

# Victaulic *Vic-Flange* Adapter for Copper Tubing in Potable Water Applications



22.03

## Style 641



### 1.0 PRODUCT DESCRIPTION

#### Available Sizes

- 2 – 6"/54.0 – 155.6 mm

#### Pipe Material

- ASTM B88 drawn temper Types K, L and M and ASTM B306 Type DWV copper tubing

#### Maximum Working Pressure

- 300 psi/2068 kPa
- Working pressure dependent on type and size of copper tubing

#### Function

- Designed to transition from flanged to grooved piping systems

### 2.0 CERTIFICATION/LISTINGS



The Victaulic Grade P gasket supplied with the Style 641 *Vic-Flange* Adapter is UL Classified in accordance with ANSI/NSF 61 and ANSI/NSF 372 as noted in section 3.0 Specifications – Material.

The Style 641 *Vic-Flange* Adapter is UL Listed in accordance with UL 467.

#### NOTE

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

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	



### 3.0 SPECIFICATIONS – MATERIAL

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**Housing:** Ductile iron conforming to ASTM A395, Grade 65-45-15, and ASTM A536, Grade 65-45-12.

**Housing Coating:** Copper colored alkyd enamel.

**Gasket<sup>1</sup>: Grade “P” Fluoroelastomer Blend**

P (Red and blue stripe color code). Temperature range +0°F to +180°F/-18°C to +82°C. Specifically formulated for compatibility with potable water systems. Optimized for improved resistance to chlorine, chloramine and other typical potable water disinfectants. 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.

<sup>1</sup> 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.

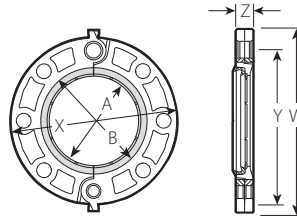
**NOTE**

- Victaulic reserves the right to substitute equivalent and/or higher grade elastomer products.

**Hinge Bushing: (*Vic-Flange* adapter only):** Electroplated steel.

## 4.0 DIMENSIONS

### Style 641 Vic-Flange Adapter for Copper Tubing in Potable Water Applications



Note: Gray area of mating face must be free from gouges, undulations or deformities of any type for effective sealing.

Size		Bolt/Nut		Dimensions						Weight
Nominal inches	Actual Outside Diameter inches mm	Qty. <sup>2</sup>	Size inches	Seal Surface		Flange Dimensions				Approximate (Each) lb kg
				A inches mm	B Min inches mm	W inches mm	X inches mm	Y inches mm	Z inches mm	
2	2.125	4	5/8 x 3	2.13	3.20	6.88	6.00	4.75	0.78	3.8
	54.0			54	81	175	152	121	20	1.7
2½	2.625	4	5/8 x 3	2.63	3.91	7.88	7.00	5.50	0.88	4.7
	66.7			67	99	200	178	140	22	2.1
3	3.312	4	5/8 x 3	3.13	4.53	8.44	7.50	6.00	0.94	5.4
	79.4			80	115	214	191	152	24	2.5
4	4.125	8	5/8 x 3	4.13	5.53	9.94	9.00	7.50	0.94	7.7
	104.8			105	140	253	229	191	24	3.5
5	5.125	8	¾ x 3 ½	5.13	6.71	11.00	10.00	8.50	1.00	9.3
	130.2			130	170	279	254	216	25	4.2
6	6.125	8	¾ x 3 ½	6.13	7.78	12.00	11.00	9.50	1.00	10.3
	155.6			156	198	305	279	241	25	4.7

<sup>2</sup> Total bolts required to be supplied by installer. Bolt sizes for conventional flange-to-flange connection. Longer bolts are required when Vic-Flange adapter is utilized with wafer-type valves.

**NOTE**

- Style 641 Vic-Flange adapters for copper tubing provide rigid joints when used on copper tubing roll grooved to Victaulic dimensions and consequently allow no linear or angular movement at the joint.

### Flange Washers

Style 641 Vic-Flange adapters require a smooth hard surface at the mating flange face for effective sealing. Some applications for which the Vic-Flange adapter is otherwise well suited do not provide an adequate mating surface. In such cases, it is recommended that a phenolic (Type F) flange washer be inserted between the Vic-Flange adapter and the mating flange to provide the necessary sealing surface.

Typical applications where a flange washer should be used are:

- 1. When mating to a serrated flange:** A flange gasket should be used adjacent to the serrated flange and then the flange washer is inserted between the Vic-Flange adapter and the flange gasket.
- 2. When mating to a wafer valve:** Where typical valves are rubber lined and partially rubber faced (smooth or not), the flange washer is placed between the valve and the Vic-Flange adapter.
- 3. When mating to a rubber faced flange:** The flange washer is placed between the Vic-Flange adapter and the rubber faced flange.
- 4. When mating AWWA cast flanges or IPS flanges to copper tubing size flanges:** The flange washer is placed between two Vic-Flange adapters. If one flange is not a Vic-Flange adapter (e.g., flanged valve), then a flange gasket must be placed adjacent to that flange and the flange washer inserted between the flange gasket and the Vic-Flange adapter. When connecting Vic-Flange adapters to iron body components, use of a bolt isolation kit is recommended.
- 5. When mating to components (valves, strainers, etc.) where the component flange face has an insert:** Follow the same arrangement as in Application 1.

## 5.0 PERFORMANCE

### Style 641 Vic-Flange Adapter for Copper Tubing in Potable Water Applications

Size		Type K ASTM B88			Type L ASTM B88			Type M ASTM B88			Type DWV ASTM B306		
Nominal inches	Actual Outside Diameter inches mm	Wall Thickness inches mm	Max. Joint Wk. Press. <sup>3</sup> psi kPa	Max. Permis. End Load lb N	Wall Thickness inches mm	Max. Joint Wk. Press. <sup>3</sup> psi kPa	Max. Permis. End Load lb N	Wall Thickness inches mm	Max. Joint Wk. Press. <sup>3</sup> psi kPa	Max. Permis. End Load lb N	Wall Thickness inches mm	Max. Joint Wk. Press. <sup>3</sup> psi kPa	Max. Permis. End Load lb N
2	2.125 54.0	0.083 2.1	300 2068	1065 4737	0.070 1.8	300 2068	1065 4737	0.058 1.5	250 1724	890 3959	–	–	–
2½	2.625 66.7	0.095 2.4	300 2068	1625 7228	0.080 2.0	300 2068	1625 7228	0.065 1.7	250 1724	1350 6005	–	–	–
3	3.312 79.4	0.109 2.8	300 2068	2300 10231	0.090 2.3	300 2068	2300 10231	0.072 1.8	250 1724	1415 6294	0.045 1.1	100 690	765 3403
4	4.125 104.8	0.134 3.4	300 2068	4005 17815	0.110 2.8	300 2068	4005 17815	0.095 2.4	250 1724	3340 14857	0.058 1.5	100 690	1335 5938
5	5.125 130.2	0.160 4.1	300 2068	6190 27534	0.125 3.2	300 2068	6190 27534	0.109 2.8	200 1379	4125 18349	0.072 1.8	100 690	2060 9163
6	6.125 155.6	0.192 4.9	300 2068	8840 39322	0.140 3.6	300 2068	8840 39322	0.122 3.2	200 1379	5890 26200	0.083 2.1	100 690	2945 13100







<sup>3</sup> Working Pressure and End Load are total, from all internal and external loads, based on copper tubing of the weight indicated, standard 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, remove, adjust, or maintain any Victaulic piping products.
- Always verify that the piping system has been completely depressurized and drained immediately prior to installation, removal, adjustment, or maintenance of any Victaulic products.
- Wear safety glasses, hardhat, and foot protection.

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

**⚠ CAUTION**

- Copper roll sets shall be used to roll groove copper tubing. Always specify copper roll sets at the time of order.
- DO NOT use rolls intended for steel, stainless steel, aluminum, PVC, or CPVC pipe or rolls intended for other groove profiles.

Failure to follow these instructions could damage the tool and cause product failure, resulting in property damage or personal injury.

Due to the outside flange dimension, *Vic-Flange* adapters should not be used within 90° of one another on a standard fitting. When wafer or lug-type valves are used adjoining a Victaulic fitting, check disc dimensions to assure proper clearance.

*Vic-Flange* adapters should not be used as anchor points for tie-rods across non-restrained joints. Mating rubber faced flanges, valves, etc., require the use of a *Vic-Flange* washer.

*Vic-Flange* gaskets must always be assembled with the color-coded lip on the pipe and the other lip facing the mating flange.

## 7.0 REFERENCE MATERIALS

- [05.01: Victaulic Seal Selection Guide](#)
- [10.01: Victaulic Products for Fire Protection Piping Systems – Regulatory Approval Reference Guide](#)
- [22.04: Victaulic Copper Fittings](#)
- [22.13: Victaulic QuickVic™ Rigid Coupling for Copper – Style 607](#)
- [22.14: Victaulic Copper Connection Butterfly Valve – Series 608N](#)
- [25.06: Victaulic Copper Tubing Roll Groove Specifications](#)
- [I-600: Victaulic Field Installation Handbook - Copper Connection Products](#)

### 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.

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### 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](http://www.victaulic.com).

### Warranty

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

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