Victaulic *Vic-Flange* Adapter for Copper Tubing Style 641

22.03

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

Operating Temperature

- Dependent on gasket selection from section 3.0

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 NSF/ANSI/CAN 61 and NSF/ANSI/CAN 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.

3.0 SPECIFICATIONS – MATERIAL

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

Housing Coating Color: Copper.

Gasket: (specify choice[1])

☐ **Grade "P" Fluoroelastomer Blend**
P (Red and blue stripes color code). Temperature range in potable water applications: 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 NSF/ANSI/CAN 61 for cold +73°F/+23°C and hot +180°F/+82°C potable water service and NSF/ANSI/CAN 372.

☐ **Grade "E" EPDM**
E (Green stripe color code.) Temperature range in non-potable water applications: –30ºF to +230ºF/–34ºC to +110ºC. 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. NOT COMPATIBLE FOR USE WITH PETROLEUM SERVICES OR STEAM SERVICES.

☐ **Grade "T" Nitrile**
Nitrile (Orange stripe color code). Temperature range –20°F to +180°F/–29°C to +82°C. May be specified for oil related services, including air with oil vapor, this gasket may be specified for temperatures rated up to +180°F/+82°C. For water related services, this gasket may be specified for temperatures rated up to +150°F/+66°C. For oil free, dry air services, this gasket may be specified for temperatures rated up to +140°F/+60°C. NOT COMPATIBLE FOR USE WITH HOT WATER SERVICES OR STEAM 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.

NOTE

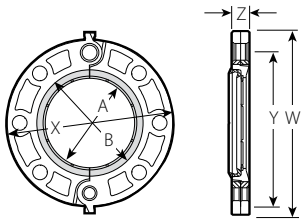
- Victaulic reserves the right to substitute equivalent and/or higher grade elastomer products.

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

4.0 DIMENSIONS

Style 641 *Vic-Flange* Adapter for Copper Tubing

ANSI Class 125 and Class 150 Flanges



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
				Seal Surface		Flange Dimensions				
Nominal inches	Actual Outside Diameter inches mm	Qty.[2]	Size inches	A inches mm	B Min inches mm	W inches mm	X inches mm	Y inches mm	Z inches mm	Approximate (Each) lb kg
2	2.125 54.0	4	⅝ x 3	2.13 54	3.20 81	6.88 175	6.00 152	4.75 121	0.78 20	3.8 1.7
2½	2.625 66.7	4	⅝ x 3	2.63 67	3.91 99	7.88 200	7.00 178	5.50 140	0.88 22	4.7 2.1
3	3.312 79.4	4	⅝ x 3	3.13 80	4.53 115	8.44 214	7.50 191	6.00 152	0.94 24	5.4 2.5
4	4.125 104.8	8	⅝ x 3	4.13 105	5.53 140	9.94 253	9.00 229	7.50 191	0.94 24	7.7 3.5
5	5.125 130.2	8	¾ x 3½	5.13 130	6.71 170	11.00 279	10.00 254	8.50 216	1.00 25	9.3 4.2
6	6.125 155.6	8	¾ x 3½	6.13 156	7.78 198	12.00 305	11.00 279	9.50 241	1.00 25	10.3 4.7

[2] 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

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.[3] psi kPa	Max. Permis. End Load lb N	Wall Thickness inches mm	Max. Joint Wk. Press.[3] psi kPa	Max. Permis. End Load lb N	Wall Thickness inches mm	Max. Joint Wk. Press.[3] psi kPa	Max. Permis. End Load lb N	Wall Thickness inches mm	Max. Joint Wk. Press.[3] 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

[3] 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

22.03 1553 Rev G Updated 07/2021