

Victaulic® Aluminum Coupling Style 77A



Product Description

Style 77A aluminum couplings are designed with cross-ribbed construction. Providing a flexible connection, Style 77A is cast of an aluminum alloy prepared for strength and durability with minimum weight and is available in 1 – 8”/25 – 200 mm and 12”/300 mm sizes. Aluminum pipe ratings are based on: alloy 6061-T4/6063-T4 – Schedule 80 cut grooved, Schedule 40 roll or cut grooved, Schedule 30 – 8, 10, and 12” roll or cut grooved, Schedule 5, 10, and 20 roll grooved ONLY; or alloy 6061-T6/6063-T6 – Schedule 40/80 cut grooved ONLY, Schedule 30 – 8, 10, and 12” cut grooved only, Schedule 5, 10, and 20 grooving is NOT RECOMMENDED.

Material Specifications

Housing:

Aluminum, ASTM B-26, 356-T6 alloy.

Housing Coating:

None (Unfinished)

Gasket: (specify choice¹)

Standard: **Grade “E” EPDM**

EPDM (Green color code). Temperature range –30°F to +230°F/–34°C to +110°C. May be specified for cold and 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.

Standard: **Grade “T” Nitrile**

Nitrile (Orange color code). Temperature range 20°F to +180°F/29°C to +82°C. May be specified for petroleum products, air with oil vapors, vegetable and mineral oils within the specified temperature range. Not compatible for hot water services over +150°F/+66°C or for hot dry air over +140°F/+60°C.

Optional: **Grade “O” Fluoroelastomer**

Fluoroelastomer (Blue color code). Temperature range +20°F to 300°F /-7°C+ to 149°C. Recommended for many oxidizing acids, petroleum oils, halogenated hydrocarbons, lubricants, hydraulic fluids, organic liquids and air with hydrocarbons to +300°F/+149°C.

Optional: **Grade “V” Neoprene**

Neoprene (Yellow color code). Temperature range +30°F to 180°F/-1°C to 82°C. Recommended for hot lubricating oils and certain chemicals. Good oxidation resistance. Will not support combustion.

Job/Owner

System No.	
Location	

Contractor

Submitted By	
Date	

Engineer

Spec Section	
Paragraph	
Approved	
Date	

Optional: **Grade “L”Silicone**

Silicon (Red gasket). Temperature range +30°F to 350°F/-34°C to +177°C air (without hydrocarbons) and certain chemical services. NOT RECOMMENDED FOR HOT WATER.

Optional: **Grade “A” White Nitrile**

White Nitrile (White gasket). Temperature range +20°F to 180°F/-7°C to +82°C. No carbon black content. May be used for food services. Meets FDA requirements and conforms to CFR Title 21, Part 177.2600.

Optional: **Grade “M-2” Epichlorohydrin**

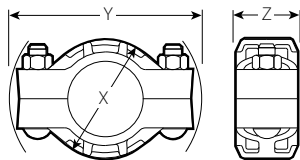
Epichlorohydrin (White color code). Temperature range -40°F to 160°F /-4°C to +71°C. Specially compounded to provide superior service for common aromatic fuels at low temperatures. Also suitable for certain ambient temperature water services. NOT RECOMMENDED for use on bare aluminum pipe or fittings. Pipe and fittings should be anodized or coated with an acid resistant paint.

- 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 Gasket Selection Guide](#) for specific gasket service guidelines and for a listing of services which are not compatible.

Bolts/Nuts:

Heat-treated plated carbon steel, track-head, conforming to physical properties of ASTM A-183 minimum tensile 110,000 PSI (758340 kPa).

Dimensions



Nominal Size inches mm	Dimensions			Bolt/Nut No. - Size ^{2,3} inches mm	Approx. Weight Each lbs. kg
	X inches mm	Y inches mm	Z inches mm		
1 33.7	2.38 61	4.25 108	1.75 44	2 - 3/8 x 2 M10 x 51	0.6 0.3
1 1/4 42.4	2.70 69	5.04 128	1.77 45	2 - 1/2 x 2 1/2 M12 x 64	0.9 0.4
1 1/2 48.3	3.03 77	5.36 136	1.77 45	2 - 1/2 x 3 1/2 M12 x 64	1.1 0.5
2 60.3	3.88 99	5.90 150	1.88 48	2 - 1/2 x 4 1/2 M12 x 64	1.3 0.6
2 1/2 73.0	4.25 108	6.51 165	1.88 48	2 - 1/2 x 2 3/4 M12 x 70	1.5 0.7
3 88.9	5.00 127	7.79 182	1.88 48	2 - 1/2 x 2 3/4 M12 x 70	1.8 0.8
4 114.3	6.38 162	8.91 226	2.13 54	2 - 5/8 x 3 1/4 M16 x 83	3.0 1.4
5 141.3	7.66 195	10.60 269	2.13 54	2 - 3/4 x 4 1/4 M20 x 108	5.1 2.3
6 168.3	9.00 229	11.90 302	2.13 54	2 - 3/4 x 4 1/4 M20 x 108	6.0 2.7
8 219.1	10.88 276	14.86 377	2.50 64	2 - 7/8 x 5 M22 x 127	10.0 4.5
12 323.9	15.50 394	19.28 489	2.56 65	2 - 1 x 6 1/2 M24 x 165	13.0 5.9

2 Number of bolts required equals number of housing segments.

3 Metric thread size bolts are available (color coded gold) for all coupling sizes upon request. Contact Victaulic for details.

Performance

Nominal Size inches mm	Max. Work. Press. psi ⁴ kPa	Max End Load lbs. ⁴ N	Allow. Pipe End Sep. ⁵ inches mm	Deflect. Fr. CL ⁵	
				Per Cplg. Deg.	Pipe inches/Ft. mm/m
1 33.7	500 3450	650 2890	0 - 1/16 0 - 1.6	2° - 43'	0.57 48
1 1/4 42.4	500 3450	1050 4670	0 - 1/16 0 - 1.6	2° - 10'	0.45 38
1 1/2 48.3	500 3450	1400 6230	0 - 1/16 0 - 1.6	1° - 56'	0.40 33
2 60.3	500 3450	2200 9790	0 - 1/16 0 - 1.6	1° - 31'	0.32 26
2 1/2 73.0	500 3450	3200 14240	0 - 1/16 0 - 1.6	1° - 15'	0.26 22
3 88.9	500 3450	4500 20025	0 - 1/16 0 - 1.6	1° - 2'	0.22 18
4 114.3	500 3450	8000 35600	0 - 1/8 0 - 3.2	1° - 36'	0.34 28
5 141.3	500 3450	12000 53400	0 - 1/8 0 - 3.2	1° - 18'	0.27 23
6 168.3	500 3450	17000 75650	0 - 1/8 0 - 3.2	1° - 12'	0.21 18
8 219.1	400 2760	23500 104575	0 - 1/8 0 - 3.2	0° - 50'	0.18 14
12 323.9	300 2070	38300 170400	0 - 1/8 0 - 3.2	0° - 34'	0.12 10

- 4 Many aluminum pipe manufacturers (extruders) roll groove alloys 6061-T6 and 6063-T6 at the point of manufacture. Roll grooving is done successfully prior to the final T6 tempering of the pipe. Often pipe in the T6 tempered state cracks when roll grooved, depending upon the pipe's mechanical properties, which vary from pipe to pipe. Victaulic has no control over these varying properties and cannot assure that the T6 tempered grades can be successfully roll grooved. Pressure Ratings and End Loads for cut grooved pipe are based upon tests on pipe prepared in accordance with Victaulic specifications. Pressure Ratings and End Loads for roll grooved pipe are based upon tests on pipe prepared in accordance with Victaulic specifications using Victaulic Vic-Easy® Roll Grooving Tools. Use of other equipment may adversely affect joint performance. Aluminum pipe ratings are based on: alloy 6061-T4/6063-T4 – Schedule 80 cut grooved, Schedule 40 roll or cut grooved, Schedule 30 – 8, 10 and 12" roll or cut grooved, Schedule 5, 10 and 20 roll grooved ONLY; or alloy 6061-T6/6063-T6 – Schedule 40/80 cut grooved ONLY, Schedule 30 – 8, 10 and 12" cut grooved ONLY, Schedule 5, 10 and 20 grooving is NOT RECOMMENDED.
- 5 Allowable Pipe End Separation and Deflection figures show the maximum nominal range of movement available at each joint for standard **roll** grooved pipe. Figures for standard **cut** grooved pipe may be doubled. These figures are maximums; for design and installation purposes these figures should be reduced by: 50% for 3/4 – 3 1/2"/20 – 90 mm; 25% for 4"/100 mm and larger.

Installation

Reference should always be made to the [I-100 Victaulic Field Installation Handbook](#) for the product you are installing. Handbooks are included with each shipment of Victaulic products for 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.

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.

Trademarks

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