Stainless Steel Flange Solutions

Style 441
Vic-Flange
2 – 6"/DN50 – DN150

No. 445F and No. 445R
Flange Adapter Nipple
1 ¼ – 12"/DN32 – DN300

No. 441N
Van Stone Flange Adapter
2 – 12"/DN50 – DN300

1.0 PRODUCT DESCRIPTION

Available Sizes:

- **Style 441:** 2 – 6"/DN50 – DN150
- **No. 445F and No. 445R:** 1 ¼ – 12"/DN32 – DN300
- **No. 441N (EMEA-I Only):** 2 – 12"/DN50 – DN300

Maximum Working Pressure:

- 275 psi/1896 kPa/19 bar

Application:

- Designed to transition from flanged to Original Grooved System (OGS)

Pipe Materials:

- Stainless steel

2.0 CERTIFICATION/LISTINGS

NSF Certified to NSF/ANSI 61

- See Victaulic publication 02.06 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

Style 441:

Housing: Type 316 stainless steel, conforming to A351/A351M Grade CF8M.

Gaskets: (specify choice[1])

☐ **Victaulic Grade "E" EPDM**
EPDM (Green stripe color code). 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 USE WITH PETROLEUM SERVICES OR STEAM SERVICES.**

☐ **Victaulic Grade "EF" EPDM[2]**
EPDM (Green 'X' color code). May be specified for hot and cold water service within the specified temperature range plus a variety of dilute acids, oil-free air and many chemical services. Also meets hot and cold potable water requirements per DVGW W270, UBA Elastomer Guideline, ÖVGW, SVGW, and French ACS approved for EN681-1 Type WA cold potable, and Type WB hot potable water service. WRAS approved material to BS 6920:2014 for cold and hot potable water service up to +149°F/+65°C. **NOT COMPATIBLE FOR USE WITH PETROLEUM SERVICES OR STEAM SERVICES.**

☐ **Victaulic Grade "EW" EPDM**
EPDM (Green W color code). 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. WRAS approved material to BS 6920 for cold and hot potable water service up to +149°F/+65°C. 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 USE WITH PETROLEUM SERVICES OR STEAM SERVICES.**

☐ **Victaulic Grade "T" Nitrile**
Nitrile (Orange stripe color code). 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.**

☐ **Others**
For alternate gasket selection, reference publication 05.01: Victaulic Seal Selection Guide.

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.

2 Available exclusively in Europe.

No. 445F and No 445R:

Pipe: 304L or 316L stainless steel Schedule 10S pipe conforming to ASTM A312/A312M.

Flange: 304L or 316L stainless steel conforming to ASTM 182/182M.

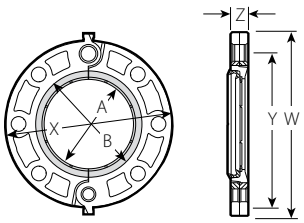
No. 441N:

Pipe: 304L or 316L stainless steel Schedule 10S pipe conforming to ASTM A312/A312M or equivalent.

Flange: 304L or 316L stainless steel conforming to ASTM 182/182M or equivalent.

4.0 DIMENSIONS

Stainless Steel Vic-Flange Adapter
Style 441 (ANSI B16.5 Class 150)



Size		Bolt/Nut		Sealing Surface		Dimensions				Weight
Nominal inches DN	Actual Outside Diameter inches mm	Qty.	Size inches	"A" Max. inches mm	"B" Min. inches mm	W inches mm	X inches mm	Y inches mm	Z inches mm	Approximate (Each) lbs kg
2 DN50	2.375 60.3	4	⅝ x 2¾	2.40 61	3.40 86	6.84 174	6.00 152	4.75 121	0.82 21	3.0 1.4
2½	2.875 73.0	4	⅝ x 3	2.90 74	3.90 99	7.72 196	7.00 178	5.50 140	0.88 22	4.3 2.0
3 DN80	3.500 88.9	4	⅝ x 3	3.50 89	4.50 114	8.22 209	7.50 191	6.00 152	0.94 24	4.8 2.2
4 DN100	4.500 114.3	8	⅝ x 3	4.50 114	5.50 140	9.72 247	9.00 229	7.50 191	0.94 24	6.9 3.1
6 DN150	6.625 168.3	8	¾ x 3½	6.60 168	7.80 198	11.78 299	11.00 279	9.50 241	1.00 25	9.5 4.3

NOTE

- Please refer to publication I-100 for specific installation instructions for this product.

5.0 PERFORMANCE

Performance on ANSI Wall Thickness:

Size		Style 441			Maximum	
Nominal inches DN	Actual Outside Diameter inches mm	Pipe Wall Thickness inches mm	Pipe Wall Thickness ANSI Schedule Number	Groove Type	Working Pressure[3] kPa psi	End Load[3] lbs N
2 DN50	2.375 60.3	0.217 5.5	80S	C	1896 275	5419 1218
		0.154 3.9	40S	Std/C	1896 275	5419 1218
		0.110 2.8	10S	RX	1896 275	5419 1218
		0.067 1.7	5S	RX	1379 200	3941 886
2½	2.875 73.0	0.276 7.0	80S	C	1896 275	7941 1785
		0.205 5.2	40S	Std/C	1896 275	7941 1785
		0.122 3.1	10S	RX	1896 275	7941 1785
		0.083 2.1	5S	RX	1379 200	5776 1298
3 DN80	3.500 88.9	0.299 7.6	80S	C	1896 275	11679 2646
		0.217 5.5	40S	Std/C	1896 275	11679 2646
		0.122 3.1	10S	RX	1896 275	11679 2646
		0.083 2.1	5S	RX	1379 200	8560 1924
4 DN100	4.500 114.3	0.339 8.6	80S	C	1896 275	19454 4374
		0.236 6.0	40S	Std/C	1896 275	19454 4374
		0.122 3.1	10S	RX	1896 275	19454 4374
		0.083 2.1	5S	RX	1379 200	14150 3181
6 DN150	6.625 168.3	0.280 7.1	40S	Std/C	1896 275	42166 9479
		0.134 3.4	10S	RX	1379 200	30668 6895
		0.110 2.8	5S	RX	862 125	19171 4310

RX= Roll Set for light wall stainless steel pipe marked with the prefix "RX"
Std= Standard roll set marked with the prefix "R"
C= Cut groove

[3] Working Pressure and End Load are total, from all internal and external loads. Contact Victaulic for performance on other pipe.

NOTE

- WARNING: FOR ONE TIME FIELD TEST ONLY, the maximum Joint Working Pressure may be increased to 1½ times the figures shown.

5.1 PERFORMANCE

Performance on ISO Wall Thickness:

Size		Style 441		Maximum	
Nominal DN inches	Actual Outside Diameter mm inches	Pipe Wall Thickness mm inches	Groove Type	Working Pressure[3] kPa psi	End Load[3] lbs N
DN50 2	60.3 2.375	5.6 0.220	C	1896 275	5419 1218
		4.0 0.157	Std/C	1896 275	5419 1218
		3.6 0.142	Std	1896 275	5419 1218
		3.2 0.126	Std	1896 275	5419 1218
		2.9 0.114	Std	1896 275	5419 1218
		2.6 0.102	RX	1724 250	4927 1108
		2.3 0.091	RX	1724 250	4927 1108
		2.0 0.079	RX	1551 225	4433 997
		1.6 0.063	RX	1379 200	3941 886
DN80 3	88.9 3.500	8.0 0.315	C	1896 275	11769 2646
		5.6 0.220	Std/C	1896 275	11769 2646
		4.0 0.157	Std	1896 275	11769 2646
		3.6 0.142	Std	1896 275	11769 2646
		3.2 0.126	Std	1896 275	11769 2646
		2.9 0.114	RX	1724 250	10699 2405
		2.6 0.102	RX	1600 232	9929 2232
		2.3 0.091	RX	1379 200	8559 1924
		2.0 0.079	RX	1379 200	8560 1924
DN100 4	114.3 4.500	8.8 0.346	C	1896 275	19454 4374
		6.3 0.248	C	1896 275	19454 4374
		4.5 0.177	Std	1896 275	19454 4374
		3.6 0.142	Std	1896 275	19454 4374
		2.9 0.114	RX	1724 250	17686 3976
		2.6 0.102	RX	1600 232	16413 3690
		2.0 0.079	RX	1379 200	14150 3181

RX= Roll Set for light wall stainless steel pipe marked with the prefix "RX"
Std= Standard roll set marked with the prefix "R"
C= Cut groove

[3] Working Pressure is total, from all internal and external loads. Contact Victaulic for performance on other pipe.

NOTE

- WARNING: FOR ONE TIME FIELD TEST ONLY, the maximum Joint Working Pressure may be increased to 1½ times the figures shown.

5.1 PERFORMANCE (Continued)

Performance on ISO Wall Thickness:

Size		Style 441		Maximum	
Nominal DN inches	**Actual Outside Diameter** mm inches	**Pipe Wall Thickness** mm inches	**Groove Type**	**Working Pressure**[3] kPa psi	**End Load**[3] lbs N
DN150 6	168.3 6.625	11.0 0.433	C	1896 275	42166 9479
		7.1 0.280	Std	1896 275	42166 9479
		7.1 0.280	C	1896 275	42166 9479
		5.0 0.197	Std	1600 232	35574 7997
		4.5 0.177	Std	1551 225	34501 7756
		4.0 0.157	Std	1379 200	30667 6894
		3.2 0.126	RX	1207 175	26836 6033
		2.6 0.102	RX	N/R	
		2.0 0.079	RX		

RX= Roll Set for light wall stainless steel pipe marked with the prefix "RX"
Std= Standard roll set marked with the prefix "R"
C= Cut groove
N/R stands for Not Rated.

[3] Working Pressure is total, from all internal and external loads. Contact Victaulic for performance on other pipe.

NOTE

- WARNING: FOR ONE TIME FIELD TEST ONLY, the maximum Joint Working Pressure may be increased to 1½ times the figures shown.

6.0 NOTIFICATIONS

- The Style 441 does not create a rigid connection with the grooved pipe. Some axial, angular and rotation flexibility of the connection is to be expected.
- The Style 441 is designed for use with ANSI B16.5 Class 150 raised face flanges. When a Style 441 is used with a flat-faced flange, the raised projections on the outside edge and around the mating holes of the flange adapter must be ground flush to the body. Refer to the Style 441 Vic-Flange Adapter installation instructions, publication I-441.
- The Style 441 must not be used as anchor points for tie rods across non-restrained joints.
- The Style 441 must not be used against rubber coated surfaces or with wafer or lug-type valves, or when the flange adapter does not mount flush with the mating flange. For those types of applications, use a groove by flange adapter nipple, such as the No. 445F or No. 445R.
- Because of the outside flange dimension, the Style 441 must not be used 90° to one another on a standard fitting.
- Style 441 Flange adapter gaskets must always be assembled with the color coded lip on the pipe and the other lip facing the mating flange. The markings on the outside of the gasket must face the Style 441 flange adapter.
- WARNING: Depressurize and drain the piping system before attempting to install, remove, or adjust any Victaulic piping products.

⚠ WARNING

- **Victaulic RX roll sets must be used when grooving light-wall/thin-wall stainless steel pipe for use with Victaulic Couplings.**

Failure to use Victaulic RX roll sets when grooving light-wall/thin-wall stainless steel pipe may cause joint failure, resulting in serious personal injury and/or property damage.

⚠ WARNING

- **Read and understand all instructions before attempting to install, remove, adjust, or maintain 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.**

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

NOTICE

- **Victaulic RX grooving rolls must be ordered separately. They are identified by a silver color and the designation RX on the front of the roll sets.**

