leader in lightning and surge protection, hazardous location lighting, emergency lighting and supporting central battery systems. We use state-of-the-art technologies to design our electrical system solutions so they meet global safety and reliability standards.
Thomas & Betts products for liquid ingress protection

- **Carlon®**
  - PVC Fittings
  - Flex Conduit
- **Homa®**
  - Flood-Seal® Insulating Covers
  - Flood-Seal® Multi-Port Connectors
- **Ocal®**
  - Conduit Body with NEMA 4X Cover
- **PMA®**
  - Flexible Nylon Conduit Systems
- **Red•Dot®**
  - Code Keeper® Weatherproof While-in-Use Covers
- **Russelstoll®**
  - Waterproof Pin-and-Sleeve Interconnections
- **Sta-Kon®**
  - Shrink-Kon® Self-Fusing Insulation Tape
- **T&B® Fittings**
  - BlueKote® Conduit Bodies
  - Cord Connectors
  - EMT Raintight Fittings
  - Liquidtight Fittings
  - Stainless Steel Liquidtight Fittings
  - Type A Conduit Connectors
- **Ty-Rap®**
  - Cable Ties
  - Deltec® Outdoor Fastening System

*From wire protection to liquidtight conduit and connectors, Thomas & Betts knows how to keep your systems safe from liquid ingress in the most demanding applications.*
Liquid Ingress Protection

Ocal®
Conduit Body with NEMA 4X Cover

- Ocal® provides the only NEMA 4X rated PVC-coated conduit body cover
- 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
- UL® Listed Type 4X and NEMA 4X rating for excellent protection against washdown, moisture, rain, ice or snow

Russellstoll®
Waterproof Pin-and-Sleeve Interconnections

- O-ring sealed pin and sleeves ensure protection against liquid ingress into the connector housing
- Standard Neoprene O-ring 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

Ty-Rap®
Deltec® Outdoor Fastening System

- Weather-resistant materials
- Provides extremely long service life

Ty-Rap®
Stainless Steel Cable Ties

- Uncoated Type 302/304 and Type 316 stainless steel
- Also available in polyester-coated Type 316 stainless steel
- Secure, heavy-duty ball locking mechanism

Sta-Kon®
Shrink-Kon® Self-Fusing Insulation Tape

- Quick and easy insulation — no heat or adhesive required
- Just two layers form a moisture-proof, abrasion-resistant, dielectric seal — resistant to UV, moisture and saltwater

Non-Metallic Solutions

PMA®
Flexible Nylon Conduit Systems

- Snap-in installation provides a quick and secure connection, saving time and money
- Ingress protection conforms to recognized test methods
- Connectors are commonly IP66, IP68 or IP69K rated
- PMA® has nylon conduit systems specifically designed for extreme-temperature environments

Flood-Seal® Insulating Covers

- Ensure a fully insulated, watertight and submersible splice connection

Flood-Seal® Multi-Port Connectors

- Ensure a fully insulated, watertight and submersible tap connection
- All connectors are 100% Hi-Pot Tested at 4000V for 60 seconds to ensure that connectors are 100% watertight and molded correctly
**Liquid Ingress Protection**

**T&B® Fittings**

*BlueKote® Conduit Bodies*
- T&B® Fittings BlueKote® Conduit Bodies protect the electrical raceway against liquid ingress
- 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
- UL® Listed and CSA Certified

**T&B® Fittings**

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

**Steel City® EMT Raintight Fittings**
- T&B’s EMT Raintight conduit connectors provide a superior seal for demanding situations
- Feature a vibrant gland nut enabling inspectors to visually inspect conformance

**T&B® Fittings**

*Cord Connectors*
- Connects flexible cord or cable to an enclosure and provides adequate strain relief
- UL® Listed for liquidtight strain relief and as an outlet bushing
- Metal and plastic assemblies capable of accepting a wide range of cords
- Black Beauty® non-metallic cord connector offers the convenience of tool-free installation, with a segmented chuck for high mechanical pullout performance, and neoprene bushings for a secure, liquidtight installation

**Carlon® Flex Conduit**
- Liquidtight flexible non-metallic conduit
- Non-conductive, non-corrosive and resistant to oil, acid, ozone and alkaline

**Carlon® PVC Fittings**
- One-piece body design requires no disassembly of components for installation

**T&B® Fittings**

*PVC Fittings*
- Suitable for use in temperatures up to 150˚ C
- UL94V-2 flammability rating

**Code Keeper® Weatherproof While-in-Use Covers**
- The Code Keeper® series of while-in-use weatherproof products provides superior weather and liquid ingress protection
- “Extra-duty” metallic weatherproof while-in-use covers
- Alloy A380 aluminum and stainless steel springs for increased corrosion resistance and durability
Visit the T&B world of electrical product solutions
Visit our web site for more information about Thomas & Betts solutions and our newest products. For a user-friendly catalog and competitive part number search, application and technical support and other useful information, go to: www.tnb.com

Industry codes and specifications
All Thomas & Betts products meet or exceed applicable industry specifications or codes which are detailed in the appropriate T&B product literature.

Online CAD library
Thomas & Betts offers free download of two- and three-dimensional CAD models of many of its products in more than 90 native CAD formats at: www.tnb.com/cadlibrary

American Recovery and Reinvestment Act (ARRA)
Get certification letters for compliant products online at: www.tnb.com/ARRA