

TUFFLOK

Heatless/Torchless AC&R Copper Pipe Connectivity Solutions



STRONG • RELIABLE • SIMPLE

TUFFFLOK



TUFFFLOK 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.

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

Why TUFFFLOK?

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. TUFFFLOK 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. TUFFFLOK empowers distributors and contractors with connectivity solutions and tools to succeed every time.

Labor Savings

With TUFFFLOK'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 TUFFFLOK 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 TUFFFLOK.

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
	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
INS-02SC	1/4" (8 each) Yellow Insert Soft Copper
INS-02HC	1/4" (8 each) Silver Color Hard Copper
INS-03	3/8" (8 each) Silver Insert Hard/Soft Copper
INS-04SC	1/2" (8 each) Yellow Insert Soft Copper
INS-04HC	1/2" (8 each) Silver Color Hard Copper
INS-05SC	5/8" (8 each) Yellow Insert Soft Copper
INS-05HC	5/8" (8 each) Silver Color Hard Copper
INS-06SC	3/4" (4 each) Yellow Insert Soft Copper
INS-06HC	3/4" (4 each) Silver Color Hard Copper
INS-07	7/8" (4 each) Silver Color Hard Copper
INS-08	1" (4 each) Silver Color Hard Copper
INS-09	1-1/8" (4 each) Silver Color Hard Copper
INS-11	1-3/8" (2 each) Silver Color Hard Copper
INS-13	1-5/8" (2 each) Silver Color Hard Copper
INS-17	2-1/8" (2 each) Silver Color Hard Copper

REDUCING COUPLERS**TLA**

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 pcs 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	1/2"	1/4"
TLA-0403		3/8"
TLA-0503	5/8"	3/8"
TLA-0504		1/2"
TLA-0603	3/4"	3/8"
TLA-0604		1/2"
TLA-0605		5/8"
TLA-0704	7/8"	1/2"
TLA-0705		5/8"
TLA-0706		3/4"
TLA-0804	1"	1/2"
TLA-0805		5/8"

TLA continued on next page...

REDUCING COUPLERS**TLA**

TLA continued...


Reducer Sizes

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

TEST END CAPS**TCAP**

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"

END CAPS**CAP**

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

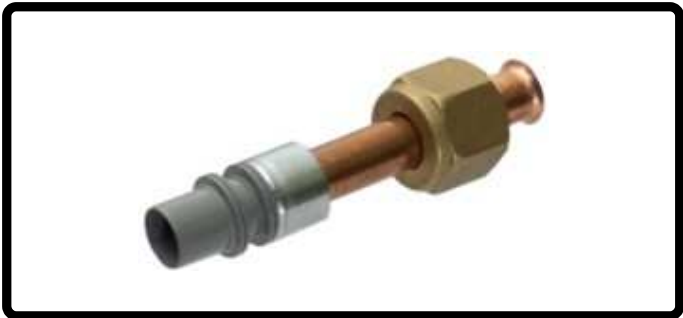
End Cap Sizes

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"

FLARE COUPLERS




TLT



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. Flare nut not included	TLC and TLA couplers include compression nuts 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



BCY



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
	3 pcs pass-through or reducing couplers	TLC and TLA couplers include compression nuts and inserts	


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

Part Number	Size	Pass Through Coupler	Reducing Coupler	
BCY-03	3/8"	TLC-03	TLA-0302	1/4"
BCY-04	1/2"	TLC-04	TLA-0402	1/4"
			TLA-0403	3/8"
BCY-05	5/8"	TLC-05	TLA-0503	3/8"
			TLA-0504	1/2"
BCY-06	3/4"	TLC-06	TLA-0603	3/8"
			TLA-0604	1/2"
			TLA-0605	5/8"
BCY-07	7/8"	TLC-07	TLA-0704	1/2"
			TLA-0705	5/8"
			TLA-0706	3/4"
BCY-09	1-1/8"	TLC-09	TLA-0904	1/2"
			TLA-0905	5/8"
			TLA-0906	3/4"
			TLA-0907	7/8"
			TLA-0908	1"
BCY-11	1-3/8"	TLC-11	TLA-1107	7/8"
			TLA-1108	1"
			TLA-1109	1-1/8"
BCY-13	1-5/8"	TLC-13	TLA-1309	1-1/8"
			TLA-1311	1-3/8"

ELBOWS 45°**BEND**

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
	2 pcs pass-through or reducing couplers	TLC and TLA couplers include compression nuts and inserts	

**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"
			TLA-0403	3/8"
BEND-05-45	5/8"	TLC-05	TLA-0503	3/8"
			TLA-0504	1/2"
BEND-06-45	3/4"	TLC-06	TLA-0603	3/8"
			TLA-0604	1/2"
			TLA-0605	5/8"
BEND-07-45	7/8"	TLC-07	TLA-0704	1/2"
			TLA-0705	5/8"
			TLA-0706	3/4"
BEND-09-45	1-1/8"	TLC-09	TLA-0904	1/2"
			TLA-0905	5/8"
			TLA-0906	3/4"
			TLA-0907	7/8"
			TLA-0908	1"
BEND-11-45	1-3/8"	TLC-11	TLA-1107	7/8"
			TLA-1108	1"
			TLA-1109	1-1/8"
BEND-13-45	1-5/8"	TLC-13	TLA-1309	1-1/8"
			TLA-1311	1-3/8"

ELBOWS 90°**BEND****What is included with BEND 90°**

Image	Couplers	Compression Nuts	Inserts
	2 pcs pass-through or reducing couplers	TLC and TLA couplers include compression nuts 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"
			TLA-0403	3/8"
BEND-05-90	5/8"	TLC-05	TLA-0503	3/8"
			TLA-0504	1/2"
BEND-06-90	3/4"	TLC-06	TLA-0603	3/8"
			TLA-0604	1/2"
			TLA-0605	5/8"
BEND-07-90	7/8"	TLC-07	TLA-0704	1/2"
			TLA-0705	5/8"
			TLA-0706	3/4"
BEND-09-90	1-1/8"	TLC-09	TLA-0904	1/2"
			TLA-0905	5/8"
			TLA-0906	3/4"
			TLA-0907	7/8"
			TLA-0908	1"
BEND-11-90	1-3/8"	TLC-11	TLA-1107	7/8"
			TLA-1108	1"
			TLA-1109	1-1/8"
BEND-13-90	1-5/8"	TLC-13	TLA-1309	1-1/8"
			TLA-1311	1-3/8"

BALL VALVES



BSC



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 black inserts. TLC and TLA couplers include compression nuts and additional inserts.	

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

Accessories



TPE/TL



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
TPE-PERM3020	Sealant Tape	3"W x 20'L
TPE-PERM4020	Sealant Tape	4"W x 20'L
TL-LOCTITE648	Joint Sealant Used for Hard Copper	50ml Bottle
TL-LOCTITE5045	Joint Sealant Used with Soft Copper	3 oz. Tube

INSTALLATION TOOLS



45KN



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-CLMP-0209	Universal Clamp Set 1/4" through 1-1/8"	45KN-INS-02	Jaw Set 1/4"
		45KN-INS-03	Jaw Set 3/8"
		45KN-INS-04	Jaw Set 1/2"
		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	Dedicated Clamp Set		1-3/8"
45KN-CLMP-13	Dedicated Clamp Set		1-5/8"
45KN-CLMP-17	Dedicated Clamp Set		2-1/8"
45KN-BATTERY	18V 5AMP 2 Batteries		
45KN-CHARGER	120v/220v AC18V Lithium Ion		
45KN-TOOLCASE	Case with custom foam		
TL-45KNTOOLPACK	Tool Kit with 2pcs Batteries and Inserts		1/4" to 1-5/8"

TUFFLOK



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

TUFFLOK



TUFFLOK. THE TUFFEST CONNECTORS ON THE PLANET.



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