

SYSTEM SOLUTIONS GUIDE

Installation Products

Food and Beverage industry - USA



Cable protection and wire management solutions to address critical issues and reduce overall cost by increasing efficiency, reliability, safety, hygiene, quality and flexibility.

ABB system solutions for Food & Beverage

Addressing critical issues to reduce overall costs

Cable protection and wire cable management

Food & Beverage installations require system solutions that address ingress, corrosion and contamination and consider critical application parameters such as design, materials specifications, temperature and ingress ratings, trade sizes and approvals.



Ingress protection



Corrosion protection



Food safety

ABB Installation Products offers the right product for each application to help facilities reduce their overall cost and improve operation efficiency.

Ingress protection

The number one reason for electrical system downtime in F&B and a key contamination risk

Cause: Occurs because of **improper ratings, failing components** or **open paths** into the electrical system. **Harsh and caustic chemicals** commonly damage components, creating openings for liquid ingress.

Impact: Can have severe consequences for electrical systems in F&B, **damaging equipment** and impacting safety, productivity, compliance and reputation. Potential to increase maintenance, repair and replacements costs, which can add to a facility's **operation costs** and **resource allocation**.

Solution: **UL Type 4, 4X, 12 and IP69 ingress protection ratings.** Enclosures and motors are used to protect equipment and controls responsible for keeping processes up and running.

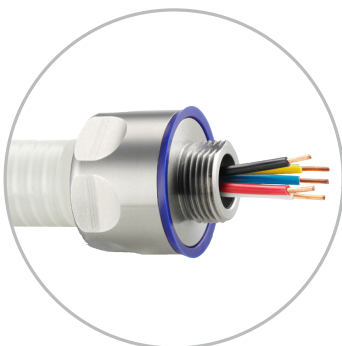
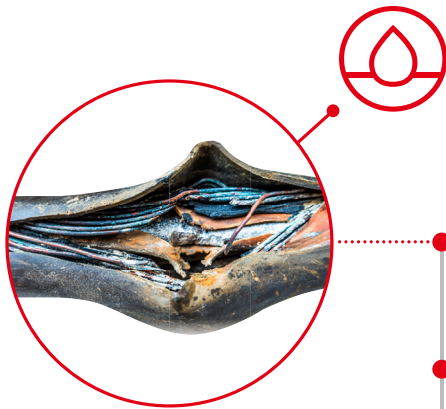


ABB Installation Products solutions
protect your critical equipment



Corrosion protection

Costs the F&B industry more than \$2 billion annually. Compromises the structural integrity of cable protection and wire management, increasing the risk of electrical failures and potential contamination



Cause: Can result in the release of metal ions or particles into products, leading to contamination and negatively impacting quality and safety. Typically caused by factors such as **acidity, alkalinity**, and the presence of **various food components like sugars, salts, organic acids and enzymes**. It can also be accelerated by factors including **temperature, humidity, washdown and mechanical stress**. A common issue we see in F&B facilities is the mating of dissimilar metals.

Impact: Can have severe consequences for electrical systems in F&B, **damaging equipment** and impacting safety, productivity, compliance and reputation. Potential to increase maintenance, repair and replacements costs, which can add to a facility's **operation costs and resource allocation**.

Solution: It is crucial to implement proper corrosion control measures. This can include regular **maintenance inspections**, using corrosion-resistant materials for equipment, implementing **effective cleaning and sanitation practices**, and monitoring the **pH and chemical composition** of processing environments. Some but not all issues can be visually identified.



Food safety

The chief concern of decision makers. There are specific considerations that need to be addressed with cable protection and wire management to maintain a safe and hygienic environment



Cause: A variety of factors contribute to food safety issues. When it comes to cable protection and wire management, **material limitations, poor design**, and improper ratings and certifications can lead to product contamination.

Impact: Poor food safety can have severe consequences from **costly recalls to brand and reputational damage**. It can also lead to **criminal liability of facility personnel**.

Solution: F&B processing facilities must adhere to **strict hygiene standards**. To address food safety with cable protection and wire management, it's important to standardize the **correct products** and take a holistic approach across the facility. The degree of food safety is only as strong as the weakest link.



Installation Products

Cable protection systems for Food and Beverage applications

Flexible conduit systems for F&B applications

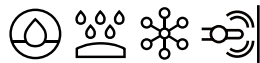


T&B Liquidtight Systems®

Type / Description

Type SAM One-piece fittings

- Unique one-piece, hygienic design constructed of 316 stainless steel
- UL 514B listed, NSF approved
- NEMA 4, 4X, 12 ingress ratings
- IP67, IP68, IP69 ingress protection ratings
- Suitable for "food-zone-non-contact" applications



Flexible conduit systems for F&B applications



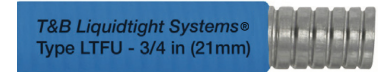
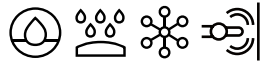
T&B Liquidtight Systems®



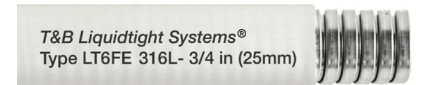
T&B Liquidtight Systems®

Series 5300SST6-FB Stainless steel fittings with F&B seal kits

- NSF "splash zone" rated
- UL 4, 4X, 12 and IP69 ingress protection ratings
- Thread seals provide protection against accumulation of harmful bacteria and microbes
- Constructed of UL-listed and FDA-compliant materials
- Straight, 45° and 90° elbows from ½" to 2"



T&B Liquidtight Systems®



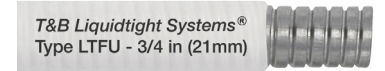
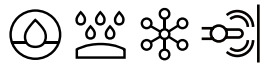
T&B Liquidtight Systems®



T&B Liquidtight Systems®

Series FSCG Cable glands

- UL-listed
- NSF "splash zone" rated
- IP66, IP68, IP69 ingress protection ratings
- Stainless steel, corrosion-resistant construction
- nylon resin, Patent pending



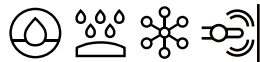
T&B Liquidtight Systems®



T&B Liquidtight Systems®

Series FSEM Cable glands

- NSF "splash zone" rated
- EMC protection
- IP66, IP67, IP68, IP69 ingress protection ratings
- Stainless steel, corrosion-resistant construction



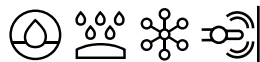
T&B Liquidtight Systems®



T&B Liquidtight Systems®

Type A Stainless steel fittings

- cULus-listed
- ½" to 2" trade sizes
- Straight and 90° elbows
- UL 4, 4X, 12 ingress ratings
- IP66, IP67, IP68, IP69 ingress protection ratings



T&B Liquidtight Systems®



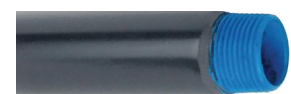
T&B Liquidtight Systems®

Type A Non-metallic fittings

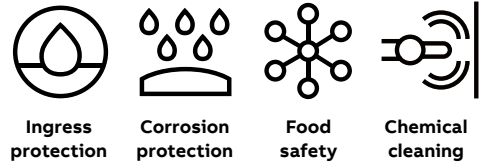
- Polymer reinforced construction
- cULus-listed
- ½" to 2" trade sizes
- Straight and 90° elbows
- UL 4, 4X, 12 ingress ratings
- IP66, IP67, IP69 ingress ratings



Rigid conduit systems for F&B applications



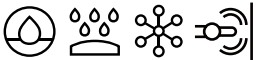
Ocal®



Type / Description

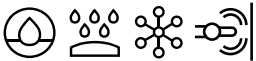
Type SAMHURL

- UR component recognized
- Galvanized steel core with antimicrobial jacket
- BioCote® jacket material provides 99% elimination rate in two hours
- Trade sizes: ½" to 2"



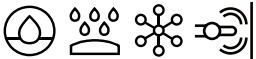
Type LTFU - Blue

- UL-listed, CSA certified
- Galvanized steel core with antimicrobial jacket
- Available in 25, 50 and 100' rolls
- Trades sizes: ½" to 4"



Type LT6FE

- CE certified, NSF approved
- Antimicrobial jacket, FDA compliant
- Stainless steel 316L core
- Available in 25, 50 and 100' rolls



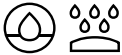
Type LTFU - White

- UL-listed, CSA certified
- Galvanized steel core with FDA compliant jacket material
- Trade Sizes: ½" to 4"



Type A General purpose

- cULus-listed
- Flexible PVC with nylon reinforced core
- Suitable for non-food zone F&B applications



Type A Food & Beverage

- cULus-listed
- ½" to 2" trade sizes
- Straight and 90° elbows
- UL 4, 4X, 12 ingress ratings
- IP66, IP67, IP68, IP69 ingress ratings



Type / Description

Ocal® Corrosion-resistant conduit systems

- Industry-leading thread protection through a hot-dipped galvanizing process
- UL-listed type 4X PVC-coated conduit bodies with a full undisturbed zinc coating under the PVC coating



Rigid conduit systems for F&B applications



T&B® Fittings



T&B® Fittings



T&B® Fittings



T&B® Fittings



Type / Description

Stainless steel conduit bodies

- Made of 316 stainless steel
- Laser-etched markings eliminate locations to harbor bacteria
- UL-listed and CSA certified
- Universal LU conduit body consolidates the need for LB, LR, and LL conduit bodies



Stainless cylinder conduit hub

- Made of 316 stainless steel
- Corrosion-resistant and hygienic design
- NSF certified seal to cover exposed threads
- UL Type 4X and IP66, IP67 ingress ratings



Stainless dome drains

- Ideal for draining liquids from enclosures and conduit systems
- Made of 316 stainless steel
- UL Type 4X, IP56 ingress rating
- Slotted thread with gutter locknut for easy draining
- Optional mesh guard prevents clogging nylon resin, Patent pending



Sand cast aluminum Form 7 and 9

- High level of corrosion protection even in extreme environments
- Copper-free aluminum alloy (0.2% maximum copper content) for conduit bodies and covers provides a high level of corrosion protection, pit-free after a minimum of 500 hours in salt-fog solution
- No additional paint eliminates the risk of flaking and contamination
- Stainless steel screws and stainless steel-bonded sealing washers (standard) on covers further increase protection against corrosion

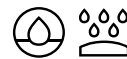


ABB offers conduit bodies to suit all Food & Beverage applications

- T&B® Fittings Blue-Kote® Form 7 and Form 8 galvanized steel
- T&B® Fittings Form 7 and Form 9 sand cast aluminum
- T&B® Fittings Form 8 stainless steel
- Ocal® PVC-coated Form 7 and Form 8 iron and Form 7 and Form 9 aluminum
- Red Dot® die-cast aluminum
- Carlon® non-metallic (PVC)

Installation Products

Fastening and cable management

Fastening solutions for F&B applications

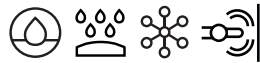


Ty-Rap

Type / Description

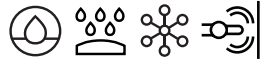
Antimicrobial wall offsets

- The industry's first wall offset spacers that inhibit bacterial growth on the spacer surface
- Made from food-compliant nylon resin
- Cylindrical design with no exposed flat surfaces to prevent the collection and retention of liquids or debris
- Promotes a clean environment – 99.9% effective for bacterial reduction on the spacer surface
- Easy to install with no on-site fabrication required



TyGenic™ Antimicrobial detectable cable ties

- Detectable by metal detectors set at minimum 1.5 mm diameter ferrous sphere
- Detectable by X-ray equipment
- Bright blue color for easy visual detection
- Help achieve the HACCP EU-Directive and to comply with the Food Safety Modernization Act (FSMA)
- Available in standard Polyamide 6.6 or in buoyant Polypropylene version for liquid-processing applications
- Available in 5 different sizes in convenient small bags with Euroslot 5 NDT, 4PDT

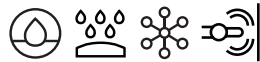


Ty-Rap



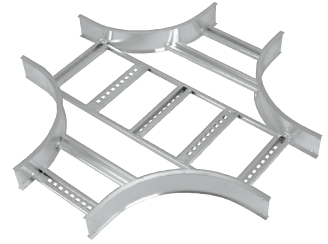
Ty-Met™ stainless steel cable ties

- High mechanical strength combined with chemical durability and temperature resistance
- International approvals such as UL, Germanischer Lloyd, Lloyd's Register and Det Norske Veritas
- All types are available in 316 grade (marine grade) stainless steel for extra corrosion resistance
- Available in an uncoated version for high temperature applications or in a fully coated version with a non-toxic, halogen-free coating for superior protection of cables and installer's hands and improved insulation between dissimilar materials



Ty-Met

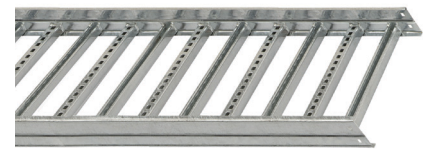
Cable tray for F&B applications



T&B Cable Tray Systems



T&B Cable Tray Systems



T&B Cable Tray Systems

ABB Installation Products solutions
help reduce risk in hygiene-critical locations

Type / Description

Stainless steel ladder cable tray (process)

- Improved system rigidity
- Improved aesthetics and customer appeal
- Easy to install
- Easy to align straights and fittings
- Splice plate holds components together while hardware is inserted
- Premium design
- 3" tangents on fittings
- 7" length snap-in splice plate



Aluminum ladder cable tray (process)

- Improved system rigidity
- Improved aesthetics and customer appeal
- Easy to install
- Easy to align straights and fittings
- Splice plate holds components together while hardware is inserted
- Premium design
- 3" tangents on fittings
- 7" length snap-in splice plate



Hot dipped galvanized (non process)

- Formed side rails are welded to 1 5/8"
- Wide rungs to provide maximum rigidity and strength
- Rung design includes exclusive Ty-Rap® cable tie slots on 1" centers
- The maximum open spacings between cable support surfaces of transverse elements do not exceed 102 mm (4") in the direction parallel to the tray side rails (rung-to-rung)
- Solid sheet-welded to steel side rails below rungs. This design offers added cable protection





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US

ABB Installation Products Inc.
Electrification Business
860 Ridge Lake Blvd.
Memphis, TN 38120
+1 901-252-5000

electrification.us.abb.com
tnb.abb.com



**Food and
Beverage USA**



**Preventative
maintenance**



**Technical support &
sample request**