



HYDROFIRE ΕΠΕ

Buildings - Industry - Marine – Waterworks
END OF AG. PANTELEIMONOS Str. (ELEONAS)
GR-12241 EGALEO,
Tel.: +30 210 3412 749-750 Fax: +30 210 3412 406
www.hydrofire.gr, email: info@hydrofire.gr



Victaulic® StrengThin™ 100 System Fittings for Stainless Steel



1.0 PRODUCT DESCRIPTION

Available Sizes

- 2 – 12"/DN50 – DN300

Maximum Working Pressure

- Fitting pressure ratings are equivalent to the coupling joint pressure rating of the Victaulic StrengThin™ 100 Style E497 Rigid Couplings used to install them (see section 5.0 in [publication 31.02](#): Victaulic StrengThin™ 100 System Style E497 Rigid Coupling for Stainless Steel Pipe).
- For the pressure ratings for the No. E494G Adapter Nipples, see page 7 of this document.
- For the pressure ratings of the No. E498 Flange Adapters, see page 10 of this document.

Function

- Connects pipe sections, provides change in direction, and adapts sizes or components.
- All fittings are supplied with the Victaulic StrengThin™ 100 groove profile. Fittings are exclusively for use with Victaulic StrengThin™ 100 couplings, valves, accessories and pipe which feature ends formed with the Victaulic StrengThin™ 100 groove profile (see section 7.0 for Reference Materials).

2.0 CERTIFICATION/LISTINGS

Product designed and manufactured under Victaulic's Quality Management System, as certified by LPCB in accordance with ISO-9001.

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	





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3.0 SPECIFICATIONS - MATERIAL

Fittings:

Investment Cast Fittings: Stainless steel per ASTM A351/A351M, Grade CF8 (304) or Grade CF8M (1.4408).

Wrought Fittings: Stainless steel per EN 10088-1 No. 1.4404 (316L) or EN 10088-1 No. 1.4432 (316L).

No. E498 Flange Adapter Nipples

Stub Material: ASTM A403, Class WP, Grade 304/304L or 1.4401 (316).

Flange Ring Material (specify choice):

- Standard: Stainless steel flange per EN10222-5 1.4401/1.4404 (316/316L) according to EN1092-1 Type 02.
- Optional:¹ Carbon steel.

Flange Ring Coating: Hot dipped galvanized as per EN10240 for Carbon Steel flange ring.

¹ Contact Victaulic for more details



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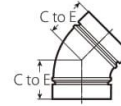
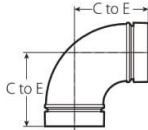
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4.0 DIMENSIONS

Elbows

No. E490 90° Elbow

No. E491 45° Elbow



Size		No. E490 90° Elbow		No. E491 45° Elbow	
Nominal inches DN	Actual Outside Diameter inches mm	C to E inches mm	Approximate Weight (Each) lb kg	C to E inches mm	Approximate Weight (Each) lb kg
2 DN50	2.375 60.3	3.13 (c) 79	1.7 0.8	1.88 (c) 48	1.2 0.5
DN65	3.000 76.1	3.75 (c) 95	2.6 1.2	2.00 (c) 51	1.8 0.8
3 DN80	3.500 88.9	4.50 (c) 114	3.1 1.4	2.13 (c) 54	2.2 1.0
4 DN100	4.500 114.3	6.00 152	2.9 1.3	2.50 64	1.5 0.7
DN125	5.500 139.7	7.50 191	4.5 2.0	3.13 80	1.8 0.8
6 DN150	6.625 168.3	9.00 229	6.5 3.0	3.75 95	3.2 1.5
8 DN200	8.625 219.1	12.00 305	16.9 7.7	5.00 127	8.5 3.9
10 DN250	10.750 273.0	15.00 381	26.4 12.0	6.25 159	13.2 6.0
12 DN300	12.750 323.9	18.00 457	37.6 17.1	7.50 191	18.8 8.5

NOTE

- (c) = Cast fitting



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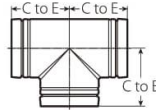


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4.1 DIMENSIONS

Tee

No. E492



Size		No. E492 Tee	
Nominal inches DN	Actual Outside Diameter inches mm	C to E inches mm	Approximate Weight (Each) lb kg
2 DN50	2.375 60.3	3.24 82	1.8 0.8
DN65	3.000 76.1	3.72 94	1.8 0.8
3 DN80	3.500 88.9	3.99 101	2.2 1.0
4 DN100	4.500 114.3	4.46 113	3.2 1.5
DN125	5.500 139.7	5.25 133	4.6 2.1
6 DN150	6.625 168.3	5.88 149	6.8 3.1
8 DN200	8.625 219.1	7.73 196	16.0 7.3
10 DN250	10.750 273.0	8.87 225	30.0 13.6
12 DN300	12.750 323.9	10.37 263	51.0 23.1



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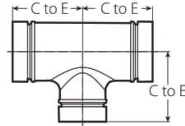


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4.2 DIMENSIONS

Reducing Tee

No. E493



Size			No. E493 Reducing Tee			
Nominal inches DN			Actual Outside Diameter		C to E	Approximate Weight (Each)
			inches	mm	inches	lb kg
DN65	x	DN65	3.000	3.000	2.375	3.4
		2 DN50	76.1	76.1	60.3	1.5
3 DN80	x	3 DN80	3.500	3.500	2.375	3.5
		2 DN50	88.9	88.9	60.3	1.6
		DN65			3.000	2.0
					76.1	0.9
4 DN100	x	4 DN100	4.500	4.500	2.375	5.1
		2 DN50	114.3	114.3	60.3	2.3
		DN65			3.000	3.2
					76.1	1.5
		3 DN80			3.500	3.2
					88.9	1.5
DN125	x	DN125	5.500	5.500	3.000	3.9
		DN65	139.7	139.7	76.1	1.8
		3 DN80			3.500	4.0
					88.9	1.8
		4 DN100			4.500	4.6
					114.3	2.1
6 DN150	x	6 DN150	6.625	6.625	3.500	5.6
		3 DN80	168.3	168.3	88.9	2.5
		4 DN100			4.500	5.6
					114.3	2.5
		DN125			5.500	5.8
					139.7	2.6
8 DN200	x	8 DN200	8.625	8.625	4.500	15.3
		4 DN100	219.1	219.1	114.3	6.9
		DN125			5.500	15.5
					139.7	7.0
		6 DN150			6.625	15.8
					168.3	7.2
10 DN250	x	10 DN250	10.750	10.750	5.500	27.0
		DN125	273.0	273.0	139.7	12.2
		6 DN150			6.625	28.0
					168.3	12.7
		8 DN200			8.625	29.0
					219.1	13.2
12 DN300	x	12 DN300	12.750	12.750	6.625	45.0
		6 DN150	323.9	323.9	168.3	20.4
		8 DN200			8.625	47.0
					219.1	21.3
		10 DN250			10.750	49.0
					273.0	22.2

NOTE

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4.3 DIMENSIONS

Adapter Nipple

No. E494 Plain End x StrenqThin™ 100 Grv.



Size		No. E494 Adapter Nipple		
Nominal inches DN	Actual Outside Diameter inches mm	Wall Thickness inches mm	E to E inches mm	Approximate Weight (Each) lb kg
2 DN50	2.375 60.3	0.079 2.0	4.00 102	0.6 0.3
DN65	3.000 76.1	0.079 2.0	4.00 102	0.8 0.4
3 DN80	3.500 88.9	0.079 2.0	4.00 102	1.1 0.5
4 DN100	4.500 114.3	0.079 2.0	6.00 152	2.4 1.1
DN125	5.500 139.7	0.079 2.0	6.00 152	3.8 1.7
6 DN150	6.625 168.3	0.079 2.0	6.00 152	3.9 1.8
8 DN200	8.625 219.1	0.118 3.0	6.00 152	4.2 1.9
10 DN250	10.750 273.3	0.118 3.0	6.00 152	7.0 3.2
12 DN300	12.750 323.9	0.118 3.0	6.00 152	7.5 3.4



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4.3 DIMENSIONS (Continued)

Adapter Nipple

No. E494G Original Groove System (OGS) x StrenghThin™ 100 Groove



Cast



Wrought

Size		No. E494G Adapter Nipple			
Nominal inches DN	Actual Outside Diameter inches mm	E to E Cast inches mm	Approximate Weight (Each) lb kg	E to E Wrought inches mm	Approximate Weight (Each) lb kg
2 DN50	2.375 60.3	4.00 102	1.1 0.5	4.00 102	0.6 0.3
DN65	3.000 76.1	4.00 102	1.8 0.8	4.00 102	0.8 0.4
3 DN80	3.500 88.9	4.00 102	2.2 1.0	4.00 102	1.1 0.5
4 DN100	4.500 114.3	4.00 102	3.0 1.4	6.00 152	2.4 1.1
DN125	5.500 139.7	4.00 102	3.8 1.7	6.00 152	3.8 1.7
6 DN150	6.625 168.3	4.00 102	5.0 2.3	6.00 152	3.9 1.8
8 DN200	8.625 219.1	6.00 152	9.8 4.4	6.00 152	4.2 1.9
10 DN250	10.750 273.3	6.00 152	14.7 6.7	8.00 203	7.1 3.2
12 DN300	12.750 323.9	6.00 152	17.6 8.0	8.00 203	9.9 4.5

NOTES

- When using the No. E494G Adapter Nipple, the piping system pressure rating shall be determined by the adjoining coupling/pipe joints. The coupling/pipe joint pressure rating is determined by the pipe size, material and wall thickness. The lower of the two coupling/pipe joint pressure ratings shall govern the piping system pressure rating.
- The No. E494G Adapter Nipple may be used to accommodate linear movement and angular deflection. This is accomplished by using a Victaulic flexible coupling for an OGS groove to adjoin two No. E494G Adapter Nipples. When adjoining the two No. E494G Adapter Nipples, the linear movement and angular deflection of the joint shall be determined by the flexible coupling used to join them. Reference the applicable coupling submittal for linear movement and angular deflection capabilities.
- When using the No. E494G Adapter Nipple to accommodate linear movement and angular deflection, the piping system pressure rating shall be determined by the lowest of the following coupling joint ratings:
 - Coupling/pipe joint rating of the Style E497 piping connection (see [publication 31.02](#): Victaulic StrenghThin™ 100 System Style E497 Rigid Coupling for Stainless Steel Pipe).
 - Coupling/adapter nipple joint rating of the OGS groove adapter connection. For this evaluation, the cast No. E494G Adapter Nipple shall be considered as pipe with a nominal wall thickness of Schedule 40S, and the wrought No. E494G Adapter Nipple shall be considered as pipe with a nominal wall thickness of 2 mm (sizes 2 - 6"/DN50 - DN150) or 3 mm (DN200 - DN300) (see [publication 17.09](#): Victaulic Grooved Couplings Performance Data for Stainless Steel Pipe).

The coupling/pipe joints pressure rating is determined by the pipe size, material, and pipe wall thickness



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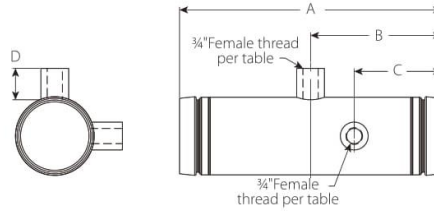


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4.4 DIMENSIONS

Instrumentation Nipple

No. E494I StrenghThin™ 100 Groove x StrenghThin™ 100 Groove



Size		No. E494I Instrumentation Nipple						
Nominal inches DN	Actual Outside Diameter inches mm	Wall Thickness T inches mm	A inches mm	B inches mm	C inches mm	D inches mm	Female Thread Size inches mm	Approximate Weight (Each) lb kg
2 DN50	2.375 60.3	0.08 2	11.81 300	5.91 150	3.94 100	1.42 36	0.75 26.9	2.0 0.9
DN65	3.000 76.1	0.08 2	11.81 300	5.91 150	3.94 100	1.42 36	0.75 26.9	2.6 1.2
3 DN80	3.500 88.9	0.08 2	11.81 300	5.91 150	3.94 100	1.42 36	0.75 26.9	3.3 1.5
4 DN100	4.500 114.3	0.08 2	11.81 300	5.91 150	3.94 100	1.42 36	0.75 26.9	4.9 2.2
DN125	5.500 139.7	0.08 2	11.81 300	5.91 150	3.94 100	1.42 36	0.75 26.9	6.0 2.7
6 DN150	6.625 168.3	0.08 2	11.81 300	5.91 150	3.94 100	1.42 36	0.75 26.9	7.3 3.3
8 DN200	8.625 219.1	0.12 3	11.81 300	5.91 150	3.94 100	1.42 36	0.75 26.9	10.6 4.8
10 DN250	10.750 273.3	0.12 3	11.81 300	5.91 150	3.94 100	1.42 36	0.75 26.9	12.8 5.8
12 DN300	12.750 323.9	0.12 3	11.81 300	5.91 150	3.94 100	1.42 36	0.75 26.9	15.2 6.9



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4.5 DIMENSIONS

Concentric Reducer

No. E495



Size				No. E495 Concentric Reducer	
Nominal inches DN		Actual Outside Diameter inches mm		E to E inches mm	Approximate Weight (Each) lb kg
DN65	x 2 DN50	3.000 76.1	x 2.375 60.3	2.50 (c) 64	1.3 0.6
3 DN80	x 2 DN50	3.500 88.9	x 2.375 60.3	4.13 (c) 105	1.8 0.8
			x 3.000 76.1	5.13 130	1.1 0.5
4 DN100	x 2 DN50	4.500 114.3	x 2.375 60.3	4.41 (c) 112	2.4 1.1
			x 3.000 76.1	5.63 143	1.3 0.6
			x 3.500 88.9	5.50 140	1.5 0.7
DN125	x 3 DN80	5.500 139.7	x 3.500 88.9	6.63 168	1.8 0.8
			x 4.500 114.3	6.63 168	1.9 0.9
6 DN150	x 4 DN100	6.625 168.3	x 4.500 114.3	6.89 175	2.5 1.1
			x 5.500 139.7	7.08 180	2.6 1.2
8 DN200	x 6 DN125	8.625 219.1	x 5.500 139.7	7.24 184	6.6 3.0
			x 6.625 168.3	7.08 180	7.7 3.5
10 DN250	x 6 DN150	10.750 273.0	x 6.625 168.3	7.95 202	11.0 5.0
			x 8.625 219.1	8.31 211	12.1 5.5
12 DN300	x 8 DN200	12.750 323.9	x 8.625 219.1	8.78 223	15.4 7.0
			x 10.750 273.0	8.78 223	16.5 7.5

NOTE

- (c) = Cast fitting



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4.6 DIMENSIONS

Cap

No. E496



Size		No. E496 Cap	
Nominal inches DN	Actual Outside Diameter inches mm	E to E inches mm	Approximate Weight (Each) lb kg
2 DN50	2.375 60.3	1.00 25	0.8 0.4
DN65	3.000 76.1	1.00 25	1.4 0.6
3 DN80	3.500 88.9	1.00 25	1.8 0.8
4 DN100	4.500 114.3	1.00 25	3.2 1.5
DN125	5.500 139.7	1.06 27	5.0 2.3
6 DN150	6.625 168.3	1.06 27	7.5 3.4
8 DN200	8.625 219.1	2.29 58	7.8 3.5
10 DN250	10.750 273.3	2.75 70	15.4 7.0
12 DN300	12.750 323.9	3.33 85	22.8 10.3



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4.6 DIMENSIONS (CONTINUED)

Tapped Cap

No. E496



Size				No. E496 Tapped Cap	
Nominal inches DN		Actual Outside Diameter inches mm		E to E inches mm	Approx. Weight (Each) lb kg
2 DN50	x 1/2	2.375 x 0.840		1.00	0.8
	DN15	60.3 x 21.3		25	0.4
DN65	x 1/2	3.000 x 0.840		1.00	1.4
	DN15	76.1 x 21.3		25	0.6
	3/4		1.050	1.00	1.4
	DN20		26.9	25	0.6
3 DN80	x 1/2	3.500 x 0.840		1.00	1.8
	DN15	88.9 x 21.3		25	0.8
	3/4		1.050	1.00	1.8
	DN20		26.9	25	0.8
4 DN100	x 1/2	4.500 x 0.840		1.00	3.2
	DN15	114.3 x 21.3		25	1.5
	3/4		1.050	1.00	3.2
	DN20		26.9	25	1.5
	1		1.315	1.00	3.2
	DN25		33.7	25	1.5
DN125	x 1/2	5.500 x 0.840		1.06	5.0
	DN15	139.7 x 21.3		27	2.3
	3/4		1.050	1.06	5.0
	DN20		26.9	27	2.3
	1		1.315	1.06	5.0
	DN25		33.7	27	2.3
6 DN150	x 1/2	6.625 x 0.840		1.06	7.5
	DN15	168.3 x 21.3		27	3.4
	3/4		1.050	1.06	7.5
	DN20		26.9	27	3.4
	1		1.315	1.06	7.5
	DN25		33.7	27	3.4

Size				No. E496 Tapped Cap	
Nominal inches DN		Actual Outside Diameter inches mm		E to E inches mm	Approx. Weight (Each) lb kg
8 DN200	x 1/2	8.625 x 0.840		2.29	7.8
	DN15	219.1 x 21.3		58	3.5
	3/4		1.050	2.29	7.8
	DN20		26.9	58	3.5
	1		1.315	2.29	7.8
	DN25		33.7	58	3.5
10 DN250	x 1/2	10.750 x 0.840		2.75	15.4
	DN15	273.3 x 21.3		70	7.0
	3/4		1.050	2.75	15.4
	DN20		26.9	70	7.0
	1		1.315	2.75	15.4
	DN25		33.7	70	7.0
	1 1/4		1.660	2.75	15.4
	DN32		42.4	70	7.0
	1 1/2		1.900	2.75	15.4
	DN40		48.3	70	7.0
	2		2.375	2.75	15.4
	DN50		60.3	70	7.0
12 DN300	x 1/2	12.750 x 0.840		3.33	22.8
	DN15	323.9 x 21.3		85	10.3
	3/4		1.050	3.33	22.8
	DN20		26.9	85	10.3
	1		1.315	3.33	22.8
	DN25		33.7	85	10.3
	1 1/4		1.660	3.33	22.8
	DN32		42.4	85	10.3
	1 1/2		1.900	3.33	22.8
	DN40		48.3	85	10.3
	2		2.375	3.33	22.8
	DN50		60.3	85	10.3



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4.7 DIMENSIONS

Flange Adapter Nipples

No. E498 PN10

No. E498 PN16



Size		No. E498 Flange Adapter Nipple PN10 (Serrated Raised Face)		No. E498 Flange Adapter Nipple PN16 (Serrated Raised Face)	
Nominal inches DN	Actual Outside Diameter inches mm	E to E inches mm	Approximate Weight (Each) lb kg	E to E inches mm	Approximate Weight (Each) lb kg
2 DN50	2.375 60.3	2.50 64	6.6 3.0	2.50 64	6.6 3.0
DN65	3.000 76.1	2.50 64	7.9 3.6	2.50 64	7.9 3.6
3 DN80	3.500 88.9	2.50 64	9.3 4.2	2.50 64	9.3 4.2
4 DN100	4.500 114.3	3.00 76	11.5 5.2	3.00 76	11.5 5.2
DN125	5.500 139.7	3.00 76	14.8 6.7	3.00 76	14.8 6.7
6 DN150	6.625 168.3	3.50 89	19.8 9.0	3.50 89	19.8 9.0
8 DN200	8.625 219.1	4.00 102	27.6 12.5	4.00 102	27.6 12.5
10 DN250	10.750 273.3	5.00 127	36.0 16.3	5.00 127	41.4 18.8
12 DN300	12.750 323.9	6.00 152	45.2 20.5	6.00 152	57.1 25.9

NOTE

- A smooth raised face is also available. Contact Victaulic for details.



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5.0 PERFORMANCE

The chart expresses the frictional resistance of various Victaulic fittings as equivalent feet of straight stainless steel pipe with a 2 mm nominal wall thickness for sizes 2 – 6"/DN50 – DN150 or a 3 mm nominal wall thickness for sizes 8 – 12"/DN200 – DN300

Size		Frictional Resistance (Equivalent Length of Straight Pipe)			
		Elbows		No. E492 Straight Tee	
Nominal inches DN	Actual Outside Diameter inches mm	No. E490 90° Elbow ft m	No. E491 45° Elbow ft m	Branch ft m	Run ft m
2 DN50	2.375 60.3	2.7 0.8	2.1 0.6	11.6 3.5	4.2 1.3
DN65	3.000 76.1	3.5 1.1	2.7 0.8	15.7 4.8	5.5 1.7
3 DN80	3.500 88.9	5.3 1.6	3.9 1.2	18.1 5.5	6.3 1.9
4 DN100	4.500 114.3	6.6 2.0	4.9 1.5	23.4 7.1	8.0 2.4
DN125	5.500 139.7	7.9 2.4	5.7 1.8	26.9 8.2	9.7 2.8
6 DN150	6.625 168.3	9.4 2.9	6.8 2.1	33.7 10.3	11.4 3.5
8 DN200	8.625 219.1	12.2 3.7	8.8 2.7	13.4 4.1	4.5 1.4
10 DN250	10.750 273.3	15.8 4.8	10.8 3.3	16.5 5.0	5.5 1.7
12 DN300	12.750 323.9	17.9 5.5	12.8 3.9	19.7 6.0	6.5 2.0