APPLICATION PROFILE

Food and beverage solutions

T&B Liquidtight Systems®

The T&B Liquidtight Systems® brand encompasses a complete range of food and beverage, metallic and non-metallic flexible conduit system solutions for applications requiring FDA antimicrobial materials, UL 4/4X and IP69 ingress ratings and NSF “splash zone” approvals.

Introduction

The T&B Liquidtight Systems portfolio includes one of the widest ranges of liquid-tight flexible cable protection system solutions for the food and beverage industry. Material selection and rigorous testing are the key factors to these highly engineered and superior performance cable protection solutions.

Typical applications

- Food and beverage equipment
- Pharmaceutical equipment
- Bottling lines
- Packaging equipment
- Meat packing
- Dairy processing
- Coolers and freezer systems
- Canning plants
- Mixers, blenders and fillers
- Brewing and distillery
- High-pressure washdown areas
- Commercial food service

System components

Food and beverage installations require system solutions considering critical application parameters such as material specifications, temperature ratings, ingress ratings, trade sizes and approvals.

Materials

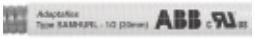
T&B Liquidtight Systems food and beverage solutions are primarily designed with ANSI 316 stainless steel and FDA-compliant compounds. Materials are selected with cleanability, antimicrobial active ingredients, high-pressure washdown and maintenance-free long-term durability as priorities.

Food and beverage protection system components

- Flexible metallic conduits
- Flexible non-metallic conduits
- Hygienic stainless steel liquid-tight fittings
- Stainless steel liquid-tight fittings
- Seal gaskets
- Locknuts
- Supports

Food and beverage solutions

Metallic solutions

Food zone installation	**Non-food zone**			**NSF food "splash zone"**
System ingress rating		**UL Type 4/4X/12, IP69**		**NEMA 4/4X/12, IP69**
Liquid-tight flexible conduits (LFMC)				
Product Offering	**LT6FE SS 316 antimicrobial**	**LTFU steel**	**LTFU steel antimicrobial**	**SAMHURL BioCote AM**
				
	Food and bev, SST 316L		**Food and bev, steel galv.**	**Food and bev, steel galv.**
Approvals and certifications				
UL 360	No	Yes	Yes	No
CSA C22.2, No. 56	No	Yes	Yes	No
UR component recognized	No	No	No	Yes
CE certification	Yes	Yes	Yes	Yes
RoHS	Yes	Yes	Yes	Yes
NSF approval	Yes	Yes	Yes	Yes
Trade sizes				
UL (inches)	⅜ to 4	⅜ to 4	⅜ to 4	⅜ to 2
CSA (mm)	12 to 103	12 to 103	12 to 103	12 to 53
Materials				
Core	Stainless steel 316L	Steel galvanized	Steel galvanized	Steel galvanized
Jacket material	PVC, FDA compliant	PVC, FDA compliant	PVC, FDA compliant	Hytrol, FDA compliant
Antimicrobial	Yes	No	Yes	Yes, BioCote
Jacket color (standard)	White	White	Blue	White, blue
UL bond wire (⅛ to 1¼")	—	Yes	Yes	—
Temperature — dry (see technical data sheets for complete ratings)				
General	-55 to +105 °C (-67 to +221 °F)	—	—	-50 to +130 °C (-58 to +266 °F)
CE	-45 to +105 °C (-49 to +221 °F)	-25 to +90 °C (-13 to +194 °F)	-25 to +90 °C (-13 to +194 °F)	—
UL (fittings and seal gaskets)	—	-30 to +80 °C (-22 to +176 °F)	-30 to +105 °C (-22 to +221 °F)	—
CSA (fittings and seal gaskets)	—	30 to +60 °C (-22 to +140 °F)	-30 to +105 °C (-22 to +221 °F)	—
Technical data sheet	TDS000086	TDS000021	TDS000569	TDS: TYPE SAMHURL
Liquid-tight metallic fittings				
Product offering	**SS 316 LT fittings**	**SS 316 LT fittings**	**SS 316 one-piece fittings**	**SS 316 one-piece fittings**
	5300SST6, -HT	**5300SST6-FB**		**SPLxxSAM**
	SST316 (standard and high temp)			**SST316**
Approvals and certifications				
UL 514B listing	Yes	Yes	Yes	Yes
CSA C22.2, No. 56	Yes	Yes	No	No
UR component recognized	No	No	No	No
CE certification	Yes	Yes	Yes	Yes
RoHS	Yes	Yes	Yes	Yes
NSF 169	Yes	Yes	Yes	Yes
Materials				
Metal components	Stainless steel 316			Stainless steel 316
Seals, insulators and gaskets	Nylon			Hytrel
Thread types	NPT and metric			NPT and metric
Ground cone options	Steel galvanized (Opt. -6, SS 316)			Stainless steel
Ingress protection				
UL listed/CSA certified	Type 3, 3R, 4, 4X, 6, 12, 13	Type 3, 3R, 4, 4X, 6, 12, 13	—	—
NEMA 250	Type 3, 3R, 4, 4X, 6, 12, 13	Type 3, 3R, 4, 4X, 6, 12, 13	Type 3, 3R, 4, 4X, 12, 13	Type 3, 3R, 4, 4X, 12, 13
IEC/EN 60529	IP66, 67, 68, 69	IP66, 67, 68, 69	IP66, 67, 68, 69	IP66, 67, 68, 69
Technical data sheet	TDS000126	TDS000778		TDS: TYPE SAM

Note: Product must be installed in accordance with applicable national and local electrical codes.

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Non-metallic solutions

Food zone installation	**Non-food zone**	**NSF food "splash zone"**
System ingress rating	**UL 4/4X/12, IP69**	**NEMA 4/4X/12, IP69**
Liquid-tight flexible conduits		
Product offering	**Non-metallic conduit (LFNC-A)**	**Non-metallic conduit (LFNC-C)**
	TYPE A	**JFBD - PA12**
	Food and bev non-metallic	**Food and bev non-metallic**
Approvals and certifications		
UL 1660	Type A	Type C
CSA 22.2 No. 227.2	Yes	No
UR component recognized	No	Yes
CE certification	No	Yes
RoHS	Yes	Yes
NSF approval	Yes	Yes
Trade sizes		
UL (inches)	**⅜** to 2	**⅜** to 2
CSA (mm)	16 to 63	12 to 63
Materials		
Core	Mesh web, dual layer	Dual layer
Jacket material	PVC, dual layer	PA12, FDA compliant
Antimicrobial	Yes	Yes
Jacket color (standard)	Blue	Blue
UL bond wire (⅛ to 1¼")	—	—
Temperature — dry (see technical data sheets for complete ratings)		
General	-37 to +105 °C (-35 to +221 °F)	-20 to +95 °C (-4 to +203 °F)
UL (fittings and seal gaskets)	-18 to +105 °C (0 to +221 °F)	-18 to +90 °C (0 to +194 °F)
CSA (fittings and seal gaskets)	-18 to +105 °C (0 to +221 °F)	-18 to +90 °C (0 to +194 °F)
Technical data sheet	TDS000630	TDS: JFBD - 16310-08

Liquid-tight non-metallic and metallic fittings				
Product offering	**SST Bullet® fittings**	**NM Bullet® fittings**	**PA12 nylon fittings**	**SST 316 one-piece fittings**
	Series 6300SST	**Series 6300**	**JKBH, JKNH**	**JENQ**
	SST 316/304	**Reinforced resin**	**PA12**	**SST 316**
Approvals and certifications				
UL 514B Listing	Yes	Yes	No	No
CSA C22.2, No. 56	Yes	Yes	No	No
UR component recognized	No	No	Yes	Yes
CE certification	No	No	Yes	Yes
RoHS	Yes	Yes	Yes	Yes
NSF 169	No	No	Yes	Yes
Materials				
Components	Stainless steel 316/304	Reinforced compound	PA12 nylon fittings	Stainless steel
Seals, insulators and gaskets	TPR	Neoprene	—	Hytrel
Thread types	NPT	NPT	NPT and metric	Metric
Ground cone options	—	—	—	—
Ingress protection				
UL listed/CSA certified	Type 4/4X/12	Type 4, 12	—	—
NEMA 250	Type 4, 4X, 12	Type 4, 12	Type 4, 4X, 12	Type 4, 4X, 12
IEC/EN 60529	IP66, 69	IP66, 69	IP66, 67, 68, 69	IP66, 67, 68, 69
Technical data sheet	TDS000628	TDS000592	TDS - JKBH, TDS - JKNH	TDS: 52300-01

Note: Product must be installed in accordance with applicable national and local electrical codes.

Note: Products identified as antimicrobial provide no antimicrobial inhibitory activity beyond protection of the products themselves. They do not provide protection against specific pathogenic organisms, nor do they prevent growth of bacteria on adjacent or nearby surfaces. The antimicrobial efficacy of the material is designed to last for the life of the product under normal use conditions.

Food and beverage solutions

Sample kits available

T&B Liquidtight Systems® and PMA® food and beverage solutions provide premier cable protection for most demanding metallic and non-metallic applications.

PMA non-metallic sample kits

Part no. KIT-SAMPLE BOX FB

Part no. KIT-SAMPLE JFBD

T&B Liquidtight Systems metallic sample kit
Part no. LTSF&B-KIT

Materials included:

- 5332SST6-FB — ½" straight, SST 316 LT fitting
- 5352SST6-FB — ½" 90° elbow, SST 316 LT fitting
- 142-SST — ½" SST 316 locknut
- SAMHURL — ½" UR antimicrobial BioCote LFMC
- LTFUS02L-C — ½" UL/CSA antimicrobial LFMC
- LT6FES02W-C — ½" CE antimicrobial, CE SST 316L LFMC
- Technical data sheets

Sample kits are in stock and available for immediate delivery.

How to order:

1. Contact your local ABB sales representative to order
2. Supply your contact information and mailing address
3. ABB sale representative to order sample kit from EP Sales Portal

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