

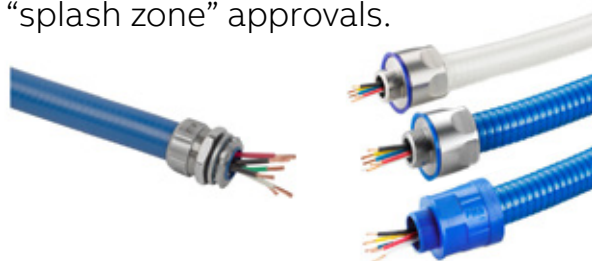
APPLICATION PROFILE

# 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		Food zone — non-contact, splash zone	
Ingress protection	UL Type 4/4X, IP69		NEMA 4/4X, 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)	3/8 to 4	3/8 to 4	3/8 to 4	3/8 to 2
CSA (mm)	12 to 103	12 to 103	12 to 103	12 to 63
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 (1/2 to 1 1/4")	—	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
				
				
	53xxSST6, HT		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		TDS: TYPE SAM	

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

# Food and beverage solutions

## Non-metallic solutions

<b>Food zone installation</b>	<b>Splash zone</b>	<b>Food zone — non-contact, splash zone</b>	<b>Non-food zone</b>	
<b>Ingress protection</b>		<b>NEMA 4/4X, IP69</b>	<b>NEMA 4/4X, IP69</b>	
<b>Liquid-tight flexible conduits</b>				
<b>Product offering</b>	<b>Non-metallic conduit (LFNC-C)</b>		<b>Non-metallic conduit (LFNC-A)</b>	
	<b>JFBD - PA12</b>		<b>TYPE A</b>	
				
				
	<b>Food and bev non-metallic</b>		<b>Food and bev non-metallic</b>	
<b>Approvals and certifications</b>				
UL 1660		Type C	Type A	
CSA 22.2 No. 227.2		No	Yes	
UR component recognized		Yes	No	
CE certification		Yes	Yes	
RoHS		Yes	Yes	
NSF approval		Yes	No	
<b>Trade sizes</b>				
UL (inches)		3/8 to 2	3/8 to 2	
CSA (mm)		12 to 63	13 to 63	
<b>Materials</b>				
Core		Dual layer	Mesh web, dual layer	
Jacket material		PA12, FDA compliant	PVC, dual layer	
Antimicrobial		—	—	
Jacket color (standard)		Blue	Orange	
UL bond wire (1/2 to 1 1/4")		—	—	
<b>Temperature — dry (see technical data sheets for complete ratings)</b>				
General		-20 to +95 °C (-4 to +203 °F)	—	
UL (fittings and seal gaskets)		-18 to +90 °C (0 to +194 °F)	-30 to +105 °C (-22 to +221 °F)	
CSA (fittings and seal gaskets)		-18 to +90 °C (0 to +194 °F)	-30 to +105 °C (-22 to +221 °F)	
<b>Technical data sheet</b>		TDS: JFBD - 16310-08	TDS000630	
<b>Liquid-tight non-metallic and metallic fittings</b>				
<b>Product offering</b>	<b>PA12 nylon fittings</b>	<b>SST 316 one-piece fittings</b>	<b>SST 304 Bullet fittings</b>	<b>NM Bullet fittings</b>
				
				
	<b>JKBH, JKNH</b>	<b>JENQ</b>	<b>Series 6300SST</b>	<b>Series 6300</b>
	<b>PA12</b>	<b>SST 316</b>	<b>SST 304</b>	<b>Reinforced resin</b>
<b>Approvals and certifications</b>				
UL 514B Listing	No	No	No	No
CSA C22.2, No. 56	No	No	No	No
UR component recognized	Yes	Yes	Yes	Yes
CE certification	Yes	Yes	Yes	Yes
RoHS	Yes	Yes	Yes	Yes
NSF 169	Yes	Yes	Yes	Yes
<b>Materials</b>				
Components	PA12 nylon fittings	Stainless steel	Stainless steel 304	Reinforced compound
Seals, insulators and gaskets	—	Hytril	TPR	Neoprene
Thread types	Metric	Metric	NPT	NPT
Ground cone options	—	—	—	—
<b>Ingress protection</b>				
UL listed/CSA certified	—	—	—	—
NEMA 250	Type 4, 4X, 12	Type 4, 4X, 12	Type 4, 4X, 12	Type 4, 4X, 12
IEC/EN 60529	IP66, 67, 68, 69	IP66, 67, 68, 69	IP66, 67, 68, 69	IP66, 67, 68, 69
<b>Technical data sheet</b>	TDS - JKBH, TDS - JKNH	TDS: 52300-01	TDS000628	TDS000592

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

## 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

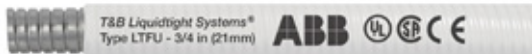
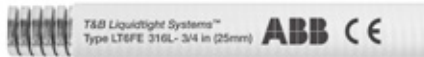


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### T&B Liquidtight Systems metallic sample kit

Part no. LTSF&B-KIT

Materials included:

- SPL20/M20/SAM — ½" straight, SST 316 LT one-piece fitting
- 5332SST6 — ½" straight, SST 316 LT fitting
- 5262-HT — ½" high-temp seal gasket
- 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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