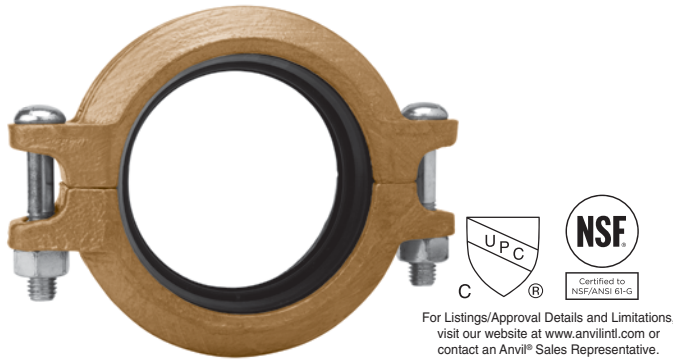


FIG. 617

Transition Coupling for Joining IPS to Copper Tubing Systems



The Gruzlok Figure 617 Transition Coupling provides for a direct connection between grooved end IPS steel pipe, fittings or valves, and grooved end CTS copper tubing eliminating the need for a dielectric waterway transition fitting and couplings. The coupling is comprised of two ductile iron housings, a specially designed pressure responsive rubber transition gasket, and track bolts and nuts. The rubber gasket isolates the fluid from the coupling housings and the epoxy coated housings help to eliminate galvanic local cell and stray current problems.

MATERIAL SPECIFICATIONS

ANSI BOLTS/NUTS:

Carbon steel oval neck bolts and nuts are heat-treated and conform to the physical properties of ASTM A 183 Grade 2 and SAE J429 Grade 5 with a minimum tensile strength of 110,000 psi (7584 bar).

Carbon Steel heavy hex nuts conform to the physical properties of ASTM A 183 Grade 2 and SAE J995 Grade 5. Bolts and nuts are zinc-electroplated conforming to ASTM B 633.

METRIC BOLTS/NUTS:

Carbon steel oval neck track head bolts (Gold color coded) are heat treated and conform to the physical properties of ASTM F 568 M with a minimum tensile strength of 760 MPa.

Carbon Steel heavy hex nuts conform to the physical properties of ASTM A 563 M Class 9. Bolts and nuts are zinc-electroplated conforming to ASTM B 633.

STAINLESS STEEL BOLTS & NUTS:

Stainless steel bolts and nuts are available upon request.

HOUSING:

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

COATINGS:

Copper – Acrylic Enamel

GASKETS: Materials

Properties as designated in accordance with ASTM D 2000

Tri-Seal Grade “EN” EPDM (Copper color code)

NSF61 Approved for potable water systems up to 180°F (82°C).

NOT FOR USE IN PETROLEUM APPLICATIONS.

PROJECT INFORMATION		APPROVAL STAMP	
Project:		<input type="checkbox"/> Approved	
Address:		<input type="checkbox"/> Approved as noted	
Contractor:		<input type="checkbox"/> Not approved	
Engineer:		Remarks:	
Submittal Date:			
Notes 1:			
Notes 2:			

FIG. 617

Transition Coupling for Joining IPS to Copper Tubing Systems

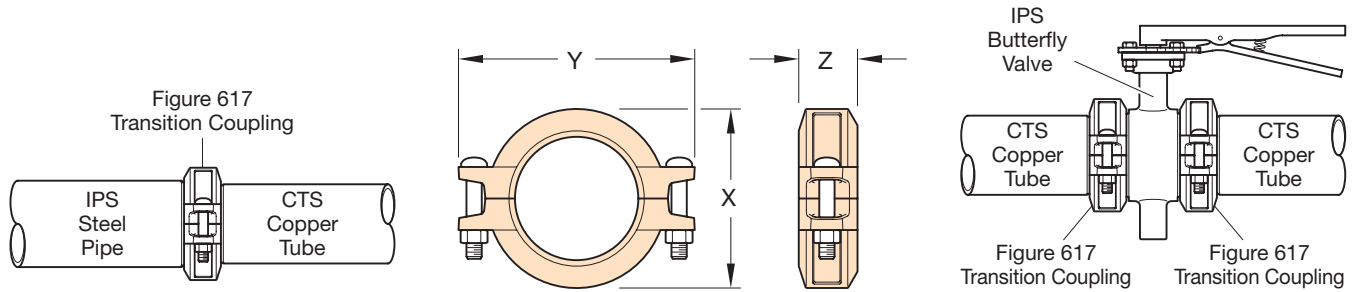


FIGURE 617 TRANSITION COUPLING

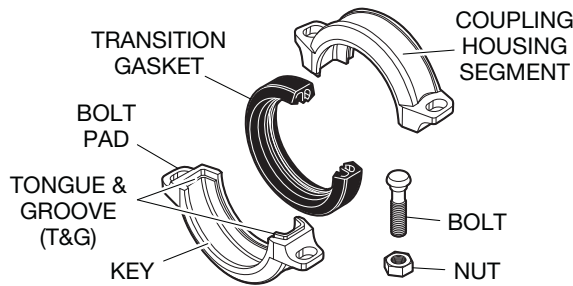
Nominal Size	O.D. IPS x CTS	Max. Working Pressure (CWP)	Axial Displacement	Deflection from \overline{CL}	Coupling Dimensions			Coupling Bolt Size	Approx. Wt. Ea.
				Per Coupling	X	Y	Z		
In./DN(mm)	In./mm	PSI/bar	In./mm	Degrees(-)-Minutes(')	In./mm	In./mm	In./mm	In./mm	Lbs./kg
2	2.375 x 2.125	300	0 - 0.06	1° - 31'	3.31	5.08	1.89	1/2 x 2 1/8	2.0
50	60.3 x 54.0	20	0 - 1.6		84	129	48		0.9
2 1/2	2.875 x 2.625	300	0 - 0.06	1° - 15'	3.90	5.59	1.89	3/8 x 2 1/8	2.2
65	73.0 x 66.7	20	0 - 1.6		99	142	48		1.0
3	3.500 x 3.125	300	0 - 0.06	1° - 02'	4.57	6.65	1.89	1/2 x 3	3.0
80	88.9 x 79.4	20	0 - 1.6		116	169	48		1.4
4	4.500 x 4.125	300	0 - 0.06	1° - 36'	7.76	7.76	2.05	1/2 x 3	4.2
100	114.3 x 104.8	20	0 - 1.6		197	197	52		1.9

FIG. 617

Transition Coupling for Joining IPS to Copper Tubing Systems

The Gruklok 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.

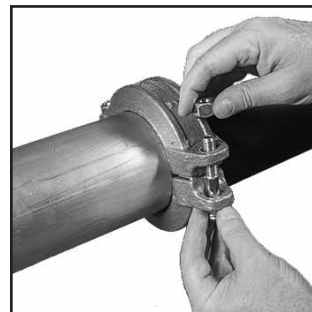
NOTE: To aid in a proper installation of the Transition Coupling, always install the gasket onto the IPS steel tube first.



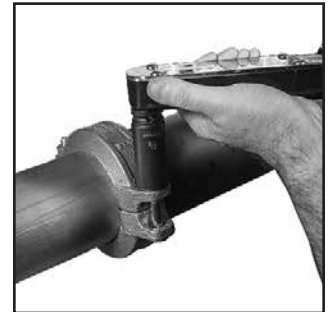
5 BRING PIPE & TUBE ENDS TOGETHER Bring both pipe ends together, ensure proper alignment, and push the CTS pipe into the gasket until the CTS pipe stops at the center-stop of the gasket. Ensure the gasket is centered between the grooved portions of each pipe. The gasket should not protrude into the grooves 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.



7 BOLTS—Insert the bolts into the coupling and rotate the nuts until finger tight. Verify that the 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.

WARNING

The Gruklok 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.

RECOMMENDED BOLT TORQUE

Bolt Size	Bolt Torque Range
In./mm	Ft.-Lbs./N-m
3/8 M10	30-40 40 - 60
1/2 M12	90-110 135 - 175