

1.0 PRODUCT DESCRIPTION

Available Sizes

- 2 – 6"/DN50 – DN150 stainless steel pipe to 2 – 6"/50 – 150 mm copper tubing.

Pipe Material

- For use only on Types 304 or 316 Schedules 10S and 40S stainless steel pipe, and ASTM B88 Types K, L and M and ASTM B306 Type DWV copper tubing.

NOTE

- The Style 644 transition coupling shall not be used to connect carbon steel pipe and copper tubing.

Maximum Working Pressure

- May be specified for pressures ranging from full vacuum (29.9 in Hg/760 mm Hg) up to 300 psi/2068 kPa/21 bar.

Operating Temperature Range

- For use with operating temperatures that are typical in potable water applications.

Function

- Provides a single coupling connection for grooved end stainless steel pipe to grooved end copper tubing of the same nominal size.

Application

- Designed for use in potable water systems. For other potential applications, contact Victaulic.

Pipe Preparation

- Roll grooved stainless steel pipe in accordance with [publication 25.01](#): Victaulic Original Groove System (OGS) Groove Specifications and roll grooved copper tubing in accordance with [publication 25.06](#): Victaulic Copper Tubing Roll Groove Specifications.

Requirements

- Refer to [publication I-100](#): Victaulic Field Installation Handbook and [publication I-600](#): Victaulic Field Installation Handbook – Copper Connection Products for hanger support information.

ALWAYS REFER TO ANY NOTIFICATIONS AT THE END OF THIS DOCUMENT REGARDING PRODUCT INSTALLATION, MAINTENANCE OR SUPPORT.

System No.		Location	
Submitted By		Date	

Spec Section		Paragraph	
Approved		Date	

2.0 CERTIFICATION/LISTINGS



The Style 644 Installation-Ready™ Transition Coupling for Potable Water is UL Classified in accordance with ANSI/NSF 61 for cold +73°F/+23°C and hot +180°F/+82°C potable water service and ANSI/NSF 372.

NOTE

- See [publication 02.06](#): Victaulic Potable Water Approvals ANSI/NSF for potable water approvals if applicable.

3.0 SPECIFICATIONS – MATERIAL

Housing: Ductile iron conforming to ASTM A536, Grade 65-45-12.

Housing Coating: (specify choice)

Standard: Copper colored alkyl enamel.

Optional: Contact Victaulic with your requirements for other coatings.

Gasket:¹

Grade “EHP” EPDM

EHP (Red and Copper stripes color code). Temperature range –30°F to +250°F/–34°C to +121°C. May be specified for hot water service within the specified temperature range plus a variety of dilute acids, oil-free air and many chemical services. UL Classified in accordance with ANSI/NSF 61 for cold +73°F/+23°C and hot +180°F/+82°C potable water service and ANSI/NSF 372. NOT COMPATIBLE FOR PETROLEUM SERVICES.

¹ Services listed are General Service Guidelines only. It should be noted that there are services for which these gaskets are not compatible. Reference should always be made to the latest [Victaulic Seal Selection Guide](#) for specific gasket service guidelines and for a listing of services which are not compatible.

Bolts/Nuts: (specify choice)²

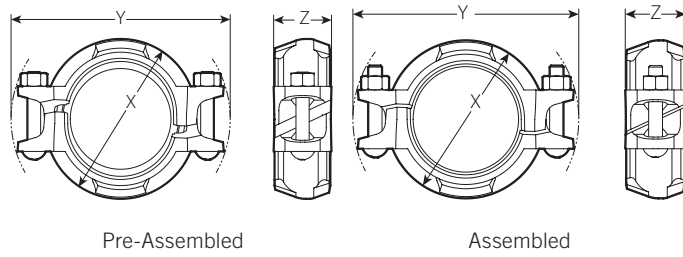
Standard: Carbon steel oval neck track bolts meeting the mechanical property requirements of ASTM A449. Carbon steel heavy hex nuts meeting the mechanical property requirements of ASTM A563 Grade B. Track bolts and heavy hex nuts are zinc electroplated per ASTM B633 ZN/FE5, finish Type III (metric).

Optional: Stainless steel oval neck track bolts meeting the mechanical property requirements of ASTM F593, Group 2 (316 stainless steel), condition CW. Stainless steel heavy hex nuts meeting the mechanical property requirements of ASTM F594, Group 2 (316 stainless steel), condition CW. Bolts and nuts including galling reducing coating.

² Optional bolts/nuts are available in imperial size only

4.0 DIMENSIONS

Style 644 Installation-Ready™ Transition Coupling for Potable Water



Size			Pipe End Separation ³	Bolt/Nut ⁴		Dimensions						Weight
Nominal inches DN	Actual Outside Diameter		Allowable inches mm	Qty.	Size inches mm	Pre-Assembled (Installation-Ready™ Condition)			Joint Assembled			Approximate (Each) lb kg
	Stainless Steel Pipe inches mm	Copper Tubing inches mm				X inches mm	Y inches mm	Z inches mm	X inches mm	Y inches mm	Z inches mm	
2 DN50	2.375 60.3	2.125 54.0	0.22 5.6	2	3/8 x 2 1/2 M10 x 64	4.00 100	6.13 156	2.13 54	3.63 92	6.13 156	2.13 54	2.4 1.1
2 1/2	2.875 73.0	2.625 66.7	0.22 5.6	2	3/8 x 2 1/2 M10 x 64	4.50 114	6.75 171	2.13 54	4.00 102	6.75 171	2.13 54	2.6 1.2
3 DN80	3.500 88.9	3.125 79.4	0.22 5.6	2	1/2 x 3 M12 x 83	5.25 133	7.38 187	2.20 56	4.63 118	7.50 191	2.20 56	3.5 1.6
4 DN100	4.500 114.3	4.125 104.8	0.22 5.6	2	1/2 x 3 M12 x 83	6.63 168	8.75 222	2.20 56	5.88 149	8.75 222	2.20 56	4.2 1.9
6 DN150	6.625 168.3	6.125 155.6	0.21 5.3	2	5/8 x 4 M16 x 101	8.88 226	11.38 289	2.20 56	8.13 207	11.25 286	2.20 56	7.2 3.3

³ The allowable pipe end separation dimension shown is for system layout purposes only. The Style 644 Transition Coupling is considered a rigid connection and will not accommodate expansion or contraction of the piping system.

⁴ Number of bolts required equals number of housing segments.

5.0 PERFORMANCE

Style 644 Installation-Ready™ Transition Coupling for Potable Water

Size			ASTM B88 Type K Copper Tubing			
Nominal	Actual Outside Diameter		Wall Thickness	Wall Thickness Tolerances	Maximum Joint Working Pressure ⁵	Maximum Permissible End Load ⁵
	Stainless Steel Pipe	Copper Tubing				
inches DN	inches mm	inches mm	inches mm	inches mm	psi kPA	lb N
2 DN50	2.375 60.3	2.125 54.0	0.083 2.1	± 0.008 ± 0.20	300 2068	1065 4740
2½	2.875 73.0	2.625 66.7	0.095 2.4	± 0.010 ± 0.25	300 2068	1625 7230
3 DN80	3.500 88.9	3.125 79.4	0.109 2.8	± 0.011 ± 0.28	300 2068	2300 10235
4 DN100	4.500 114.3	4.125 104.8	0.134 2.8	± 0.013 ± 0.33	300 2068	4005 17825
6 DN150	66.25 168.3	6.125 155.6	0.192 4.9	± 0.019 ± 0.48	300 2068	8840 39340

Size			ASTM B88 Type L Copper Tubing			
Nominal	Actual Outside Diameter		Wall Thickness	Wall Thickness Tolerances	Maximum Joint Working Pressure ⁵	Maximum Permissible End Load ⁵
	Stainless Steel Pipe	Copper Tubing				
inches DN	inches mm	inches mm	inches mm	inches mm	psi kPA	lb N
2 DN50	2.375 60.3	2.125 54.0	0.070 1.8	± 0.007 ± 0.18	300 2068	1065 4740
2½	2.875 73.0	2.625 66.7	0.080 2	± 0.008 ± 0.20	300 2068	1625 7230
3 DN80	3.500 88.9	3.125 79.4	0.090 2.3	± 0.009 ± 0.23	300 2068	2300 10235
4 DN100	4.500 114.3	4.125 104.8	0.110 2.8	± 0.011 ± 0.28	300 2068	4005 17825
6 DN150	66.25 168.3	6.125 155.6	0.140 3.6	± 0.014 ± 0.36	300 2068	8840 39340

⁵ Working Pressure and End Load are total, from all internal and external loads, based on hard drawn copper tubing of the weight indicated, roll grooved in accordance with Victaulic specifications. Contact Victaulic for performance on other pipe.

NOTE

- WARNING: FOR ONE-TIME FIELD TEST ONLY, the Maximum Joint Working Pressure may be increased to 1 ½ times the figures shown.

5.0 PERFORMANCE (continued)

Style 644 Installation-Ready™ Transition Coupling for Potable Water

Size			ASTM B88 Type M Copper Tubing			
Nominal	Actual Outside Diameter		Wall Thickness	Wall Thickness Tolerances	Maximum Joint Working Pressure ⁵	Maximum Permissible End Load ⁵
	Stainless Steel Pipe	Copper Tubing				
inches DN	inches mm	inches mm	inches mm	inches mm	psi kPA	lb N
2 DN50	2.375 60.3	2.125 54.0	0.058 1.5	± 0.006 ± 0.15	250 1724	890 3960
2½	2.875 73.0	2.625 66.7	0.065 1.7	± 0.006 ± 0.15	250 1724	1350 6010
3 DN80	3.500 88.9	3.125 79.4	0.075 1.8	± 0.007 ± 0.187	250 1724	1415 6300
4 DN100	4.500 114.3	4.125 104.8	0.095 2.4	± 0.010 ± 0.25	250 1724	3340 14865
6 DN150	66.25 168.3	6.125 155.6	0.122 3.2	± 0.012 ± 0.30	250 1724	5890 26210

Size			ASTM B306 Type DWV Copper Tubing			
Nominal	Actual Outside Diameter		Wall Thickness	Wall Thickness Tolerances	Maximum Joint Working Pressure ⁵	Maximum Permissible End Load ⁵
	Stainless Steel Pipe	Copper Tubing				
inches DN	inches mm	inches mm	inches mm	inches mm	psi kPA	lb N
2 DN50	2.375 60.3	2.125 54.0	0.042 1.1	– –	100 690	355 1580
2½	2.875 73.0	2.625 66.7	– –	– –	– –	– –
3 DN80	3.500 88.9	3.125 79.4	0.045 1.1	± 0.004 ± 0.10	100 690	765 3405
4 DN100	4.500 114.3	4.125 104.8	0.058 1.5	± 0.007 ± 0.18	100 690	1335 5940
6 DN150	66.25 168.3	6.125 155.6	0.083 2.1	± 0.008 ± 0.20	100 690	2945 13105

⁵ Working Pressure and End Load are total, from all internal and external loads, based on hard drawn copper tubing of the weight indicated, roll grooved in accordance with Victaulic specifications. Contact Victaulic for performance on other pipe.

NOTE

- WARNING: FOR ONE-TIME FIELD TEST ONLY, the Maximum Joint Working Pressure may be increased to 1 ½ times the figures shown.

6.0 NOTIFICATIONS

WARNING



- Read and understand all instructions before attempting to install any Victaulic piping products.
- Depressurize and drain the piping system before attempting to install, remove, adjust, or maintain any Victaulic piping products.
- Wear safety glasses, hardhat, and foot protection.
- The Style 644 Installation-Ready™ Transition Coupling for potable water shall be used to join only copper tubing and stainless steel pipe, as specified within Section 1.0 of this publication. It shall not be used to connect copper tubing and carbon steel pipe.
- During vertical installation, support the upper pipe to prevent the copper tubing from sliding into the stainless steel pipe.

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

7.0 REFERENCE MATERIALS

[02.06: Victaulic Potable Water Approvals, ANSI/NSF](#)

[05.01: Victaulic Seal Selection Guide](#)

[17.01: Victaulic Stainless Steel Pipe End Preparation](#)

[24.01: Victaulic Pipe Preparation Tool Specifications](#)

[25.01: Victaulic Original Groove System \(OGS\) Groove Specifications](#)

[25.06: Victaulic Copper Tubing Roll Groove Specifications](#)

[26.01: Victaulic Design Data](#)

[29.01: Victaulic Terms and Conditions/Warranty](#)

[I-100: Field Installation Handbook](#)

[I-600: Victaulic Field Installation Handbook - Copper Connection Products](#)

[I-644: Victaulic Installation Instructions Style 644 Transition Coupling](#)

User Responsibility for Product Selection and Suitability

Each user bears final responsibility for making a determination as to the suitability of Victaulic products for a particular end-use application, in accordance with industry standards and project specifications, and the applicable building codes and related regulations as well as Victaulic performance, maintenance, safety, and warning instructions. Nothing in this or any other document, nor any verbal recommendation, advice, or opinion from any Victaulic employee, shall be deemed to alter, vary, supersede, or waive any provision of Victaulic Company's standard conditions of sale, installation guide, or this disclaimer.

Intellectual Property Rights

No statement contained herein concerning a possible or suggested use of any material, product, service, or design is intended, or should be construed, to grant any license under any patent or other intellectual property right of Victaulic or any of its subsidiaries or affiliates covering such use or design, or as a recommendation for the use of such material, product, service, or design in the infringement of any patent or other intellectual property right. The terms "Patented" or "Patent Pending" refer to design or utility patents or patent applications for articles and/or methods of use in the United States and/or other countries.

Note

This product shall be manufactured by Victaulic or to Victaulic specifications. All products to be installed in accordance with current Victaulic installation/assembly instructions. Victaulic reserves the right to change product specifications, designs and standard equipment without notice and without incurring obligations.

Installation

Reference should always be made to the Victaulic installation handbook or installation instructions of the product you are installing. Handbooks are included with each shipment of Victaulic products, providing complete installation and assembly data, and are available in PDF format on our website at www.victaulic.com.

Warranty

Refer to the Warranty section of the current Price List or contact Victaulic for details.

Trademarks

Victaulic and all other Victaulic marks are the trademarks or registered trademarks of Victaulic Company, and/or its affiliated entities, in the U.S. and/or other countries.