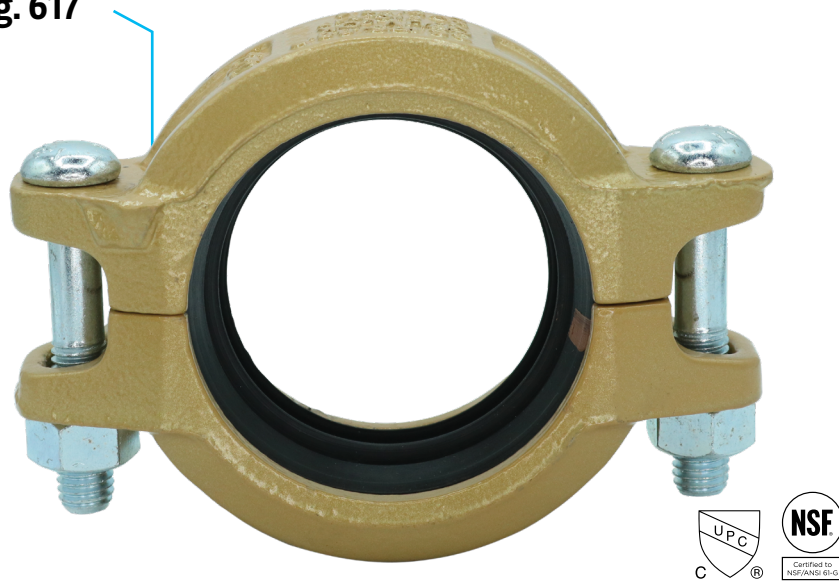


## Transition Coupling for Joining Stainless Steel IPS to Copper Tubing Systems

**Fig. 617**



The Gruvlok Figure 617 Transition Coupling provides a direct connection between like-sized grooved-end IPS Stainless Steel pipe and fittings and grooved-end CTS Copper Tubing and fittings. The coupling is comprised of two ductile iron housings, a specially designed pressure-responsive rubber transition gasket, and track bolts and nuts.

### Material Specifications

#### ANSI Bolts/Nuts

SAE J429, Grade 5, Zinc Electroplated (standard)

#### Heavy Hex Nuts

SAE A563, Grade A, Zinc Electroplated (standard)

#### Hardware Kits

304 Stainless Steel (available in sizes up to ¾")

Kit includes:

(2) Bolts per ASTM A193, Grade B8 and

(2) Heavy Hex Nuts per ASTM A194, Grade 8.

EcoGuard (available in sizes up to ¾")

Kit includes:

(2) Bolts per SAE J429, Grade 5, with EcoGuard

corrosion-resistant zinc flake coating and

(2) Heavy Hex Nuts per ASTM A563, Grade A,

EcoGuard corrosion-resistant zinc flake coating.

#### Housing

Ductile Iron conforming to ASTM A 536, Grade 65-45-12.

#### Coatings

Rust inhibiting paint -

Color: Copper (standard)

Hot Dipped Zinc Galvanized (optional)

#### Gasket Materials

Properties as designated in accordance with ASTM D 2000

Grade "EP" EPDM (Copper)

-40°F to 250°F (Service Temperature

Range) (-40°C to 121°C) Recommended for water service, diluted acids, alkalies solutions, oil-free air and many other chemical services.

NOT FOR USE IN PETROLEUM APPLICATIONS.

### Material Specifications (Continued)

#### Gasket Materials (Continued)

For hot water applications the use of Gruvlok Xtreme™ Temperature lubricant is recommended. NSF-61.

Grade "T" Nitrile (Orange color code)

NOT FOR USE IN DRINKING WATER

-20°F to 180°F (Service Temperature Range)

(-29°C to 82°C) Recommended for petroleum applications. air with oil vapors and vegetable and mineral oils.

NOT FOR USE IN HOT WATER OR HOT AIR

Grade "O" Fluoro-Elastomer (Blue color code)

NOT FOR USE IN DRINKING WATER

Size Range: 1" - 12" (C style only)

20°F to 300°F (Service Temperature Range)

(-29°C to 149°C)

Recommended for high temperature resistance to oxidizing acids, petroleum oils, hydraulic fluids, halogenated hydrocarbons and lubricants.

Grade "L" Silicone (Red color code)

NOT FOR USE IN DRINKING WATER

Size Range: 1" - 12" (C style only)

-40°F to 350°F (Service Temperature Range)

(-40°C to 177°C)

Recommended for dry, hot air and some high

temperature chemical services. Contact an

ASC Engineered Solutions™ Representative for availability.

#### Gasket Type

C Style (1" - 24")

Flush Gap (2" - 4")

#### Lubrication

Standard

Gruvlok Xtreme (Do not use with Grade "L")

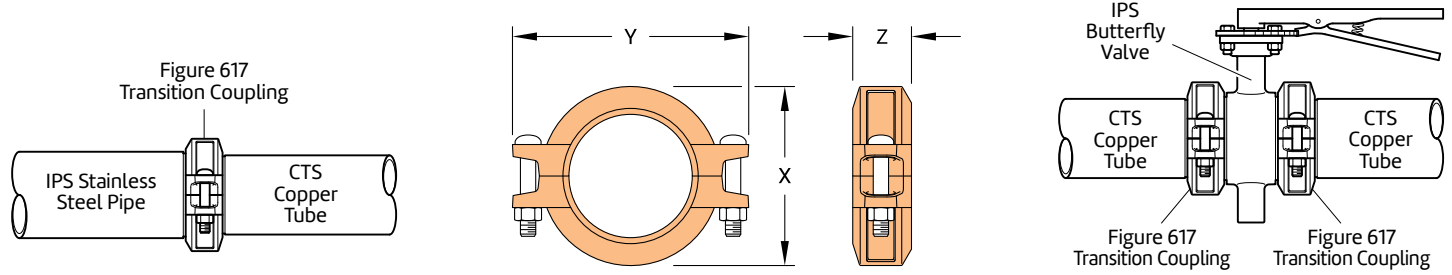
For Listings/Approval Details and Limitations, visit our website at [www.asc-es.com](http://www.asc-es.com) or contact an ASC Engineered Solutions™ Sales Representative.



PROJECT INFORMATION	APPROVAL STAMP
Project:	Approved
Address:	Approved as noted
Contractor:	Not approved
Engineer:	Remarks:
Submittal Date:	
Notes 1:	
Notes 2:	

## Transition Coupling for Joining Stainless Steel IPS to Copper Tubing Systems

**Fig. 617**



Nominal Size	O.D. IPS x CTS	Max. Working Pressure (CWP)	Axial Displacement	Deflection from $\zeta$		Coupling Dimensions			Coupling Bolt Size	Approx. Wt. Ea.
				Per Coupling	X	Y	Z			
In./DN(mm)	In./mm	PSI/bar	In./mm	Deg.(°)-Min (')	In./mm	In./mm	In./mm	In./mm	Lbs./kg	
2 50	2.375 x 2.125 60.3 x 54.0	300 20.0	0-0.06 0-1.6	1° 31'	3.31 84	5.08 129	1.89 48	1/2 x 2 1/8	2.0 0.9	
2 1/2 65	2.875 x 2.625 73.0 x 66.7	300 20.0	0-0.06 0-1.6	1° 15'	3.9 99	5.59 142	1.89 48	3/8 x 2 1/8	2.2 1.0	
3 80	3.500 x 3.125 88.9 x 79.4	300 20.0	0-0.06 0-1.6	1° 02'	4.57 116	6.65 169	1.89 48	1/2 x 3	3.0 1.4	
4 100	4.500 x 4.125 114.3 x 104.8	300 20.0	0-0.06 0-1.6	1° 36'	7.76 197	7.76 197	2.05 52	1/2 x 3	4.2 1.9	



asc-es.com

Building connections that last™

## Fig. 617 Transition Coupling for Joining Stainless Steel IPS to Copper Tubing Systems



Read and understand all instructions before use.

### WARNING

Ensure system is drained and depressurized before installation or service.

Use appropriate personal protective equipment.



Failure to follow these instructions could result in serious personal injury and/or property damage.

**Note:** The Gruvlok Figure 617 Transition Couplings should always be installed so that the coupling bolt pads make metal-to-metal contact.

As copper tubing is thinner than carbon steel pipe, always use a roll set specifically designed for use on copper tubing.

### 1 Copper Tube Preparation

Inspect exterior groove and ends of the pipe to verify all burrs, loose debris, dirt, chips, paint and any other foreign material, such as grease, are removed. Pipe end sealing surfaces must be free from sharp edges, projections, indentations, and/or other defects.

### 2 Gasket Preparation

Verify that the coupling and gasket grade are correct for the application intended.

### 3 Lubricate Gasket

The sealing edges and outer surfaces of the gasket should be covered with a fine layer of lubricant. To prevent deterioration of the gasket material, a petroleum lubricant should never be used on Grade "E" EPDM. For assembly below 40°F (4°C), a petroleum-free silicone lubricant must be used to prevent freezing of the lubricant.

### 4 Gasket Installation

Install the gasket by placing it over the end of the IPS steel tube. Ensure that the gasket is installed correctly by identifying the IPS side of the gasket labeled on the flat-face side of the gasket. Push the gasket onto the end of the IPS pipe until the IPS pipe stops at the center-stop of the gasket.

**Note:** To aid in a proper installation of the Transition Coupling, always install the gasket onto the IPS steel tube first.

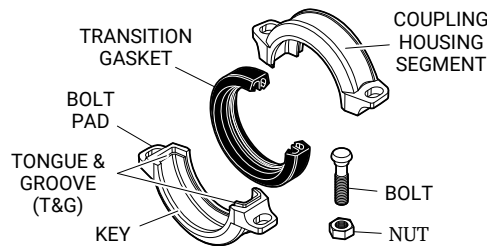
### 5 Bring Pipe & Tube Ends Together

Bring both pipe ends together, ensure proper alignment, and push the CTS pipe into the gasket until the CTS pipe stops at the center-stop of the gasket. Ensure the gasket is centered between the grooved portions of each pipe.

The gasket should not protrude into the grooves on either pipe segment or extend between the pipe ends.

### 6 Housings

Place the Figure 617 Copper Transition Coupling over the gasket and verify that the housing keys are fully engaged into the pipe grooves.

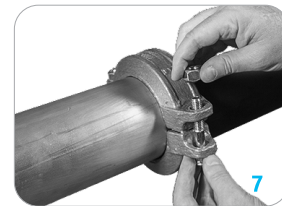


### WARNING

The Gruvlok Figure 617 Transition Coupling features a tongue and groove design. The coupling must always be installed so that the tongue and groove mate properly. Attempting to install these couplings tongue to tongue or groove to groove will result in joint failure, property damage, or serious injury.

### 7 Bolts

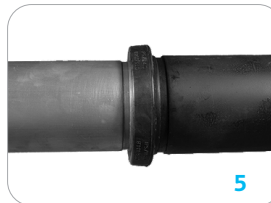
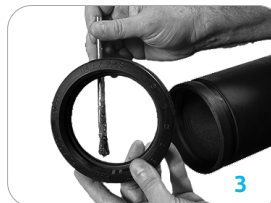
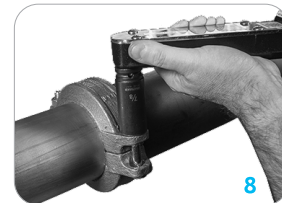
Insert the bolts into the coupling and rotate the nuts until finger tight. Verify that the "track bolt heads" are fully recessed in the housing.



### 8 Tighten Nuts

Tighten nuts uniformly to the recommended bolt torque.

Always tighten the nut and bolt set evenly. Uneven tightening may cause the gasket to pinch or bind.



asc-es.com

Building connections that last™