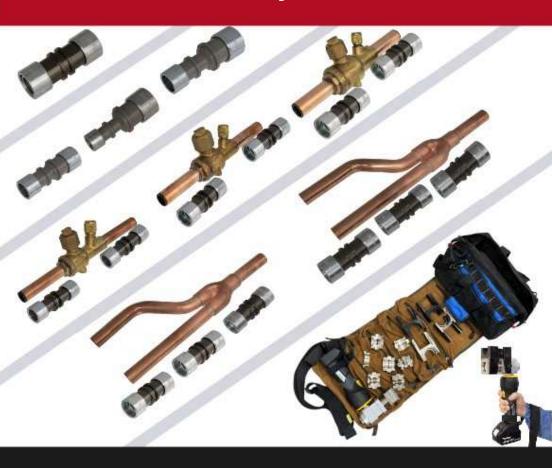


### Heatless/Torchless AC&R and Medical Gas Copper Pipe Connectivity Solutions



STRONG • RELIABLE • SIMPLE

### TUFFLOK



TUFFLOK is the leading manufacturer of mechanically attached fittings for copper pipes. We are dedicated to designing and manufacturing products that are reliable, independently tested for safety, and easy to install. We provide components for a heat-free and stress-free installation of AC&R systems.

TUFFLOK was formed in June 2017 to design, build and sell reliable AC & R and medical gas connectivity solutions that answer the call for better products with a simple installation method. TUFFLOK is an ISO9001:2015 manufacturer that enables contractors to install reliable copper pipe systems while saving installation time and reducing on-job stress.

### Why TUFFLOK?

### Tuff

What began as a drive to solve a 30-year brazing problem has revolutionized the VRF/VRV (Variable Refrigerant Volume / Variable Refrigerant Flow) industry across the globe. TUFFLOK is dedicated to making our products reliable and straightforward to install, saving our customers hours of labor expenses.

We continually test our products to maintain impeccable reliability. Testing parameters include tolerance testing on field bent copper tubing (successful up to 4,000 psi on 1-5/8-inch pipe), silicone wraps capability to protect connected joints, insert tolerance analysis to validate the design, and pressure testing to ensure reliable connectivity.

### Straightforward Assembly

We understand that skilled brazer professional is difficult to find. To address that shortage, we deliver products that are quick to train, quick to master, and quick to use. TUFFLOK empowers distributors and contractors with connectivity solutions and tools to succeed every time.

### Labor Savings

With TUFFLOK's simple-to-use MAF (Mechanically Attached Fittings) system, you can enjoy labor cost savings of up to 70% and installed cost of up to 50% when compared to welded or brazed fittings.

### No Hot Permits Required

Because TUFFLOK uses slide compression fittings as opposed to brazing, contractors that use our system are not required to acquire hot permits. Using our system will save you even more time and money on every job you do with TUFFLOK.

### PASS-THROUGH COUPLERS



### **TLC**





The inlet and outlet are equal in size, and the coupler can be reversed. Different inserts are needed for some parts when working with soft or hard copper tubing. If you need additional different types of inserts, you can order them separately.

### What is included with TLC

Image	Couplers	Compression Nuts	Inserts
BE CONTROL	1 pc each Pass-through coupler	2 pcs each	For 02, 04 - 1pc yellow + 2 pcs silver inserts. For 03, 05 and above 2 pcs silver inserts

### **Coupler Sizes**

Part Number	Pipe Size
TLC-02	1/4"
TLC-03	3/8"
TLC-04	1/2"
TLC-05	5/8"
TLC-06	3/4"
TLC-07	7/8"
TLC-08	1"
TLC-09	1-1/8"
TLC-11	1-3/8"
TLC-13	1-5/8"
TLC-17	2-1/8"

### **Coupler Body Inserts for TLC**



### Insert Sizes

Model Number	Pipe Size	Copper Type	Pack Quantity	Size
INS-02SC	1/4" (8 each) Yellow Insert Soft Copper	SOFT	8 pc	1/4"
INS-02HC	1/4" (8 each) Silver Color Hard Copper	HARD	8 pc	1/4"
INS-03	3/8" (8 each) Silver Insert Hard/Soft Copper	SOFT/ HARD	8 pc	3/8"
INS-04SC	1/2" (8 each)Yellow Insert Soft Copper	SOFT	8 pc	1/2"
INS-04HC	1/2" (8 each) Silver Color Hard Copper	HARD	8 pc	1/2"
INS-05SC	5/8" (8 each) Yellow Insert Soft Copper	SOFT	8 pc	5/8"
INS-05HC	5/8" (8 each) Silver Color Hard Copper	HARD	8 pc	5/8"
INS-06SC	3/4" (4 each)Yellow Insert Soft Copper	SOFT	4 pc	3/4"
INS-06HC	3/4" (4 each) Silver Color Hard Copper	HARD	4 pc	3/4"
INS-07	7/8" (4 each) Silver Color Hard Copper	HARD	4 pc	7/8"
INS-08	1" (4 each) Silver Color Hard Copper	HARD	4 pc	1"
INS-09	1-1/8" (4 each) Silver Color Hard Copper	HARD	4 pc	1-1/8"
INS-11	1-3/8" (2 each) Silver Color Hard Copper	HARD	2 pc	1-3/8"
INS-13	1-5/8" (2 each) Silver Color Hard Copper	HARD	2 pc	1-5/8"
INS-17	2-1/8" (2 each) Silver Color Hard Copper	HARD	2 pc	2-1/8"

## TLA Note: Actual color may vary.

The inlet and outlet are different, with the inlet larger than the outlet. Different inserts are required for soft or hard copper tubing. If you need additional different types of inserts, you can order them separately.

### What is included with TLA

Image	Couplers	Compression Nuts	Inserts
	1 pc each Reducing coupler	2 nec each	For 02, 04 – 1pc yellow + 2 pc silver inserts. For 03, 05 and above 2 pcs silver inserts

### **Reducer Sizes**

Part Number	Inlet Size	Outlet Size
TLA-0302	3/8"	1/4"
TLA-0402	4/0//	1/4"
TLA-0403	- 1/2"	3/8"
TLA-0503	F/0"	3/8"
TLA-0504	- 5/8"	1/2"
TLA-0603		3/8"
TLA-0604	3/4"	1/2"
TLA-0605		5/8"
TLA-0704		1/2"
TLA-0705	7/8″	5/8"
TLA-0706	_	3/4"
TLA-0804	1"	1/2"
TLA-0805		5/8"
	•	TLA continued on next page

TLA continued on next page...

## TLA Intertek Note: Actual color may vary.

TLA continued...

### **Reducer Sizes**

Part Number	Inlet Size	Outlet Size
TLA-0806	1"	3/4"
TLA-0807	1"	7/8"
TLA-0904		1/2"
TLA-0905		5/8"
TLA-0906	1-1/8"	3/4"
TLA-0907		7/8"
TLA-0908		1"
TLA-1107		7/8"
TLA-1108	1-3/8"	1"
TLA-1109		1-1/8"
TLA-1309	4.5.00	1-1/8"
TLA-1311	- 1-5/8"	1-3/8"
TLA-1711	0.4/0//	1-3/8"
TLA-1713	2-1/8"	1-5/8"

# TEST END CAPS TCAP Intertek Note: Actual color may vary.

It is used to test the system for leaks. Each test cap is shipped with the one-way brass test port and test cap. The user needs to install the test port using Teflon tape.

### What is included with TCAP

Image	Couplers	Compression Nuts	Inserts
	1 pc each Test Cap	1pc each	For 02, 04 – 1pc yellow + 1 pc silver inserts. For 03, 05 and above 1 pc silver insert

### **Test Cap Sizes**

Part Number	Size
TCAP-02	1/4"
TCAP-03	3/8"
TCAP-04	1/2"
TCAP-05	5/8"
TCAP-06	3/4"
TCAP-07	7/8"
TCAP-08	1"
TCAP-09	1-1/8"
TCAP-11	1-3/8"
TCAP-13	1-5/8"
TCAP-17	2-1/8"



It is used to block unused ports permanently. Different inserts are required for soft or hard copper tubing. If you need additional different types of inserts, you can order them separately.

### What is included with CAP

Image	Couplers	Compression Nuts	Inserts
	1 pc each Cap	1pc each	For 02, 04 – 1pc yellow + 1 pc silver inserts. For 03, 05 and above 1 pc silver insert

### **End Cap Sizes**

Part Number	Size
CAP-02	1/4"
CAP-03	3/8"
CAP-04	1/2"
CAP-05	5/8"
CAP-06	3/4"
CAP-07	7/8"
CAP-08	1"
CAP-09	1-1/8"
CAP-11	1-3/8"
CAP-13	1-5/8"
CAP-17	2-1/8"



It is used to block unused ports permanently. Different inserts are required for soft or hard copper tubing. If you need additional different types of inserts, you can order them separately.

### What is included with TLT

Image	Couplers	Compression Nuts	Inserts
	1 pc each Flare		couplers include outs and inserts

### Flare Coupler Sizes

Part Number	Size
TLT-02	1/4"
TLT-03	3/8″
TLT-04	1/2"
TLT-05	5/8″
TLT-06	3/4"

### **BRANCH CONNECTORS**



The branch connectors have three ports of equal size. All ports are ready for TUFFLOK pass-through or reducing couplers. Different inserts are required for soft or hard copper tubing. If you need additional different types of inserts, you can order them separately.

### What is included with BCY

Image	Couplers	Compression Nuts	Inserts
CMP CMP	3 pcs pass-through or reducing couplers	compression r	couplers include outs and inserts

### Refnet - Branch Connector Sizes and Compatible Pass-Through and Reducing Couplers

Part Number	Size	Pass Through Coupler	Reducing Coupler			Coupler
BCY-03	3/8"	TLC-03	TLA-0302	1/4"		
BCY-04	1/2"	TLC-04	TLA-0402	1/4"		
BC1-04	1/2	ILC-04	TLA-0403	3/8"		
BCV 05	E/0"	TI C OF	TLA-0503	3/8"		
BCY-05	5/8"	TLC-05	TLA-0504	1/2"		
			TLA-0603	3/8"		
BCY-06	3/4"	TLC-06	TLA-0604	1/2"		
			TLA-0605	5/8"		
			TLA-0704	1/2"		
BCY-07	7/8"	TLC-07	TLA-0705	5/8"		
			TLA-0706	3/4"		
			TLA-0904 TLA-0905	1/2" 5/8"		
BCY-09	1-1/8"	TLC-09	TLA-0906	3/4"		
			TLA-0907 TLA-0908	7/8"		
			TLA-0906 TLA-1107	7/8"		
BCY-11	1-3/8"	TLC-11	TLA-1108	1"		
	. 0,0	120-11	TLA-1109	1-1/8"		
BCY-13	1-5/8"	TLC-13	TLA-1309	1-1/8"		
DC1-13	1-3/6	110-13	TLA-1311	1-3/8"		



The elbow assembly has two ports of equal size. All ports are ready for TUFFLOK pass-through or reducing couplers. Different inserts are required for soft or hard copper tubing. If you need additional different types of inserts, you can order them separately.

### What is included with BEND 45°

Image	Couplers	Compression Nuts	Inserts
of 7e	2 pcs pass-through or reducing couplers	TLC and TLA c compression n	

### 45° Elbows and Compatible Pass-Through and Reducing Couplers

Part Number	Size	Pass Through Coupler	Reducing	Coupler	
BEND-03-45	3/8"	TLC-03	TLA-0302	1/4"	
BEND-04-45	1/2"	TLC-04	TLA-0402	1/4"	
DENU-04-40	1/2	TLC-04	TLA-0403	3/8"	
DEND 05 45	E /O!!	TI C 05	TLA-0503	3/8"	
BEND-05-45	5/8"	TLC-05	TLA-0504	1/2"	
			TLA-0603	3/8"	
BEND-06-45	3/4"	TLC-06	TLA-0604	1/2"	
			TLA-0605	5/8"	
			TLA-0704	1/2"	
BEND-07-45	7/8"	TLC-07	TLA-0705	5/8"	
			TLA-0706	3/4"	
BEND-09-45	1-1/8"	TLC-09	TLA-0904 TLA-0905 TLA-0906 TLA-0907 TLA-0908	1/2" 5/8" 3/4" 7/8" 1"	
			TLA-1107	7/8"	
BEND-11-45	1-3/8"	TLC-11	TLA-1108	1"	
			TLA-1109	1-1/8"	
DEND 42 45	1 E/O"	TI C 12	TLA-1309	1-1/8"	
BEND-13-45	1-5/8"	TLC-13	TLA-1311	1-3/8"	



### What is included with BEND 90°

Image	Couplers	Compression Nuts	Inserts
0 30	2 pcs pass-through or reducing couplers	ILC and ILA C	ouplers include uts and inserts

### 90° Elbows and Compatible Pass-Through and Reducing Couplers

Part Number	Size	Pass Through Coupler	Reducing Coupler	
BEND-03-90	3/8"	TLC-03	TLA-0302	1/4"
BEND-04-90	1/2"	TLC-04	TLA-0402	1/4"
DEND-04-30	1/2	1LC-04	TLA-0403	3/8"
BEND-05-90	5/8"	TI C OF	TLA-0503	3/8"
BEND-02-90	5/8"	TLC-05	TLA-0504	1/2"
			TLA-0603	3/8"
BEND-06-90	3/4"	TLC-06	TLA-0604	1/2"
			TLA-0605	5/8"
			TLA-0704	1/2"
BEND-07-90	7/8"	TLC-07	TLA-0705	5/8"
			TLA-0706	3/4"
			TLA-0904	1/2"
			TLA-0905	5/8"
BEND-09-90	1-1/8"	TLC-09	TLA-0906	3/4"
			TLA-0907	7/8"
			TLA-0908	1"
			TLA-1107	7/8"
BEND-11-90	1-3/8"	TLC-11	TLA-1108	1"
			TLA-1109	1-1/8"
BEND-13-90	1-5/8"	TLC-13	TLA-1309	1-1/8"
PEMD-12-30	1-3/0	116-13	TLA-1311	1-3/8"

### **BALL VALVES**



The ball valve assembly provides equal pipe size for the inlet and outlet. Both sides are ready for TUFFLOK couplers. Different inserts are required for soft or hard copper tubing. If you need additional different types of inserts, you can order them separately.

### What is included with BSC

Image	Couplers	Compression Nuts	Inserts
-	2 pcs pass-through or reducing couplers	2 pcs blac TLC and TLA c compression nu inse	ouplers include ts and additional

### **Ball Valve Sizes**

Part Number	Pipe Size
BSC-02	1/4"
BSC-03	3/8"
BSC-04	1/2"
BSC-05	5/8"
BSC-06	3/4"
BSC-07	7/8"
BSC-09	1-1/8"
BSC-11	1-3/8"
	BEND continued on next page

### **Ball Valve Inserts for BSC**



### **Insert Sizes**

Part Number	Size	Pack Quantity	Insert Type
INS-02BV	1/4"	8 pc	Black Insert for Ball Valve
INS-03BV	3/8"	8 pc	Black Insert for Ball Valve
INS-04BV	1/2"	8 pc	Black Insert for Ball Valve
INS-05BV	5/8"	8 pc	Black Insert for Ball Valve
INS-06BV	3/4"	4 pc	Black Insert for Ball Valve
INS-07BV	7/8"	4 pc	Black Insert for Ball Valve
INS-09BV	1-1/8"	4 pc	Black Insert for Ball Valve

# TPE/TL Intertek

TUFFLOK accessories consist of sealants for locking and sealing metal pipes and fittings as well as other cylindrical metal assemblies. It cures slowly and provides a high-pressure seal for metal pipes and fittings.

### **Accessories Description and Sizes**

Part Number	Description	Size
TL-WRAPLOK-3010	Joint Wrapping Tape	3"W x 10'L
TL-WRAPLOK-3020	Joint Wrapping Tape	3"W x 20'L
TL-WRAPLOK-4010	Joint Wrapping Tape	4"W x 10'L
TL-WRAPLOK-4020	Joint Wrapping Tape	4"W x 20'L
TL-SAFELOK-HD	Retaining Compound for Hard Copper	50ml Bottle
TL-SAFELOK-SF	Retaining Compound for Soft Copper	3 oz. Tube
TL-SEALLOK-FILL	SEALLOK Fill Canister	2 oz.
TL-SEALLOK-HOSE	SEALLOK Charging Hose	12 inches

### **INSTALLATION TOOLS**



TUFFLOK installation tools consist of a hand tool, clamp sets, and other accessories for installing connectors to copper pipes.

### **Installation Tools Description and Sizes**

Item Number	Description	Insert Jaws Model Number	Size	
45KN-HANDTOOL	Universal Hand tool 10,000psi		1/4" to 2-1/8"	
		45KN-INS-02	Jaw Set 1/4"	
		45KN-INS-03	Jaw Set 3/8"	
	Universal	45KN-INS-04	Jaw Set 1/2"	
45KN-CLMP-0209	Aluminum Clamp Set 1/4" to 1-1/8"	45KN-INS-05	Jaw Set 5/8"	
			45KN-INS-06	Jaw Set 3/4"
		45KN-INS-07	Jaw Set 7/8"	
		45KN-INS-09	Jaw Set 1-1/8"	
45KN-CLMP-11-ST	Dedicated Steel Clamp Set		1-3/8"	
45KN-CLMP-13-ST	Dedicated Steel Clamp Set		1-5/8"	
45KN-CLMP-17-ST	Dedicated Steel Clamp Set		2-1/8"	
45KN-BATTERY	18V 5AMP 2 Batteries	NOT PROVIDED		
45KN-CHARGER	120v/220v AC18V Lithium Ion	NOT PROVIDED		
45KN-TOOLCASE	Case with custom foam			
TL-45KNTOOLPACK	Tool Kit with clamps		1/4" to 1-5/8'	



### MECHANICALLY ATTACHED FITTINGS FOR MEDICAL GASES



### MEDICAL PASS-THROUGH COUPLERS



The inlet and outlet are equal in size, and the coupler can be reversed.

### What is included with MLC

Image	Couplers	Compression Nuts	Inserts
	1 pc each Pass-through coupler	2 pcs each	For 02, 04 - 1pc yellow + 2 pcs silver inserts. For 03, 05 and above 2 pcs silver inserts

### **Coupler Sizes**

Part Number	Pipe Size
MLC-02	1/4"
MLC-03	3/8"
MLC-04	1/2"
MLC-05	5/8"
MLC-06	3/4"
MLC-07	7/8"
MLC-08	1"
MLC-09	1-1/8"
MLC-11	1-3/8"
MLC-13	1-5/8"

### **Coupler Body Inserts for MLC**



### **Insert Sizes**

Model Number	Pipe Size	Copper Type	Pack Quantity	Size
MNS-02SC	1/4" (8 each) Yellow Insert Soft Copper	SOFT	8 pc	1/4"
MNS-02HC	1/4" (8 each) Silver Color Hard Copper	HARD	8 pc	1/4"
MNS-03	3/8" (8 each) Silver Insert Hard/Soft Copper	SOFT/ HARD	8 pc	3/8"
MNS-04SC	1/2" (8 each)Yellow Insert Soft Copper	SOFT	8 pc	1/2"
MNS-04HC	1/2" (8 each) Silver Color Hard Copper	HARD	8 pc	1/2"
MNS-05SC	5/8" (8 each) Yellow Insert Soft Copper	SOFT	8 pc	5/8"
MNS-05HC	5/8" (8 each) Silver Color Hard Copper	HARD	8 pc	5/8"
MNS-06SC	3/4" (4 each)Yellow Insert Soft Copper	SOFT	4 pc	3/4"
MNS-06HC	3/4" (4 each) Silver Color Hard Copper	HARD	4 pc	3/4"
MNS-07	7/8" (4 each) Silver Color Hard Copper	HARD	4 pc	7/8"
MNS-08	1" (4 each) Silver Color Hard Copper	HARD	4 pc	1"
MNS-09	1-1/8" (4 each) Silver Color Hard Copper	HARD	4 pc	1-1/8"
MNS-11	1-3/8" (2 each) Silver Color Hard Copper	HARD	2 pc	1-3/8"
MNS-13	1-5/8" (2 each) Silver Color Hard Copper	HARD	2 pc	1-5/8"
MNS-17	2-1/8" (2 each) Silver Color Hard Copper	HARD	2 pc	2-1/8"

### MEDICAL REDUCING COUPLERS



The inlet and outlet are different, with the inlet larger than the outlet.

### What is included with MLA

Image	Couplers	Compression Nuts	Inserts
	1 pc each Reducing coupler	2 pcs each	4 pcs each

### **Reducer Sizes**

Inlet Size	Outlet Size
3/8"	1/4"
4/0#	1/4"
1/2"	3/8"
F (0)	3/8"
5/8"	1/2"
3/4"	3/8"
	1/2"
	5/8"
7/8"	3/8"
	1/2"
	5/8"
	3/4"
	3/8" 1/2" 5/8"

MLA continued on next page...

## MEDICAL REDUCING COUPLERS MLA

### Reducer Sizes

MLA continued...

Part Number	Inlet Size	Outlet Size
MLA-1105		5/8"
MLA-1106	1-1/8″	3/4"
MLA-1107		7/8"
MLA-1307	1-3/8"	7/8"
MLA-1311	1-3/0	1-1/8"
MLA-1511	1-5/8"	1-1/8"
MLA-1513	1-5/0	1-3/8"



It is used to block unused ports permanently.

### What is included with MCAP

Image	Couplers	Compression Nuts	Inserts
	1 pc each Cap	1pc each	2 pcs each

### **End Cap Sizes**

Part Number	Size
MCAP-02	1/4"
MCAP-03	3/8"
MCAP-04	1/2"
MCAP-05	5/8"
MCAP-06	3/4"
MCAP-07	7/8"
MCAP-08	1"
MCAP-09	1-1/8"

### **MEDICAL TEST END CAPS**



It is used to test the system for leaks. Each test cap is shipped with the one-way brass test port and test cap.

### What is included with TCAP

Image	Couplers	Compression Nuts	Inserts
	1 pc each Test Cap	1pc each	2 pc each

### **Test Cap Sizes**

Part Number	Size
MTCAP-02	1/4"
MTCAP-03	3/8"
MTCAP-04	1/2"
MTCAP-05	5/8″
MTCAP-06	3/4"
MTCAP-07	7/8"
MTCAP-08	1″
MTCAP-09	1-1/8"



### What is included with MBEND 90°

Image	Couplers	Compression Nuts	Inserts
	2 pcs pass-through couplers	Includes compress	ion nuts and inserts

### Medical 90° Elbows Sizes

Part Number	Size
MBEND-03-90	3/8"
MBEND-04-90	1/2"
MBEND-05-90	5/8"
MBEND-06-90	3/4"
MBEND-07-90	7/8"
MBEND-08-90	1"
MBEND-09-90	1-1/8"
MBEND-11-90	1-3/8"
MBEND-13-90	1-5/8"



### PIPE SUPPORT INSERTS CHART







We manufacture three different types of inserts. Each one is designed to correctly perform with specific copper type.

SOFT COPPER: Use Yellow color inserts (02, 04, 05, 06)

HARD COPPER: Use Silver color inserts (03, 07 and above) (03 – works with

soft and hard copper)

BALL VALVES: Use Black color inserts (All sizes)

Each component we manufacture starts with the prefix which identifies the component. These prefixes also the same for components that are ETL listed.

Fitting End Size	cc	OPPER TYPE	
Example: 03=3/8"	SOFT	HARD	
06=6/8=3/4"	Insert Color		
02, 04	YELLOW Included with connector		
03	SILVER Included with connector	SILVER	
05, 06	YELLOW NOT included with connector. Order separately.		
07 through 17	N/A		

### TUFF LOK®



We repair and calibrate all tools.

THE TUFFLOK EASY.
ONE BUTTON.
ONE TOOL.
EVERY CONNECTION.

### TUFF LOK®



### TUFFLOK. THE TUFFEST CONNECTORS ON THE PLANET.





