



GLADDING MCBEAN

# VITRIFIED CLAY PIPE

TODAY'S CLAY PIPE BUILT FOR TOMORROW

[www.gladdingmcbean.com](http://www.gladdingmcbean.com)







## Introduction

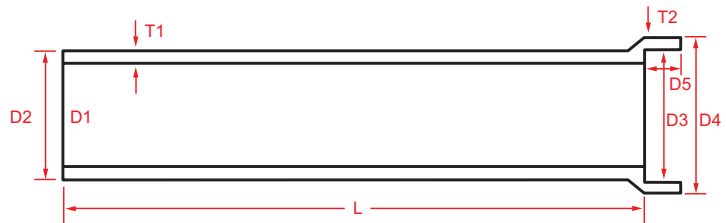
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Gladding, McBean is a specialty manufacturer of Vitrified Clay Pipe products which are used by contractors and agencies throughout the world. Our state-of-the-art manufacturing processes and technology produces a ceramic product which has great strength, high density and water tight jointing. Vitrified Clay Pipe is the most inert of all sanitary sewer pipe materials. It does not have gradual reduction in strength over time as with resin type products. Chemical resistance likewise does not deteriorate. Vitrified Clay Pipe is the only pipe which offers both a design and service life exceeding 100 years.

We have shown standard stock items herein. We typically manufacture non-stock items and non-standard sizes by special order. Please contact our staff for specific dimension information as all dimensions shown herein are subject to change without notice.

Our mission is to provide the optimum level of value, service and quality products to our customers. Our experienced and knowledgeable staff are here to assist in the design and/or installation of your projects.

# Standard Bell & Spigot



D1	L	Weight plf	D2	D3	D4	D5	T1	T2
4"	1', 2', 4'	11 lb	5.3125"	6.5"	7.625"	1.5"	.6875"	.5"
6"	1', 2', 6'	21 lb	7.87"	9.05"	10.43"	2.33"	7.87"	0.67"
8"	1', 2', 6'	30 lb	10.02"	11.49"	13.09"	2.31"	.98"	0.78"
10"	1', 2', 6'	44 lb	12.47"	14.07"	15.87"	2.61"	1.10"	0.92"
12"	1', 2', 6'	54 lb	14.52"	15.96"	18.51"	2.84"	1.26"	0.99"
15"	1', 2', 6'	90 lb	18.30"	20.30"	22.96"	2.81"	1.71"	1.28"
18"	1', 2', 6'	141 lb	21.87"	23.90"	24.47"	3.22"	2.03"	1.50"
21"	1', 2', 6'	168 lb	25.78"	27.78"	30.78"	3.73"	2.36"	1.60"
24"	1', 2', 6'	230 lb	28.85"	30.78"	34.06"	3.67"	2.47"	1.71"
27"	1', 2', 6'	290 lb	32.77"	34.92"	38.26"	3.97"	2.99"	1.76"
30"	1', 2', 6'	333 lb	36.06"	38.26"	42.18"	3.90"	3.13"	2.02"
33"	1', 2', 6'	415 lb	39.52"	41.74"	46.43"	4.14"	3.23"	2.27"
36"	1', 2', 6'	445 lb	43.01"	45.77"	49.93"	4.05"	3.68"	2.27"
39"	1', 2', 5.5'	540 lb	46.42"	49.66"	54.83"	4.10"	3.66"	2.49"
42"	1', 2', 5.5'	603 lb	50.17"	53.18"	58.50"	4.67"	4.06"	2.55"

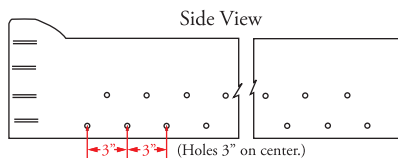
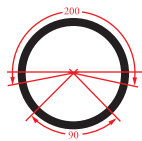
## MINIMUM 3-EDGE BEARING STRENGTH

Nominal Pipe Size	Standard Lengths	ASTM C-700 Extra Strength		SSPWC "Green Book" Extra Strength		SSPWC "Green Book" High Strength	
		lb./ft. linear ft.	(kN/ linear m)	lb./ft. linear ft.	(kN/ linear m)	lb./ft. linear ft.	(kN/ linear m)
4"	1', 2', 4'	2000	(29.2)	2000	(29.2)	2000	(29.2)
6"	1', 2', 5'	2000	(29.2)	2000	(29.2)	2200	(32.1)
8"	1', 2', 6'	2200	(32.1)	2200	(32.1)	2400	(35.0)
10"	1', 2', 6'	2400	(35.0)	2400	(35.0)	2600	(37.9)
12"	1', 2', 6'	2600	(37.9)	2600	(37.9)	2900	(41.7)
15"	1', 2', 6'	2900	(42.3)	3100	(45.2)	3400	(49.7)
18"	1', 2', 6'	3300	(48.2)	3600	(52.5)	4000	(57.8)
21"	1', 2', 6'	3850	(56.2)	4200	(61.3)	4600	(67.4)
24"	1', 2', 6'	4400	(64.2)	4800	(70.2)	5300	(77.2)
27"	1', 2', 6'	4700	(68.6)	5200	(75.9)	5700	(83.3)
30"	1', 2', 6'	5000	(73.0)	5500	(80.3)	6100	(88.3)
33"	1', 2', 6'	5500	(80.3)	5800	(84.6)	6400	(93.0)
36"	1', 2', 6'	6000	(87.6)	6300	(91.9)	6900	(101.1)
39"	1', 2', 5.5'	6600	(96.3)	6600	(96.3)	7300	(105.9)
42"	1', 2', 5.5'	7000	(102.2)	7000	(102.2)	7700	(112.4)

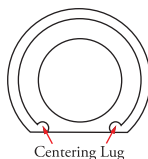
- NOTE: 1. The above dimensions are average measurements and do not reflect the actual tolerances.  
 2. The above weights are average weights and do not reflect the actual tolerances.  
 3. The above pipe lengths are standard stock lay lengths. We also regularly manufacture custom lengths.

# Standard Perforated Pipe

Cross Section For Perforation Location



End View of Bell



Note: Perforated pipe 10" or larger, available with full bell only.

## MINIMUM 3-EDGE BEARING STRENGTH

Nominal Pipe Size	Standard Lengths	Approximate Weight	ASTM C-700 lb.f/linear ft.	Extra Strength (kN/linear m)
4"	1', 2', 4'	11 lb	2000	(29.2)
6"	1', 2', 5'	21 lb	2000	(29.2)
8"	1', 2', 6'	30 lb	2200	(32.1)
10"	1', 2', 6'	44 lb	2400	(35.0)
12"	1', 2', 6'	54 lb	2600	(37.9)

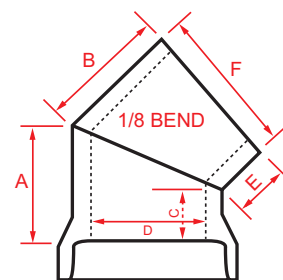
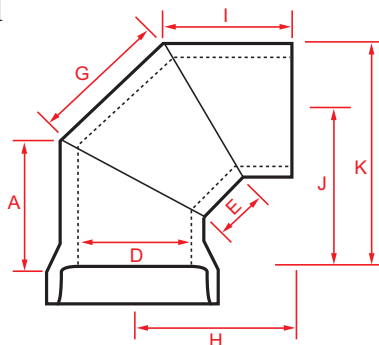
## Bends

Available in 4" - 42". Mitered bends having a 1/16 bend (or 22-1/2°) are available in 6" - 42".

Mitered 1/4 or 90° Bend



Mitered 1/8 or 45° Bend



D	A	B	C	E	F	G	H	I	J	K
6"	6-1/4"	8-1/2"	3-1/4"	4"	7-7/8"	7-1/2"	9-1/4"	8"	8"	12"
8"	7-5/8"	8"	3-5/8"	4"	10"	8"	9-1/4"	8"	9-1/4"	14-1/4"
10"	8-5/8"	9"	3-5/8"	4"	12-1/2"	11-1/2"	10-1/4"	8-5/8"	10-1/4"	16-1/4"
12"	9-3/4"	9-3/4"	3-7/8"	4"	14-1/2"	12-5/8"	11-3/4"	9-3/4"	11-3/4"	19-1/4"
15"	12-3/4"	11-5/8"	5"	4"	18-1/4"	19-1/8"	17-1/8"	12-3/4"	17"	26-1/8"
18"	14"	14"	5"	5"	21-7/8"	23"	19-1/2"	14"	19-1/2"	30-1/2"
21"	16"	16"	5-1/2"	5-1/2"	25-1/2"	26-5/8"	22-1/8"	16"	22-1/8"	34-7/8"
24"	18"	18"	6"	6"	29"	30"	24-1/2"	18"	24-3/4"	39-1/4"
37"	20-1/2"	20-1/2"	6-1/2"	6-1/2"	33-3/4"	34-1/2"	28"	20-1/2"	28"	44-7/8"
30"	22"	22"	7"	7"	36"	36-3/4"	30-1/4"	22"	30-1/4"	48-1/4"
33"	23-7/8"	23-7/8"	7-1/2"	7-1/2"	39-1/2"	40-1/4"	32-5/8"	23-7/8"	32-5/8"	52-3/8"
36"	25-5/8"	25-5/8"	8"	8"	42-5/8"	43-1/4"	35"	25-5/8"	35"	56-3/8"
39"	28"	28"	8-1/2"	8-1/2"	47"	47-1/2"	37-1/2"	28"	37-1/2"	61"
42"	29-3/4"	29-3/4"	9"	9"	50-1/4"	50-1/2"	40-1/2"	29-3/4"	40-1/2"	63-1/4"

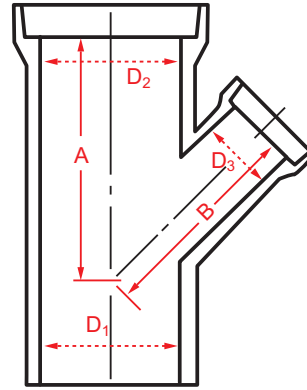
# Wyes

Available in 4" - 42". Branches are made approximately 45° to the barrel. Standard wyes 4" - 21" shown below.

Wye



Reverse Wye



D1&D2	D3	A	B	Barrel Diameter	Spur Diameter	A	B
4"	4"	11"	9-11/16"	24"	6"	25-5/8"	27-5/8"
6"	4"	12-5/16"	11-1/2"	24"	8"	27-5/8"	28-3/4"
6"	6"	14-5/16"	12-9/16"	24"	10"	29-1/8"	30-3/8"
8"	4"	13-3/8"	13"	24"	12"	31-1/8"	31-3/4"
8"	6"	15-3/8"	14"	24"	15"	32-1/8"	33-5/8"
8"	8"	16-7/8"	15-1/8"	27"	6"	28-1/8"	30-1/8"
10"	4"	14-3/8"	14-9/16"	27"	8"	30-1/8"	31-1/4"
10"	6"	16-3/8"	15-5/8"	27"	10"	31-5/8"	32-7/8"
10"	8"	18-3/8"	16-3/4"	27"	12"	33-5/8"	34-1/4"
10"	10"	20-3/8"	18-3/8"	27"	15"	34-5/8"	36-1/8"
12"	4"	15-3/4"	16-1/4"	30"	6"	30-1/8"	32-7/16"
12"	6"	17-5/8"	17-1/4"	30"	8"	32-1/8"	33-1/2"
12"	8"	19-5/8"	19"	30"	10"	34-1/8"	35-1/4"
12"	10"	21-5/8"	20"	30"	12"	35-5/8"	36-1/2"
12"	12"	23-1/8"	21-3/8"	30"	15"	36-1/8"	38-7/16"
15"	6"	19-5/8"	19-7/8"	33"	6"	32-1/2"	34-7/8"
15"	8"	21-5/8"	21"	33"	8"	34"	36"
15"	10"	22-1/8"	22-5/8"	33"	10"	36"	37-5/8"
15"	12"	25-1/8"	24"	33"	12"	37-1/2"	39"
15"	15"	26-5/8"	25-7/8"	33"	15"	37-1/2"	40-7/8"
18"	6"	21-7/8"	22-11/16"	36"	6"	34-1/2"	37-3/16"
18"	8"	23-7/8"	23-13/16"	36"	8"	36-1/2"	38-5/16"
18"	10"	25-7/8"	25-7/16"	36"	10"	38-1/2"	39-15/16"
18"	12"	26-7/8"	26-13/16"	36"	12"	39"	41-5/16"
18"	15"	29-7/8"	28-11/16"	36"	15"	39"	43-3/8"
21"	6"	23-7/8"	25-1/16"	39"	6"	36-3/8"	40"
21"	8"	25-7/8"	26-3/16"	39"	8"	38-3/8"	41-1/8"
21"	10"	27-7/8"	27-13/16"	39"	10"	40-3/8"	42-3/4"
21"	12"	29-7/8"	29-3/16"	39"	12"	41-3/8"	44-1/8"
21"	15"	30-7/8"	31-1/16"	39"	15"	41-3/8"	46"

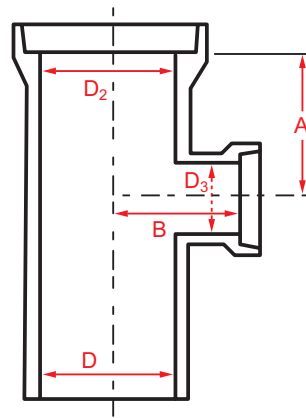
# Tees

Available in 4" - 42". Branches are made approximately 90° to the barrel. Standard tees 4" - 21" shown below.

Tee



Double Tee

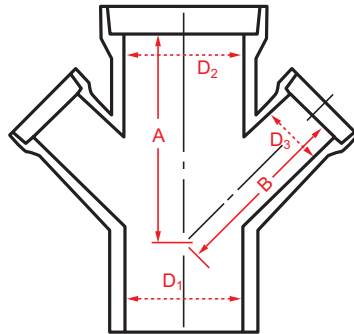


D1&D2	D3	A	B	D1&D2	D3	A	B
4"	4"	6"	6-1/16"	24"	6"	8-5/8"	17-13/16"
6"	4"	6-1/16"	7-5/16"	24"	8"	9-5/8"	17-7/8"
6"	6"	7-1/16"	7-1/8"	24"	10"	11-1/8"	18-3/8"
8"	4"	6-3/8"	8-3/8"	24"	12"	12-1/8"	18-5/8"
8"	6"	7-3/8"	8-3/16"	24"	15"	14-1/8"	18-5/8"
8"	8"	8-3/8"	8-1/4"	27"	6"	9-1/8"	19-9/16"
10"	4"	6-3/8"	9-1/2"	27"	8"	10-5/8"	19-5/8"
10"	6"	7-7/8"	9-5/16"	27"	10"	11-5/8"	20-1/8"
10"	8"	8-7/8"	9-3/8"	27"	12"	12-5/8"	20-3/8"
10"	10"	9-7/8"	9-7/8"	27"	15"	14-1/8"	20-3/8"
12"	4"	6-5/8"	10-5/8"	30"	6"	9-5/8"	21-3/16"
12"	6"	8-1/8"	10-7/16"	30"	8"	10-5/8"	21-1/4"
12"	8"	9-1/8"	10-1/2"	30"	10"	11-5/8"	21-3/4"
12"	10"	10-1/8"	11"	30"	12"	13-1/8"	22"
12"	12"	11-1/8"	11-1/4"	30"	15"	14-5/8"	22"
15"	6"	8-1/8"	12-5/16"	33"	6"	10"	22-15/16"
15"	8"	9-1/8"	12-3/8"	33"	8"	11"	23"
15"	10"	10-1/8"	12-7/8"	33"	10"	12"	23-1/2"
15"	12"	11-5/8"	13-1/8"	33"	12"	13"	23-3/4"
15"	15"	13-1/8"	13-1/8"	33"	15"	15"	23-3/4"
18"	6"	8-3/8"	14-5/16"	36"	6"	10-1/2"	24-9/16"
18"	8"	9-3/8"	14-3/8"	36"	8"	11-1/2"	24-5/8"
18"	10"	10-3/8"	14-7/8"	36"	10"	12-1/2"	25-1/8"
18"	12"	11-7/8"	15-1/8"	36"	12"	13-1/2"	25-3/8"
18"	15"	12-7/8"	15-1/8"	36"	15"	15-1/2"	25-3/8"
21"	6"	8-3/8"	16"	39"	6"	10-7/8"	26-9/16"
21"	8"	9-3/8"	16-1/16"	39"	8"	11-7/8"	26-5/8"
21"	10"	10-7/8"	16-9/16"	39"	10"	12-7/8"	27-1/8"
21"	12"	11-7/8"	16-13/16"	39"	12"	13-7/8"	27-3/8"
21"	15"	13-3/8"	16-13/16"	39"	15"	15-7/8"	27-3/8"

# Double Wyes

Available in 4" - 42". Branches are made approximately 45 degrees to the barrel. Dimensions for 4" - 8" are shown below.

Double Wye



D1	D2	D3	A	B
4"	4"	4"	11"	9-11/16"
6"	6"	4"	12-5/16"	11-1/2"
6"	6"	6"	14-5/16"	12-1/2"
8"	8"	6"	15-3/8"	14"

NOTE: Dimensions A and B are approximate.

# Sweeps

Available in 4" only.

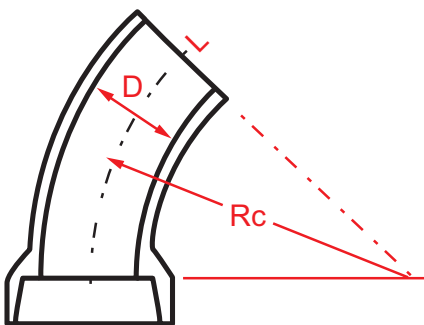
Sweep 1/4 or 90°



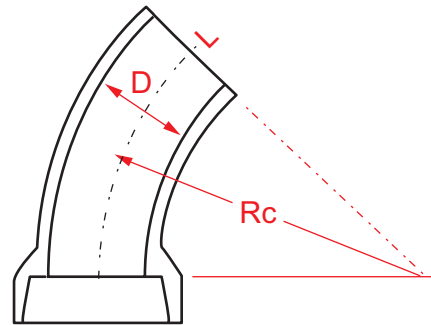
Sweep 1/16 or 22°



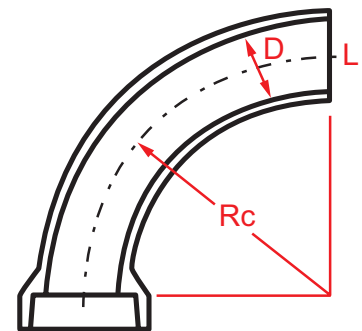
Sweep 1/8 or 45° Bend



D	Rc	L
4"	17"	10"



D	Rc	L
4"	10-1/4"	13-1/2"



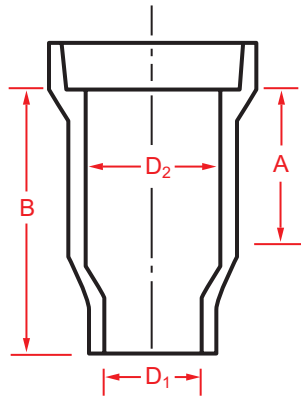
D	Rc	L
4"	9-1/2"	26"



# Reducers

Available in 4" - 42". Dimensions for 4" - 8" shown below.

Reducer



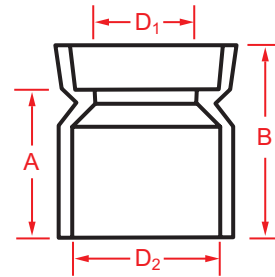
D1	D2	A	B
4"	6"	7"	12"
6"	8"	7"	15"
8"	10"	7"	18"

# Increasesers

Available in 4" - 42". Dimensions for 4" - 8" shown below.

Increaser

4" x 6", 6" x 8", 8" x 10" Increaser



D1	D2	A	B
4"	6"	6-1/8"	8"
6"	8"	17-1/2"	19-3/4"
8"	10"	17-3/8"	20"

# Transitional Stubs

Used to join plain-end rubber coupling pipe to the bell end of SPEED-SEAL.



# Transitional Increaser Stubs

Used to join 4" plain-end rubber coupling pipe to the bell end 6" SPEED-SEAL.



# Stoppers

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Poly cap stoppers are not recommended in areas subject to ground water.

Clay Stopper  
(8" thru 24")



Polycap Stopper  
(4" thru 8")



# Tee Saddles

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Plain Tee Saddle



Collar Tee Saddle



Square Base Tee Saddle  
(Available in 4" & 6" only)



# Specialty Items

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Drop Manhole Tee



Drop Manhole Double Tee



Drop Manhole 1/4 Bend



# Specialty Items

Handhole Trap



Alternate Pipe VCP Connections

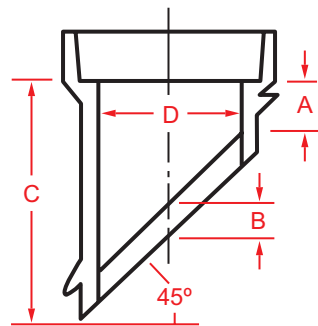
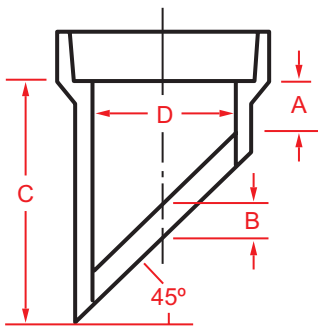


Wye-Tee Combination



Plain Wye Saddle

Collar Wye Saddle



D	A	B	C
4"	1-1/2"	1-1/2"	6-1/2"
6"	2"	1-1/2"	9"
8"	2-1/2"	1-1/2"	12"

D	A	B	C
4"	2-1/2"	1-1/2"	6-1/2"
6"	3"	1-1/2"	9"
8"	3-1/2"	1-1/2"	12"

# Banded Rubber Couplings

Used for the joining of regular or field-cut plain-end vitrified clay pipe to same.

**Rubber Coupling**  
Available in sizes 4" - 12".



**Sewer Repair Coupling**  
Available with outside stainless steel shear ring sizes 4" - 42".



**Torque Wrench**  
Non-adjustable torque wrench factory set to 60 inch pounds. Accommodates both 5/16 and 3/8 inch fasteners.



# Transitional Bushings For Rubber Couplings

Used in combination with banded rubber couplings for transitions. From Plain-end vitrified clay pipe to ductile iron pipe, cast iron pipe (CI), PVC pipe (PL) or ABS. Available in sizes 4" - 12".



# Specifications

The Vitrified Clay Pipe products manufactured by Gladding, McBean are designed to exceed all applicable requirements of both the ASTM Standards and the "GREENBOOK" Standard Specifications for Public Works Construction.

Below is a table depicting a synopsis of specifications applicable to Vitrified Clay Pipe products. Please contact our staff to request additional information or to obtain a copy of any standard.

SYNOPSIS OF SPECIFICATIONS APPLICABLE TO VITRIFIED CLAY PIPE PRODUCTS			
Item	"Green Book" SSPWC	ASTM	AASHTO
1. Specification for strength.	Section 207-8	C700	M65
2. Specification for compression joints.	Section 208-2.3	C425	
3. Specification for perforated pipe.		C700	M65
4. Standard test methods.	Section 207-8.5	C301	
5. Standard installation practice.		C12	

# Curved Sewer Installations

The design and installation of curved sewer pipelines is common. Bends and curves to accommodate both grade and alignment changes are commonly accomplished by the deflection of straight pipe or by the use of mitered bends, beveling the joints or any combination thereof.

We manufacture mitered bends in sizes 4" to 42" to accommodate any change in angle designed by the engineer.

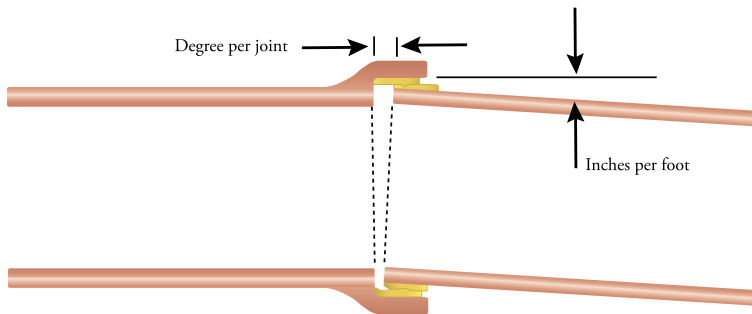
The deflection of standard straight pipe generally provides the required change in grade or alignment. Utilizing shorter pipe lengths decreases the allowable radius. We are providing the following to assist you in such designs.

When it is necessary to use curvilinear alignment due to terrain or to avoid existing structures, the following design and installation criteria may be safely employed:

$$R = \frac{360 \text{ degrees}}{\emptyset \text{ degrees}} \times \frac{L}{2 \pi}$$

$\emptyset$  = Allow deflection angle per joint  
 L = Length of pipe  
 R = Minimum Radius of curvature

NOTE: When  $\emptyset$  is maximum R will be minimum.



NOMINAL PIPE SIZE	MAX. DEFL. AT EACH JOINT	APPROX. MAX. DEFL./FT. OF PIPE	MINIMUM RADIUS OF CURVATURE - FEET						
			6' PIPE LENGTH	5-1/2' PIPE LENGTH	5' PIPE LENGTH	4-1/2' PIPE LENGTH	4' PIPE LENGTH	3' PIPE LENGTH	2' PIPE LENGTH
4" - 12"	2.39°	1/2"	144'	132'	120'	108'	96'	72'	48'
15" - 24"	1.79°	3/8"	192'	176'	160'	144'	128'	96'	64'
27" - 36"	1.21°	1/4"	288'	264'	240'	213'	189'	142'	95'
39" - 42"	0.92°	3/16"	N/A	352'	320'	280'	249'	187'	125'

## Pipe Joints

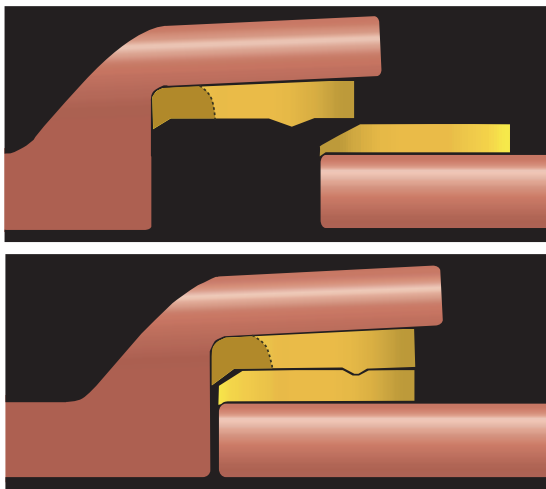
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Our SPEED-SEAL joints are manufactured from a proprietary design and protected by a registered trademark. SPEED-SEAL is composed of a two part polyurethane mixture, factory applied to the ends of our pipe. The spigot part of the joint has a smooth surface, whereas the bell portion has a raised ridge.

Our joints are designed not to leak as required by ASTM C 425. We regularly check our joints by an internal hydrostatic test of 10 psig.

We provide a vegetable lubricant to be used when inserting the spigot into the bell. When lubricated and pushed together, the ridge portion of the bell and the spigot casting deform assuring you of a leakproof design by giving a predicted, residual compression around the full circumference of the seal.

Our polyurethane formulation is impervious to detergents, acids, alkalis and gasses normally present in sanitary sewer lines.



Shaded areas may be cast in some larger diameter joints, depending on manufacturing method.

## SPEED-SEAL Lubricant

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We provide a vegetable based soap lubricant for use during the assembly of our SPEED-SEAL joints. The lubricant should be applied full strength to each joint surface immediately prior to assembly, following the removal of all dirt and debris.

## Engineering Services

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Gladding McBean, in addition to being a manufacturer of Vitrified Clay Pipe, provides professional support to the engineering community and is a resource for technical information during both the design and construction of your project. We will assist agencies with the identification and resolution of construction issues and/or provide information to the contractor to assist in the proper installation of our products.

## Plant Tours

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Please contact our Engineering Services Department to arrange a tour of our manufacturing plant located in Lincoln, California.

## Delivery of Pipe

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Gladding McBean primarily utilizes Material Transport for the on-time delivery of our products throughout the western United States.



Northern California  
601 7th Street  
Lincoln, CA 95648  
Phone: (916) 645-3341  
Fax: (916) 645-9538

Southern California  
4301 Firestone Blvd.  
South Gate, CA 90280  
Phone: (323) 568-1860  
Fax: (323) 564-7874

3725 Temescal Canyon Rd.  
Corona, CA 92883  
Phone: (951) 277-4466  
Fax: (951) 277-2491

[www.gladdingmcbean.com](http://www.gladdingmcbean.com)



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