

Extreme Temperature Protection

Thomas & Betts. Your best connection for innovative solutions.

Thomas & Betts

***Excessive heat or cold
can wreak havoc on
an electrical system,
potentially causing critical
components to fail.***

Thomas & Betts Solution Sets



***Extreme Temperature
Protection***



***Corrosion & Harsh
Environment Protection***



Grounding & Bonding



***Power Quality,
Efficiency & Reliability***



Safety



***Continuous Operation
& Sustainability***



***Hazardous Location
Protection***



***Total Project Cost
Reduction***



***Liquid Ingress
Protection***

Extreme Temperatures May Be the Norm in Your World

Electrical components usually operate under a relatively limited range of temperature variations. However, certain applications — including pulp and paper mills, oil and gas drilling, power generation and distribution and chemical processing — experience temperature extremes where electrical connections and components must operate without degradation.

With most electrical systems and components built to perform within a certain temperature range, exposure to extreme temperatures can greatly affect the operational efficiency of these systems. When exposed to extreme cold, components can become brittle and crack, hindering the electrical system's ability to function and operate at the proper level.

Extreme heat, on the other hand, can cause components to soften and fail — or even melt and potentially destroy nearby equipment. Process heat from the components themselves can raise the operating temperature, and when exposed to external sources of heat, can compound the impact on the system.

Along with these problems, repeated thermal expansion and contraction can cause damage to conduit and wiring, as well as create condensation, which occurs with rapid temperature change.

Thomas & Betts Products Are Designed to Take the Heat



Whether you are operating a paper mill at over 200°C or drilling for oil under arctic conditions, you need electrical systems and components that will function — consistently and reliably. Thomas & Betts provides electrical systems and components designed to perform in the harshest conditions. Knowing that commercial and industrial electrical systems are temperature dependent, Thomas & Betts has created electrical components that work outside of standard temperature ranges to make them effective in both the extreme cold and heat.

Our product offering ranges from PMA® Extreme-Temperature Flexible Nylon Conduit to Liqatite® ATX Liquidtight Flexible Conduit, designed with extreme temperature and condensation protection in mind. Thomas & Betts products help protect electrical systems from failures that occur when exposed to extreme cold or heat, allowing you to run your operations no matter what the operational environment.



Delivering value through system solutions based on engineering innovation

Our Value Commitment

Thomas & Betts is committed to helping you meet the challenges of extreme temperatures 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

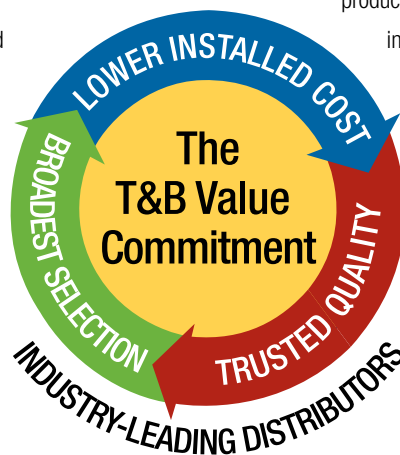
For over a century, Thomas & Betts has provided customers with electrical system solutions to help protect their people and assets, while meeting applicable codes, lowering installed costs and providing overall value.

Wire and Cable Management — Thomas & Betts invented Ty-Rap® Cable Ties in 1958 and continues to lead the industry in innovative wire and cable management solutions. From cable tray systems and electrical boxes to metal framing and meter sockets, end-users depend on Thomas & Betts products to get the job done right and to help reduce costs and installation time.

Cable Protection Systems — Electrical systems exist in harsh and corrosive environments, extreme temperatures and hazardous locations. Thomas & Betts has engineered, tested and certified cable protection 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 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.





Demanding environments are no match for Thomas & Betts' quality offering of high-performance, extreme temperature protection products.

Thomas & Betts products for extreme temperature protection

Carlton®

- Polar Gard™ PVC Conduit
- Nonmetallic NEMA Enclosures

Emergi-Lite®

- Survive-All Exit Signs

Kopex®

- High-Temperature Conduit Systems

Lumacell®

- LER 3000 Exit Signs

Marrette®

- Black™ High-Temperature Wire Connectors
- Porcelain Extreme High-Temperature Wire Connectors

PMA®

- Flexible Nylon Conduit Systems

Ready-Lite®

- N-Tuff Exit Signs

Shrink-Kon™

- Self-Fusing insulation Tape

Sta-Kon®

- High-Temperature Wire Joints and Terminals

T&B® Fittings

- Lique-Tite® Flexible Metallic and Nonmetallic Conduit
- Liquidtight Flexible Conduit Fittings
- XD Expansion/Deflection Coupling for Rigid Conduit

Ty-Rap®

- High-Temperature Cable Ties
- Stainless Steel Cable Ties



Extreme Temperature Protection

Ty-Rap®

Cable Ties

- Designed for tying, lashing and identification applications in demanding environments such as food processing, boiler rooms, chemical plants, refineries, pulp/paper mills, shipyards and offshore oil platforms
- Corrosion resistant, providing a safe, strong, worry-free hold
- Type 304 stainless steel ties are completely fireproof — no toxic fumes and no sagging cables
- Easy to apply and superior quality
- Coated versions are available



T&B® Fittings

Liquatite® Flexible Metallic and Nonmetallic Conduit

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



T&B® Fittings

Liquidtight Flexible Conduit Fittings

- Rounded gland nut deflects water from the connector
- Continuous sealing ring ensures a liquidtight seal
- Available in steel, stainless steel, aluminum, PVC-coated and nonmetallic



T&B® Fittings

XD Expansion Fitting

- Ideal for use in rigid conduit runs subject to movement due to external forces or temperature changes
- Suitable for use indoors, outdoors, direct buried or embedded in concrete
- Accommodates axial expansion/contraction, parallel deflection and angular misalignment



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

Ty-Rap®

High-Temperature Cable Ties



- For use in temperatures from -40° to 150° C
- Feature "The Grip of Steel®" stainless steel locking device and offer infinite adjustability

Extreme Temperature Protection



High-Temperature Conduit Systems



- The Kopex® High-Temperature Conduit System is designed for extreme temperature environments
- Flame dies in less than 30 seconds after ignition source is removed
- Chemical and oil resistant
- IEC 61386 approval

Carlon® Nonmetallic NEMA Enclosures

- JIC series enclosures with temperature range of -40°C to 85°C
- Manufactured from structural foam thermoplastic Carlon® Circuit Safe® JIC enclosures provide high impact strength to eliminate dents and deformations
- High dielectric strength
- Excellent weathering capabilities and resistance to a wide range of corrosive agents, acids, alkalines and salts



PMA®

Flexible Nylon Conduit Systems

- PMA® has nylon conduit systems specifically designed for extreme-temperature environments
- More than 20 different conduit types for a variety of applications in cable protection
- Conduit for technically demanding applications and special requirements
- Conduit sizes range from 6mm to 125mm diameters, from lightweight to heavyweight, and pliable to highly flexible
- Standard colors are black and gray
- Many conduits are specially approved, e.g. CSA, UL® Recognition, NF, SNCF, DB, etc.



Carlon®

Polar Gard™ PVC Conduit

- Exceeds cold impact test (CSA Standard C22.2 No. 211.1)
- Impact resistance of 34J at -23°C
- Certified for encasement in concrete and for direct burial



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

marrette®

Black™ High-Temperature Wire Connectors



- Made of rugged, 150°C-rated thermoplastic polymer material
- Deep, wide throat ensures full insulation coverage
- Ideally suited for high-wattage lighting fixtures and signs

marrette®

Porcelain Extreme High-Temperature Wire Connectors



- Made of porcelain - rated up to 645°C
- Deep wide throat ensures full insulation coverage
- Ideally suited for high temperature furnace/oven or other intense heat applications

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Visit the Thomas & Betts world of electrical product solutions

Visit our web site for more information about Thomas & Betts solutions and our newest products. For a user-friendly catalogue and competitive part number search, application and technical support and other useful information, go to: www.tnb.ca

Industry codes and specifications

All Thomas & Betts products meet or exceed applicable industry specifications or codes detailed in the appropriate Thomas & Betts 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



All information and specifications contained in this catalogue are subject to change due to engineer design, errors and omissions. Illustrations and diagrams within this catalogue may vary from actual products.

Thomas & Betts. Your best connection for innovative solutions.

Wire & Cable Management • Cable Protection Systems • Power Connection & Control • Safety Technology

Thomas & Betts