

The use of proper grooving rolls and cutting knives is essential for the correct installation and performance of Victaulic products.

Pipe

When using Victaulic couplings on type 304/304L, 316/316L or titanium alloyed stainless steel, correct pipe end preparation is required. Stainless steel pipes must meet the requirements of recognized international standards such as ASME B36.19, ASTM A312, EN ISO 1127, EN 10217-7 or equivalent and also comply with the outside diameter dimensional tolerance as shown in Victaulic published roll or cut grooving specifications.¹

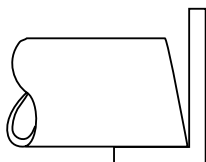
NOTE

- Contact Victaulic for information on the use of Victaulic couplings on duplex and super duplex pipe.
- ¹ See the Reference Materials Section on page 11 for information on the various Victaulic Groove Specification documents that are available.

Pipe Cutting

Regardless of the method used to cut stainless steel pipe or other pipe materials, “good piping practices” should always apply. These practices should include the use of the appropriate equipment for the size and type of pipe, cutting the pipe square to the pipe centerline, removing all sharp edges and burrs and reaming the ends. Improper pipe cutting can cause pipe end distortion during the grooving process, produce out of specification groove dimensions and result in incorrect coupling assembly and reduced pipe joint performance.

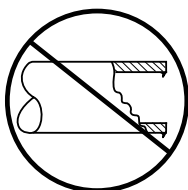
Victaulic recommends square-cut pipe for use with grooved-end and plain-end pipe products. Beveled-end pipe may be used, provided that the wall thickness must be standard or less, and the bevel must meet ASME/ANSI B16.25 (37 ½°) or ASTM A-53 (30°).



Maximum allowable tolerances for square-cut pipe ends as measured from the true square line, may vary based upon the product, pipe size, and groove profile. Always refer to the respective product groove specification table for the applicable square-cut tolerance.

Pipe Cutting Methods and Best Practices

Saw Cutting Stainless Pipe – Saw cutting pipe is a common method to provide pipes of the desired lengths. This method involves a saw blade that passes in one direction through the material. Often it leaves internal and external burrs in the direction of the cut. In addition to creating a pipe handling safety hazard, the burrs can adversely affect the engagement of Victaulic pipe preparation tools on the pipe ends. These burrs and sharp edges must be removed prior to grooving.



Unacceptable pipe end with burrs

ALWAYS REFER TO ANY NOTIFICATIONS AT THE END OF THIS DOCUMENT REGARDING PRODUCT INSTALLATION, MAINTENANCE OR SUPPORT.

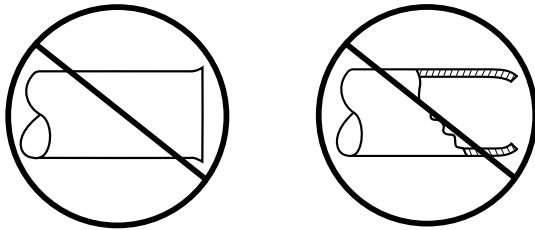
Roll Cutting Stainless Pipe

Often pipes are roll cut, which involves forcing a sharp roller into the pipe as the pipe also rotates about its axis. Stainless steel reacts differently than carbon steel or copper so in order to achieve a quality roll cut on stainless steel pipe, a tool with a cutting wheel that is designed specifically for use on stainless steel pipe must be used. The roller cut process can push the cut edge of the pipe inward creating unacceptable pipe distortion.

Also, a dull cutting wheel or one designed for non-stainless steel pipes may cause a raised lip at the cut end. For these reasons, the pipe outside and inside diameter are required to be de-burred/ reamed. Also, the roller cut process can decrease the O.D. of the pipe surface beyond the minimum as outlined in the applicable Victaulic Groove Specification document and must be avoided.²

If the O.D. is decreased to less than the minimum specified diameter, pipe joint leakage or separation could occur.

² See the Reference Materials Section on page 11 for information on the various Victaulic Groove Specification documents that are available.

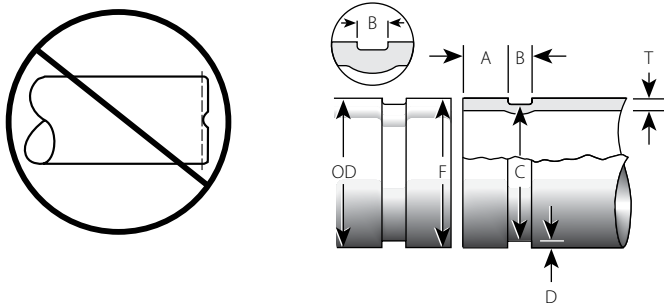


Unacceptable pipe end distortion

Flame or Plasma Cutting Stainless Pipe

Flame cutting includes the use of an oxygen acetylene torch or a plasma torch to flame cut the pipe to the desired length. This method can leave slag on the inside and outside edges of the cut that can adversely affect the engagement of Victaulic pipe preparation tools on the pipe ends or create paths for pipe joint leakage when located on the pipes gasket sealing surface.

All slag must be cleaned from the pipe ends prior to grooving. Also, when flame or plasma cutting, the cut/ burn starting point must not intrude onto or reduce the pipes gasket sealing surface. This surface is shown below as "A" in Figure 1. Any reduction or intrusion into the "A" dimension could cause joint leakage.



Unacceptable burn hole

Fig.1
Exaggerated for clarity

Grooving Stainless Steel Pipe:

Both roll grooving and cut grooving can be used to prepare pipe for the installation of Victaulic products. Pipe wall thickness must be considered when either cut or roll grooving. For guidance, please refer to the Stainless Steel Grooving Guide starting on page 5 of this document.³

Always refer to Victaulic [publication 24.01](#) to select the proper tool for pipe end preparation. In cases where cut grooving equipment or roll grooving rolls (R or RW rolls) are used on both carbon and stainless steel pipe, the contact surfaces should be cleaned to remove any loose carbon steel particles or rust prior to use on stainless steel. This step will help prevent the occurrence of ferrous (free iron) contamination of the stainless steel pipe, reducing the possibility of superficial red rust staining or pitting corrosion.

Cut Grooving

The cut grooving of stainless steel pipe can be accomplished using a Victaulic VG, a VG28GD, or a VG824 cut grooving tool. The maximum wall thickness that can be cut grooved is determined by the specific tool and is outlined in table 3. Always refer to the Victaulic grooving specifications.³

The use of cutting knives designed for stainless steel is required for best results. Victaulic cutting knives for stainless steel are not supplied as a standard item with Victaulic cutting tools. A separate order must be placed. In addition Victaulic recommends using coolant formulated for stainless steel for best cutting results while cut grooving stainless steel.

Roll Grooving

There are three types of Victaulic Stainless Steel Systems for roll grooved pipe and all three feature different roll groove profiles. These roll groove profiles are outlined in the section of this document titled "Victaulic Groove Profiles for Stainless Steel Pipe".

1. OGS (Original Groove System) Groove Profile
2. AGS (Advanced Groove System) Groove Profile
3. StrengThin™ 100 Groove Profile

3 See the Reference Materials Section on page 11 for information on the various Victaulic Groove Specification documents that are available.

NOTE

- The StrengThin™ 100 System features a unique roll groove profile and should not be confused with the StrengThin™ System end form profile.
- Contact Victaulic for more information.

Victaulic Groove Profiles for Stainless Steel Pipe

1. OGS (Original Groove System) Groove Profile

A Victaulic OGS groove profile can be cut grooved or roll grooved into 304/316 pipe depending upon the pipe size and wall thickness. When roll grooving for an OGS groove profile, there are two types of rolls required: "Standard R Grooving Rolls" and "RX Grooving Rolls". Utilize the Stainless Steel Grooving Guide located on page 5 to determine which roll set is needed. You must use the pipe size and pipe wall thickness to determine the appropriate roll set. Roll sets should be new or cleaned prior to use.

a. Standard R Grooving Rolls

- For use on pipe such as schedule 40S/standard weight 304/316 and 304L/316L pipe
- For use on ISO pipe, refer to the Stainless Steel Grooving Guide located on page 5
- Roll sets are black in color
- The part number labeled on the rolls will start with a prefix "R"

b. RX Grooving Rolls

- For use on pipe such as schedule 5S, 10S and 10 304/316 and 304L/316L pipe
- For use on ISO pipe, refer to the Stainless Steel Grooving Guide located on page 5
- Roll sets are silver in color
- The part number labeled on the rolls will start with a prefix "RX"
- Victaulic RX roll sets are not supplied standard with our roll grooving tools and must be requested at the time of order.

The following is an illustration of an OGS groove profile formed on light wall/thin wall stainless steel pipe using "Standard R Grooving Rolls" versus "RX Grooving Rolls".

STANDARD R ROLL VS. RX ROLL LIGHT WALL/THIN WALL STAINLESS STEEL

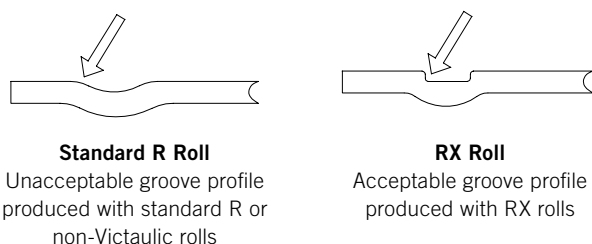


Fig.2
Exaggerated for clarity

2. AGS (Advanced Groove System) Groove Profile

A Victaulic AGS groove profile can be roll grooved into 304/316 pipe depending upon the pipe size and wall thickness. When roll grooving stainless steel for an AGS groove profile, there are two types of rolls required: "RW Grooving Rolls" and "RWX Grooving Rolls". Utilize the Stainless Steel Grooving Guide located on page 5 to determine which roll set is needed. You must use the pipe size and pipe wall thickness to determine the appropriate roll set.

Roll sets should be new or cleaned prior to use.

a. RW Grooving Rolls

- For use on pipe such as schedule 40S/standard weight 304/316 pipe
- For use on ISO pipe, refer to the Stainless Steel Grooving Guide located on page 5
- Roll sets are black in color with a yellow stripe
- The part number labeled on the rolls will start with a prefix "RW"

b. RWX Grooving Rolls

- For use on pipe such as schedule 5S, 10S and 10 304/316 pipe
- Roll sets are silver in color with a black stripe
- The part number labeled on the rolls will start with a prefix "RWX"

Figure 3 is an illustration of an AGS groove profile formed on standard weight stainless steel pipe using RW rolls and an AGS groove profile formed on schedule 5S stainless steel pipe using RWX rolls.

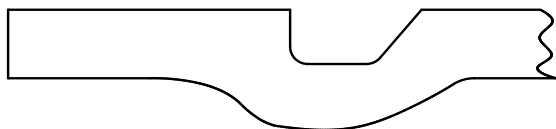


Fig.3
Exaggerated for clarity

3. StrengThin™ 100 Groove Profile

Victaulic grooved couplings designed for StrengThin™ 100 system require that the pipe be roll grooved with a unique roll set. The StrengThin™ 100 rolls are used to prepare the pipe ends with the correct groove profile. Refer to the Stainless Steel Grooving Guide, on page 5, to identify tools compatible with the StrengThin™ 100 system. You must use the pipe size and pipe wall thickness to determine the appropriate roll set.

Roll sets should be new or cleaned prior to use.

a. StrengThin™ 100 Grooving Rolls

- For use on pipe such as:
2 – 6"/50 – 150 mm, 304/316, 2.0 mm wall thickness
8 – 12"/200 – 350 mm, 304/316, 3.0 mm wall thickness
- Roll sets are silver in color with two blue stripes
- The part number labeled on the rolls will start with a prefix "RG"

Figure 4 is an illustration of an StrengThin™ 100 groove profile formed on light wall/thin wall stainless steel pipe.



Fig.4
Exaggerated for clarity

TABLE 1: Stainless Steel Grooving Guide

Size		ASME B36.19 Schedule #	Wall Thickness		Victaulic Cutting Knives / Grooving Roll Sets						
Nominal inches DN	Actual Outside Diameter inches mm				"StrengThin™ 100" Groove Profile	"OGS" Groove Profile			"AGS" Groove Profile		
						ROLL	CUT	ROLL		ROLL	
								StrengThin™ 100	Knives	R	RX
¾ DN20	1.050 26.7	–	–	1.60	–	–	–	✓	–	–	
		5S	0.065	1.65	–	–	–	✓	–	–	
		–	–	2.00	–	–	–	✓	–	–	
		10S	0.083	2.11	–	–	–	✓	–	–	
		–	–	2.60	–	–	–	✓	–	–	
		40S/STD	0.113	2.87	–	✓	✓	–	–	–	
		–	–	2.90	–	✓	✓	–	–	–	
		–	–	3.20	–	✓	✓	–	–	–	
80S	0.154	3.91	–	✓	–	–	–	–	–		
–	–	4.00	–	✓	–	–	–	–	–		
1 DN25	1.315 33.4 (33.7)	–	–	1.60	–	–	–	✓	–	–	
		5S	0.065	1.65	–	–	–	✓	–	–	
		–	–	2.00	–	–	–	✓	–	–	
		–	–	2.30	–	–	–	✓	–	–	
		–	–	2.60	–	–	–	✓	–	–	
		10S	0.109	2.77	–	–	–	✓	–	–	
		–	–	3.20	–	✓	✓	–	–	–	
		40S/STD	0.133	3.38	–	✓	✓	–	–	–	
–	–	4.50	–	✓	–	–	–	–	–		
80S	0.179	4.55	–	✓	–	–	–	–	–		
–	–	5.00	–	✓	–	–	–	–	–		
1 ¼ DN32	1.660 42.2	–	–	1.60	–	–	–	✓	–	–	
		5S	0.065	1.65	–	–	–	✓	–	–	
		–	–	2.00	–	–	–	✓	–	–	
		–	–	2.60	–	–	–	✓	–	–	
		10S	0.109	2.77	–	–	–	✓	–	–	
		–	–	3.20	–	–	✓	–	–	–	
		40S/STD	0.14	3.56	–	✓	✓	–	–	–	
		–	–	3.60	–	✓	✓	–	–	–	
80S	0.191	4.85	–	✓	–	–	–	–	–		
–	–	5.00	–	✓	–	–	–	–	–		
1 ½ DN40	1.900 48.3	–	–	1.60	–	–	–	✓	–	–	
		5S	0.065	1.65	–	–	–	✓	–	–	
		–	–	2.00	–	–	–	✓	–	–	
		–	–	2.60	–	–	–	✓	–	–	
		10S	0.109	2.77	–	–	–	✓	–	–	
		–	–	3.20	–	–	✓	–	–	–	
		–	–	3.60	–	–	✓	–	–	–	
		40S/STD	0.145	3.68	–	✓	–	–	–	–	–
–	–	5.00	–	✓	–	–	–	–	–		
80S	0.200	5.08	–	✓	–	–	–	–	–		
2 DN50	2.375 60.3	–	–	1.60	✓	–	–	✓	–	–	
		5S	0.065	1.65	✓	–	–	✓	–	–	
		–	–	2.00	✓	–	–	✓	–	–	
		–	–	2.30	✓	–	–	✓	–	–	
		–	–	2.60	✓	–	–	✓	–	–	
		10S	0.109	2.77	–	–	–	✓	–	–	
		–	–	2.90	–	–	✓	–	–	–	
		–	–	3.20	–	–	✓	–	–	–	
		–	–	3.60	–	–	✓	–	–	–	
		40S/STD	0.154	3.91	–	✓	✓	–	–	–	
		–	–	4.00	–	✓	✓	–	–	–	
		–	–	5.00	–	✓	–	–	–	–	
		80S	0.218	5.54	–	✓	–	–	–	–	
		–	–	5.60	–	✓	–	–	–	–	
–	–	7.10	–	✓	–	–	–	–			
–	–	10.00	–	✓	–	–	–	–			

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Size		ASME B36.19 Schedule #	Wall Thickness		Victaulic Cutting Knives / Grooving Roll Sets						
Nominal inches DN	Actual Outside Diameter inches mm				"StrengThin™ 100" Groove Profile	"OGS" Groove Profile			"AGS" Groove Profile		
						ROLL	CUT	ROLL		ROLL	
								R	RX	RW	RWX
			inches	mm	StrengThin™ 100	Knives	R	RX	RW	RWX	
2½ DN65	2.875 73.0	5S	0.083	2.11	✓	–	–	✓	–	–	
		10S	0.120	3.05	–	–	–	✓	–	–	
		40S/STD	0.203	5.16	–	✓	✓	–	–	–	
		80S	0.276	7.01	–	✓	–	–	–	–	
76.1mm	76.1mm	–	–	1.60	✓	–	–	✓	–	–	
		–	–	2.00	✓	–	–	✓	–	–	
		–	–	2.30	✓	–	–	✓	–	–	
		–	–	2.60	✓	–	–	✓	–	–	
		–	–	2.90	–	–	–	✓	–	–	
		–	–	3.60	–	–	✓	–	–	–	
		–	–	4.00	–	–	✓	–	–	–	
		–	–	5.00	–	✓	✓	–	–	–	
3 DN80	3.500 88.9	–	–	1.60	✓	–	–	✓	–	–	
		–	–	2.00	✓	–	–	✓	–	–	
		5S	0.083	2.11	✓	–	–	✓	–	–	
		–	–	2.30	✓	–	–	✓	–	–	
		–	–	2.60	✓	–	–	✓	–	–	
		–	–	2.90	–	–	–	✓	–	–	
		10S	0.120	3.05	–	–	–	✓	–	–	
		–	–	3.20	–	–	–	✓	–	–	
		–	–	3.60	–	–	–	✓	–	–	
		–	–	4.00	–	–	✓	–	–	–	
		40S/STD	0.216	5.49	–	✓	✓	–	–	–	
		–	–	5.60	–	✓	✓	–	–	–	
		80S	0.300	7.62	–	✓	–	–	–	–	
		–	–	8.00	–	✓	–	–	–	–	
3½ DN90	4.000 101.6	5S	0.083	2.11	✓	–	–	✓	–	–	
		10S	0.120	3.05	–	–	–	✓	–	–	
		40S/STD	0.226	5.74	–	✓	✓	–	–	–	
		–	–	8.00	–	✓	✓	–	–	–	
		80S	0.318	8.08	–	✓	–	–	–	–	
4 DN100	4.500 114.3	–	–	1.60	✓	–	–	✓	–	–	
		–	–	2.00	✓	–	–	✓	–	–	
		5S	0.083	2.11	✓	–	–	✓	–	–	
		–	–	2.60	✓	–	–	✓	–	–	
		–	–	2.90	–	–	–	✓	–	–	
		10S	0.120	3.05	–	–	–	✓	–	–	
		–	–	3.60	–	–	✓	–	–	–	
		–	–	4.50	–	–	✓	–	–	–	
		40S/STD	0.237	6.02	–	✓	✓	–	–	–	
		–	–	6.30	–	✓	–	–	–	–	
		80S	0.337	8.56	–	✓	–	–	–	–	
		–	–	8.80	–	✓	–	–	–	–	
139.7mm	139.7mm	–	–	1.60	✓	–	–	✓	–	–	
		–	–	2.00	✓	–	–	✓	–	–	
		–	–	2.60	✓	–	–	✓	–	–	
		–	–	3.20	–	–	–	✓	–	–	
		–	–	4.00	–	–	–	✓	–	–	
		–	–	5.00	–	–	✓	–	–	–	
		–	–	6.30	–	✓	✓	–	–	–	
		–	–	7.10	–	✓	✓	–	–	–	

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Nominal inches DN	Actual Outside Diameter inches mm				"StrengThin™ 100" Groove Profile	"OGS" Groove Profile			"AGS" Groove Profile	
						ROLL	CUT	ROLL	ROLL	
									StrengThin™ 100	Knives
5 DN125	5.563 141.3	5S	0.109	2.77	–	–	–	✓	–	–
		10S	0.134	3.40	–	–	–	✓	–	–
		40S/STD	0.258	6.55	–	✓	✓	–	–	–
6 DN150	6.625 168.3	–	–	1.60	✓	–	–	✓	–	–
		–	–	2.00	✓	–	–	✓	–	–
		–	–	2.60	✓	–	–	✓	–	–
		5S	0.109	2.75	–	–	–	✓	–	–
		–	–	3.20	–	–	–	✓	–	–
		10S	0.134	3.40	–	–	–	✓	–	–
		–	–	4.00	–	–	✓	–	–	–
		–	–	4.50	–	–	✓	–	–	–
		–	–	5.00	–	–	✓	–	–	–
		40S/STD	0.28	7.11	–	✓	✓	–	–	–
		–	–	11.00	–	✓	–	–	–	–
		8 DN200	8.625 219.1	–	–	2.00	✓	–	–	✓
–	–			2.60	✓	–	–	✓	–	–
5S	0.109			2.77	✓	–	–	✓	–	–
–	–			3.00	✓	–	–	✓	–	–
–	–			3.20	✓	–	–	✓	–	–
–	–			3.60	✓	–	–	✓	–	–
10S	0.148			3.76	✓	–	–	✓	–	–
–	–			4.00	✓	–	–	✓	–	–
–	0.188			4.78	–	–	–	✓	–	–
–	–			6.30	–	✓	✓	–	–	–
–	–			8.00	–	✓	✓	–	–	–
40S/STD	0.322			8.18	–	✓	✓	–	–	–
–	–	12.50	–	✓	–	–	–	–		
10 DN250	10.750 273.0	–	–	2.00	✓	–	–	✓	–	–
		–	–	2.60	✓	–	–	✓	–	–
		–	–	3.00	✓	–	–	✓	–	–
		–	–	3.20	✓	–	–	✓	–	–
		5S	0.134	3.40	✓	–	–	✓	–	–
		–	–	3.60	✓	–	–	✓	–	–
		–	–	4.00	✓	–	–	✓	–	–
		10S	0.165	4.19	✓	–	–	✓	–	–
		–	0.188	4.78	–	–	–	✓	–	–
		–	–	6.30	–	✓	✓	–	–	–
		40S/STD	0.365	9.27	–	✓	✓	–	–	–
		–	–	10.00	–	✓	–	–	–	–
–	–	12.50	–	✓	–	–	–	–		
–	–	14.20	–	✓	–	–	–	–		
12 DN300	12.750 323.9	–	–	2.00	✓	–	–	–	–	–
		–	–	2.60	✓	–	–	–	–	–
		–	–	3.00	✓	–	–	–	–	–
		–	–	3.20	✓	–	–	–	–	–
		5S	0.156	3.96	✓	–	–	✓	–	–
		–	–	4.00	✓	–	–	✓	–	–
		–	–	4.50	✓	–	–	✓	–	–
		10S	0.18	4.57	–	–	–	✓	–	–
		–	0.188	4.78	–	–	–	✓	–	–
		–	–	5.00	–	–	–	✓	–	–
		–	–	7.10	–	✓	✓	–	–	–
		40S/STD	0.375	9.53	–	✓	–	–	–	–
–	–	10.00	–	✓	–	–	–	–		
–	–	12.50	–	✓	–	–	–	–		

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Size		ASME B36.19 Schedule #	Wall Thickness		Victaulic Cutting Knives / Grooving Roll Sets					
Nominal inches DN	Actual Outside Diameter inches mm				"StrengThin™ 100" Groove Profile	"OGS" Groove Profile			"AGS" Groove Profile	
					ROLL	CUT	ROLL		ROLL	
			inches	mm	StrengThin™ 100	Knives	R	RX	RW	RWX
14 DN350	14.000 355.6	5S	0.156	3.96	–	–	–	✓	–	✓
		10S	0.188	4.78	–	–	–	✓	–	✓
		10	0.250	6.35	–	–	–	✓	✓	–
		STD	0.375	9.53	–	✓	✓	–	✓	–
16 DN400	16.000 406.4	5S	0.165	4.19	–	–	–	✓	–	✓
		10S	0.188	4.78	–	–	–	✓	–	✓
		10	0.250	6.35	–	–	–	✓	✓	–
		STD	0.375	9.53	–	✓	✓	–	✓	–
18 DN450	18.000 457.0	5S	0.165	4.19	–	–	–	✓	–	✓
		10S	0.188	4.78	–	–	–	✓	–	✓
		10	0.250	6.35	–	–	–	✓	✓	–
		STD	0.375	9.53	–	✓	✓	–	✓	–
20 DN500	20.000 508.0	5S	0.188	4.78	–	–	–	✓	–	✓
		10S	0.218	5.54	–	–	–	✓	–	✓
		10	0.250	6.35	–	–	–	✓	✓	–
		STD	0.375	9.53	–	✓	✓	–	✓	–
22 DN550	22.000 559.0	5S	0.188	4.78	–	–	–	✓	–	✓
		10S	0.218	5.54	–	–	–	✓	–	✓
		10	0.250	6.35	–	–	–	✓	✓	–
		STD	0.375	9.53	–	✓	✓	✓	✓	–
24 DN600	24.000 610.0	5S	0.218	5.54	–	–	–	✓	–	✓
		10S	0.250	6.35	–	–	–	✓	–	✓
		10	0.250	6.35	–	–	–	✓	✓	–
		STD	0.375	9.53	–	✓	✓	–	✓	–

TABLE 2: Victaulic roll grooving tools and corresponding roll sets for preparing stainless steel pipe

Tool Type	Victaulic Groove Profile	Roll Sets	Tool Roll Grooving Range for 304/316			
			Nominal Size Min inches mm	Actual Size Min inches mm	Nominal Size Max inches mm	Actual Size Max inches mm
RG3600	StrengThin™	StrengThin™ 100	2 50	2.375 60.3	12 300	12.75 323.9
VE12	OGS	R	1 25	1.315 33.4	2 50	2.375 60.3
VE12SS	OGS	RX	$\frac{3}{4}$ 20	1.050 26.7	1½ 40	1.900 48.3
VE26S	OGS	R	2 50	2.375 60.3	2½ 65	2.875 73.0
VE26SS	OGS	RX	2 50	2.375 60.3	6 150	6.625 168.3
VE46	OGS	R	3½ 90	4.000 101.6	6 150	6.625 168.3
VE226B	OGS	R	$\frac{3}{4}$ 20	1.050 26.7	1½ 40	1.900 48.3
VE226BSS	OGS	RX	$\frac{3}{4}$ 20	1.050 26.7	1½ 40	1.900 48.3
VE226S	OGS	R	1¼ 32	1.660 42.2	2½ 65	2.875 73.0
VE226MSS	OGS	RX	2 50	2.375 60.3	6 150	6.625 168.3
VE106 / VE206	OGS	R	1¼ 32	1.660 42.2	2½ 65	2.875 73.0
	OGS	RX	1¼ 32	1.660 42.2	6 150	6.625 168.3
VE272SFS	OGS	R	$\frac{3}{4}$ 20	1.050 26.7	8 200	8.625 219.1
	OGS	RX	$\frac{3}{4}$ 20	1.050 26.7	12 300	12.750 323.9
VE270 / 271FSD ⁵	OGS	R	$\frac{3}{4}$ 20	1.050 26.7	8 200	8.625 219.1
	OGS	RX	$\frac{3}{4}$ 20	1.050 26.7	12 300	12.750 323.9
VE416FS	OGS	R	2 50	2.375 60.3	12 300	12.750 323.9
	OGS	RX	2 50	2.375 60.3	12 300	12.750 323.9
	AGS	RW/RWX	14 350	14.000 355.6	16 400	16.000 406.4
VE416 / 417FSD	OGS	R	2 50	2.375 60.3	12 300	12.750 323.9
	OGS	RX	2 50	2.375 60.3	12 300	12.750 323.9
	AGS	RW/RWX	14 350	14.000 355.6	16 400	16.000 406.4
VE268 ⁵	OGS	R	$\frac{3}{4}$ 20	1.050 26.7	8 200	8.625 219.1
	OGS	RX	$\frac{3}{4}$ 20	1.050 26.7	12 300	12.750 323.9
VE414	OGS	R	2 50	2.375 60.3	12 300	12.750 323.9
	OGS	RX	2 50	2.375 60.3	12 300	12.750 323.9
VE414MC	AGS	RW/RWX	14 350	14.000 355.6	16 400	16.000 406.4

5 $\frac{3}{4}$ – 1 ½/20 – 40 mm roll sets are not provided with the tool and must be purchased separately. Contact Victaulic for details.

TABLE 2: Victaulic roll grooving tools and corresponding roll sets for preparing stainless steel pipe

Tool	Victaulic Groove Profile	Roll Sets	Tool Roll Grooving Range for 304/316			
			Nominal Size Min inches mm	Actual Size Min inches mm	Nominal Size Max inches mm	Actual Size Max inches mm
VE450	OGS	R	4 100	4.500 114.3	12 300	12.750 323.9
	OGS	RX	4 100	4.500 114.3	12 300	12.750 323.9
VE450FSD	AGS	RW/RWX	14 350	14.000 355.6	24 600	24.000 610.0
VE460	OGS	R	4 100	4.500 114.3	12 300	12.750 323.9
	OGS	RX	4 100	4.500 114.3	12 300	12.750 323.9
VE460	AGS	RW	14 350	14.000 355.6	24 600	24.000 610.0
		RWX	14 350	14.000 355.6	18 450	18.000 457.0

TABLE 3: Victaulic cut grooving tools and corresponding knives for preparing stainless steel pipe

Tool	Victaulic Groove Profile	Knives	Tool Cut Grooving Range for 304/316				
			Maximum Allowable Wall Thickness inches mm	Nominal Size Min inches mm	Actual Size Min inches mm	Nominal Size Max inches mm	Actual Size Max inches mm
VG Vic-Groover	OGS	Stainless Steel	unlimited	$\frac{3}{4}$ 20	1.315 33.4	8 200	8.625 219.1
VG28GD	OGS	Stainless Steel	0.63 16	2 50	2.375 60.3	8 200	8.625 219.1
VG824	OGS	Stainless Steel	0.75 19	8 200	8.625 219.1	16 400	16.000 406.4

NOTIFICATIONS

 WARNING

- The proper roll set must be selected when grooving stainless steel pipe.
 - Proper cutting techniques must be used to prevent pipe end distortion during the grooving process.
- Failure to follow these instructions will cause joint failure, resulting in serious personal injury and/or property damage.

 WARNING

- Failure to use proper roll sets when grooving pipe will cause joint failure, resulting in serious personal injury and/or property damage.
- For Victaulic Original Groove System (OGS) Specifications (refer to publication 25.01):
- Victaulic RX roll sets shall be used roll grooving pipe with wall thicknesses less than std. wt. Please refer to Table 1 for more details.
 - Victaulic OGS products shall not be installed on pipe that is prepared to Victaulic Advanced Groove System (AGS) specifications or Victaulic StrengThin™ 100 specifications.
- For Victaulic Advanced Groove System (AGS) Specifications (refer to publication 25.09):
- Victaulic RW roll sets shall be used when preparing standard-wall stainless steel pipe to Victaulic AGS specifications.
 - Victaulic RWX roll sets shall be used when preparing Schedules 5S and 10S stainless steel pipe to Victaulic AGS specifications. Please refer to Table 1 for more details.
 - Victaulic AGS products shall not be installed on pipe that is prepared to Victaulic OGS specifications. Please refer to Table 1 for more details.
- For Victaulic StrengThin™ 100 Specifications (refer to publication 25.13):
- A dedicated Victaulic roll grooving tool, equipped with the appropriate Victaulic ST roll set, shall be used to prepare pipe of the proper material and wall thickness to StrengThin™ 100 specifications. Contact Victaulic for additional information.
 - Victaulic StrengThin™ 100 products shall not be installed on pipe that is prepared to Victaulic OGS specifications.

REFERENCE MATERIALS

- [24.01 Victaulic Tools](#)
- [25.01 Victaulic OGS Roll Groove Specifications](#)
- [25.09 Victaulic AGS Roll Groove Specifications](#)
- [25.13 Victaulic StrengThin™ 100 Roll Groove Specifications](#)

User Responsibility for Product Selection and Suitability

Each user bears final responsibility for determining the suitability of Victaulic products for their end-use application, in accordance with industry standards, project specifications, and Victaulic's published performance, maintenance, and safety data, as well as all warnings and installation 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, warranty, installation instructions, or this disclaimer.

Installation

Always refer to and follow the [Victaulic Installation Handbook](#) or installation instructions for 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 victaulic.com.

Warranty

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

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