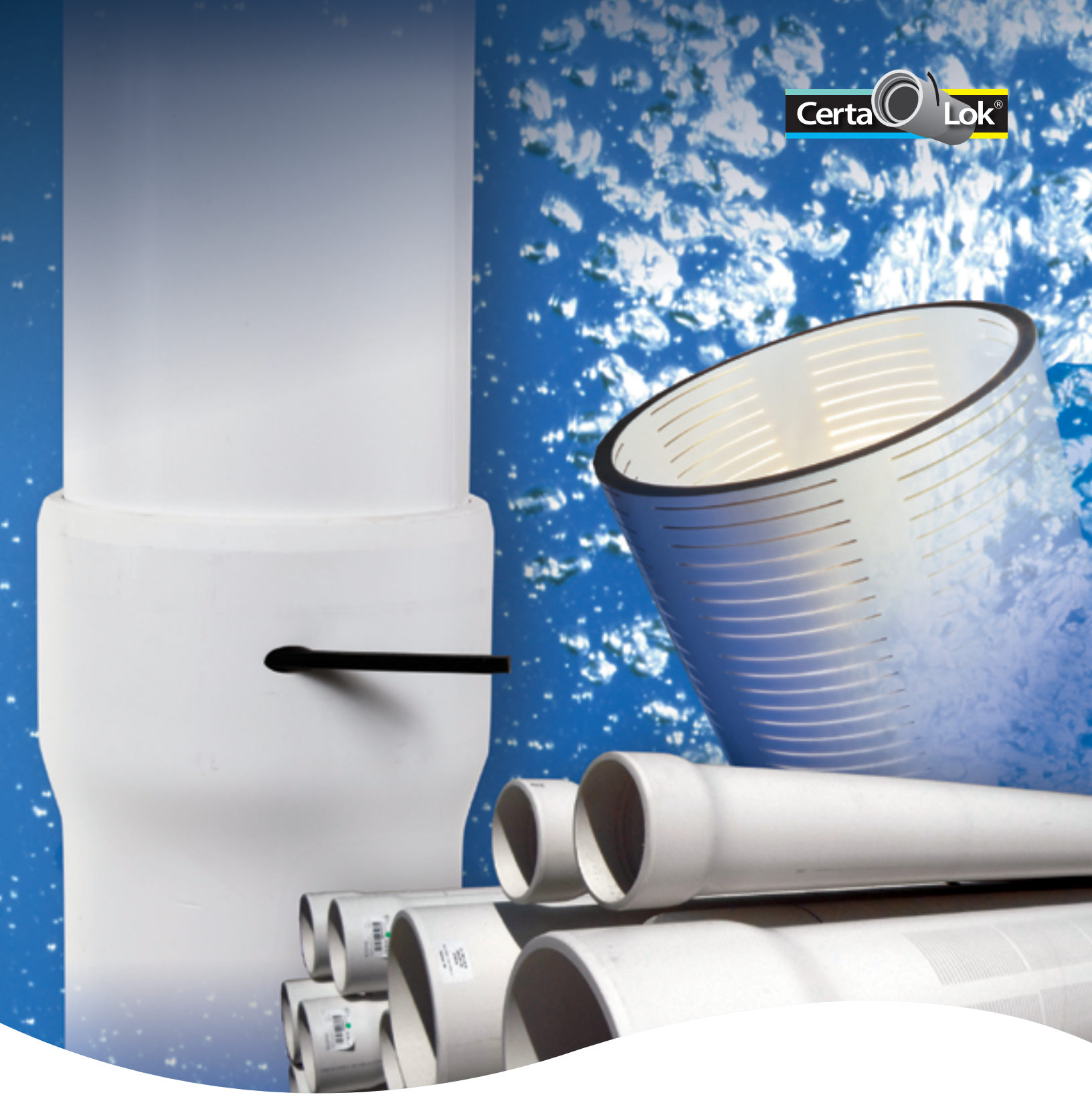


WATER WELL

Sure-Fit®, Certa-Lok® and Slotted PVC Well Casing

Westlake
Pipe & Fittings

Sure-Fit® PVC Well Casing

Westlake Pipe & Fittings is the industry leader in solvent weld PVC well casing, offering a broad range of sizes and classes to suit virtually all applications, from small diameter residential to large diameter irrigation wells. Sure-Fit PVC well casing is NSF14 listed, which is your assurance that these products have been independently tested by a nationally recognized authority for portable water use. Sure-Fit is produced at our modern manufacturing facilities to the dimensional and quality standards of ASTM F480.

Westlake Pipe & Fittings Sure-Fit PVC well casing is produced with a deeper bell for a stronger, more durable bond. Bell lengths on 4" through 6" casing exceed minimum ASTM F480 requirements by 7% - 30%. Solvent weld belled end joints are designed to seal securely, creating a continuous watertight system.

Westlake Pipe & Fittings also manufactures the industry's most complete line of fittings for use with solvent weld casing (see pages 3-4). All fittings are individually fabricated to exacting quality standards at our modern production facilities.

PVC well casing and drop pipe have gained broad acceptance since their introduction almost 40 years ago. Today, due to its outstanding physical and mechanical properties, PVC is the predominant and preferred material used for water wells. PVC compounds used in the production of Westlake Pipe & Fittings well products meet the requirements of ASTM D1784, cell classification 12454.

Check out our Water Well Calculators

Use these calculators to estimate the best Westlake Pipe & Fittings piping solution for your project:

- Slotted Well Casing Flow Rate
- Well Casing Depth
- Well Drop Pipe

The Special Advantages of PVC

- Long Life: PVC is completely immune to electrolytic and galvanic corrosion, so it won't rust or rot like metal pipe can.
- High Chemical Resistance: PVC's excellent chemical resistance makes it immune to virtually all chemicals normally found in wells, including chlorine-based disinfectants and the highly corrosive acids often used for well rehabilitation.
- Testing performed by NSF International has shown that PVC will have no detrimental effects on the taste or color of potable water. Many customers prefer to drink potable water pumped through PVC rather than water pumped through metal pipe.

Only products bearing the NSF Mark are Certified

- Because PVC is a non-conductor, the chances of lightning damage are minimized.
- Lightweight and easy to handle.
- Quick and easy to install.
- Approved for use by most State Regulatory Agencies.

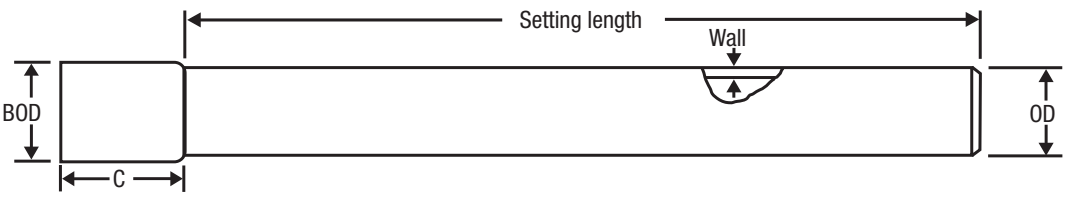
Sure-Fit® PVC Well Casing

Solvent Weld Bell End, ASTM F480

Nom. Size	OD	Class	Min. Wall Thickness	Min. Inside Diameter	Approx. Bell Dimensions		Setting Length ft.	Casing Weight lbs/ft.	RHCP, psi	Part Number
					BOD	C				
2"	2.375	SCH 40	0.154	2.009	2.750	4.50	10	0.73	291	34S02001011000
							20	0.72		34S02002011000
3"	3.500	SCH 40	0.216	2.993	4.000	4.00	20	1.48	250	34S03002011000
4"	4.500	SDR 32.5	0.138	4.130	4.813	6.50	20	1.28	29	34K04002011000
		SDR 26	0.173	4.060	4.875	6.50	20	1.57	58	34I04002011000
		SDR 21	0.214	4.001	4.938	6.50	20	1.93	111	34G04002011000
		SCH 40	0.237	3.946	5.000	6.50	10	2.19	152	34S04001011000
							20	2.12		34S04002011000
4 1/2"	4.950	SDR 26	0.190	4.470	5.375	6.50	20	1.90	58	34I04502011000
		SCH 40	0.248	4.370	5.500	6.50	20	2.45	130	34S04502011000
		SDR 17	0.291	4.279	5.563	6.50	20	2.82	215	34D04502011000
5"	5.563	SDR 26	0.214	5.026	6.000	7.00	20	2.42	58	34I05002011000
		SDR 21/ SCH 40	0.265	4.950	6.125	7.00	20	2.92	111	34S05002011000
		SDR 17	0.327	4.796	6.250	7.00	20	3.61	215	34D05002011000
6"	6.625	SDR 32.5	0.204	6.114	7.063	7.00	20	2.76	29	34K06002011000
		SDR 26	0.255	5.998	7.188	7.00	20	3.43	58	34I06002011000
		SCH 40	0.280	5.951	7.250	7.00	20	3.75	77	34S06002011000
		SDR 21	0.316	5.877	7.313	7.00	20	4.20	111	34G06002011000
		SDR 17	0.390	5.711	7.438	7.00	20	5.13	215	34D06002011000
6 1/4"	6.900	DR 27.6	0.250	6.298	7.438	7.00	20	3.50	48	34J06902011000
6 1/8"	6.900	SDR 21	0.329	6.122	7.625	7.00	20	4.56	111	34G06902011000
6.9"	6.900	SDR 17	0.406	5.948	7.750	7.00	20	5.56	215	34D06902011000
8"	8.625	SDR 26	0.332	7.799	9.313	7.00	20	5.80	58	34I08002011000
		SDR 21	0.410	7.655	9.500	7.00	20	7.10	111	34G08002011000
10"	10.750	SDR 26	0.413	9.742	11.625	7.50	20	9.02	58	34I10002011000
		SDR 21	0.511	9.549	11.875	7.50	20	11.05	111	34G10002011000
12"	12.750	SDR 26	0.490	11.567	13.813	8.00	20	12.72	58	34I12002011000
		SDR 21	0.606	11.322	14.063	8.00	20	15.59	111	34G12002011000
14"	14.000	SCH 40	0.437	12.927	14.938	8.00	20	12.53	30	34S14002011000
16"	16.000	SCH 40	0.500	14.785	17.063	8.00	20	16.39	30	34S16002011000
		SDR 26	0.616	14.537	17.313	8.00	20	20.03	58	34I16002011000

Notes

- *All dimensions in inches unless specified.*
  All dimensions and weights are for estimation purposes.
- *R.H.C.P. = Resistance to Hydraulic Collapse Pressure (predicted failure point at room temperature – no safety factor included).*
  See brochure on the Selection of PVC Well Casing Based on Hydraulic Collapse Considerations, for additional details.
- *Plain End casing available on a special order basis.*
- *Impact Conditions of well casing*
  4½" and smaller = IC-0 *5" and larger = IC-1*



Sure-Fit® Solvent Weld PVC Well Fittings

SURE-FIT CAPS FEMALE

Nominal Size	OD (in)	Length (in)	Part Number
4"*	5.00	3.13	82157810374
4 1/2"	5.40	4.00	82157810435
5"*	6.13	4.25	82157810381
6"*	7.30	4.25	82157810398
6 1/8", 6 1/4", 6.9"	7.60	4.25	82157810459
8"	9.30	4.50	82157810404
10"	11.50	5.00	82157810411
12"	13.60	5.00	82157810428
14"	15.00	5.00	82157810503
16"	17.00	5.50	82157810527

** Molded Cap – base is raised instead of flat.*

SURE-FIT COUPLINGS FEMALE X FEMALE

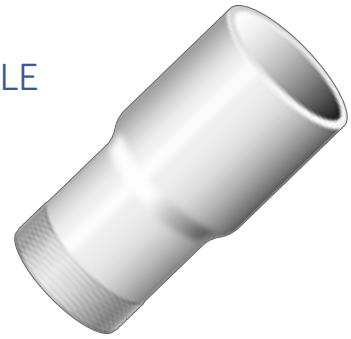
Nominal Size	OD (in)	Length (in)	Part Number
4"	5.000	9.500	82157690808
4 1/2"	5.563	10.500	82157690952
5"	6.125	12.500	82157690815
6"	7.313	12.500	82157690822
6 1/8", 6 1/4", 6.9"	7.438	14.000	82157690938
8"	9.375	13.500	82157690839
10"	11.625	14.000	82157690846
12"	13.750	15.000	82157690853
14"	14.875	14.000	Contact Sales
16"	17.125	15.500	82157690860

Sure-Fit® Solvent Weld PVC Well Fittings

SURE-FIT REDUCERS FEMALE X FEMALE X FEMALE X MALE

Nominal Size	OD (in)	Length (in)	Part Number
4 1/2" x 4" FxF	5.54	11.00	82157690969
5" x 4" FxM	6.10	15.15	82157690914
5" x 4 1/2" FxF	6.10	11.50	82157690921
6 1/8", 6 1/4", 6.9" x 6" FxF	7.60	11.00	82157690945

PUMP ADAPTERS MALE NPT X FEMALE



Nominal Size	OD (in)	Length (in)	Part Number
4"	5.20	13.50	82157691010
6"	7.50	15.00	82157691027

Solvent Weld Bell x NPT Thread

Note: All dimensions are subject to normal manufacturing tolerances.

Certa-Lok® – The Next Generation in PVC Well Casing from the Industry Leader

Certa-Lok PVC Well Casing utilizes Westlake Pipe & Fittings' field-proven spline-locking design to form a full strength joint instantly in all weather conditions. No solvents, arc welding, or reinforcement screw attachments are required. Certa-Lok Integral Bell Well Casing, available in sizes 4"-12", is supplied with a conventional belled-end joint for even faster assembly.

- No couplings required
- Economical
- Greatly reduced assembly timee
- Only one spline to install per joint

Designed and manufactured to meet or exceed the requirements of ASTM F480, all Certa-Lok PVC Well Casing products are also listed by NSF International as safe for use with potable water. Certa-Lok is ideal for a wide range of water well applications, including:

- Domestic
- Municipal
- Irrigation
- Aquifer storage and recovery

Certa-Lok well casing is available in a variety of sizes ranging from 4" to 17.4".

There are many good reasons why most smaller diameter residential systems, and more and more larger public water supply systems, now use PVC as the preferred casing material.

- Long Life: PVC is completely immune to electrolytic and galvanic corrosion, so it won't rust or rot like most metal pipe. PVC water inlet screens are also inherently more resistant than conventional steel products to clogging and encrustation, which means the amount of water a well can deliver will not be significantly reduced over time.
- PVC's excellent chemical resistance makes it immune to virtually all chemicals normally found in wells, including chlorine-based disinfectants and the highly corrosive acids used for well rehabilitation.
- NSF approved as safe for use with potable water.

When you combine the above features with the added benefits of economy, strength, and reliability, it's easy to see why Certa-Lok PVC Well Casing has become the material of choice among modern well drillers.

Rapid Joint Assembly

You simply can't beat Certa-Lok® for down-the-hole installation speed. The Certa-Lok joint can be assembled or disassembled in seconds – by hand, without any special tools. Follow these simple steps for rapid joint assembly:

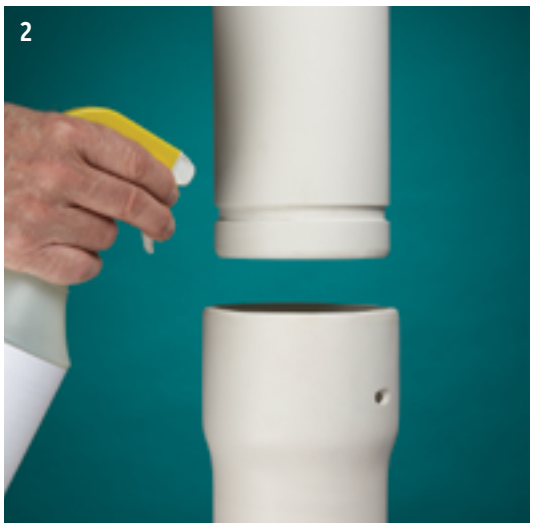
1. **Clean**
   Clean the joining surfaces and make sure gaskets are clean and evenly seated in the gasket groove(s). Inspect gaskets for damage.

2. **Lubricate**
   If lubrication is needed to ease joint assembly, soapy water or Westlake Pipe & Fittings-approved PVC pipe lubricant can be applied to the joining surfaces prior to assembly. Apply only to the exposed gasket surface and to the tapered end of the casing.

   CAUTION: To maintain joint integrity, do not apply lubricant to the spline or to the spline grooves.

3. **Assemble**
   Insert the casing into the coupling or bell until it seats against the stop. Both sections of the casing should be in straight alignment. This automatically aligns the locking grooves for receiving the spline. Insert the spline through the entry hole until it is fully seated. This securely locks the joint, while the gasket is designed to provide a reliable, watertight seal. The joint is now complete – no waiting, no welding, no gluing or threading required. If needed, the joint can be just as easily disassembled and reused.

   IMPORTANT: During the assembly process, it is standard practice to use a tight-fitting holding clamp which conforms to the pipe-to-bell transition section in order to provide adequate casing support. Contact Westlake Pipe & Fittings for suggested source(s) of supply.



The Certa-Lok® Difference

Certa-Lok PVC Well Casing represents a new evolution in well products, offering distinct advantages that will boost your bottom line.

Cost effective – Lower installed cost on an annualized basis compared to conventional casing.

Reliable – The Certa-Lok joint has been used for over 40 years in demanding water supply applications.

Easy to handle – Weight is much less than comparable steel casing.

Instant joint – Joint achieves full strength immediately upon assembly in all weather conditions.

Weather resistant – Heat, cold, moisture, humidity, and wind do not affect Certa-Lok PVC Well Casing assembly or disassembly.

Solvent-free, environmentally sound – The environmentally acceptable Certa-Lok joint is ideal for monitoring well applications.

Adaptable – A full line of Certa-Lok adapters facilitates connection to plain-end PVC casing and threaded casing.

Easy removal – Certa-Lok casing can be quickly disassembled and removed from the bore hole without having to cut joints. Reinstallation does not require the use of special solvent weld couplings.

Contractor Proven

"We have been using Certa-Lok casing products, now manufactured by Westlake Pipe & Fittings, for nearly 20 years. These products, in several ways, have saved us time and project costs. We are very appreciative of the Certa-Lok products and look forward to using them for many years to come."

Colton Aardal
Associated Services
Stephenville, TX

"We have used Certa-Lok casing for about 10 years now. It is the most cost effective casing material I use. Certa-Lok perforated casing offers higher yield wells compared to steel. Certa-Lok is far more efficient. The longevity and durability of Certa-Lok casing ensures a well that will last for decades to come."

Steve Arthur
Arthur and Orum Drilling
Fresno, CA

"I use Certa-Lok because:

- *Easiest and fastest assembly*
- *Reliable*
- *It is the best on the market. If I didn't think so I wouldn't have used it for so long.*
- *I have been using Certa-Lok for a very long time with no complaints."*

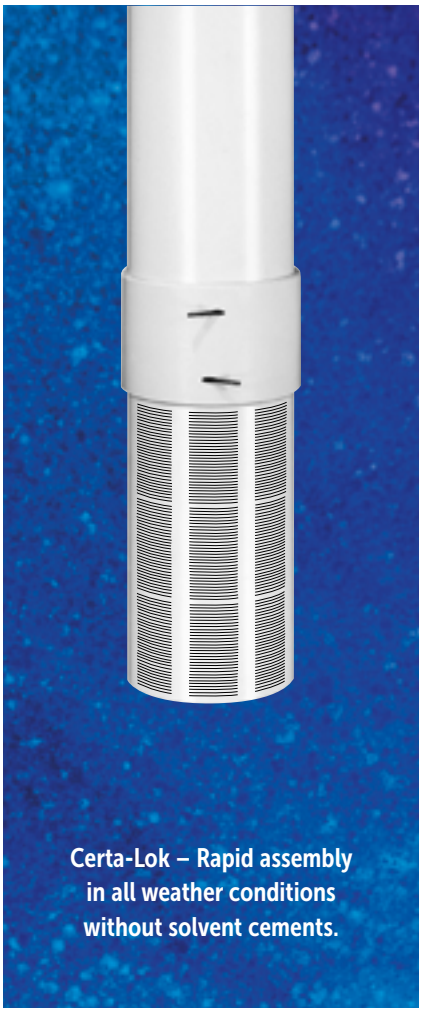
Frank Glass
Associated Drilling
Dripping Springs, TX

"Certa-Lok goes together quicker and easier than any other products on the market. Certa-Lok is a very good value, for a good reliable product. I've been using Certa-Lok for 12 years. No problems with the pipe but if I did experience a problem I know their team would be behind us."

Reed Scuby
Aqua Tech Drilling
Bandera, TX

"We have been using Westlake Pipe & Fittings' Certa-Lok products for all our PVC cased wells for the last 10 years. It is the best in quality and it helps us get the pipe into the bore hole quickly which saves us time and money. This allows us to get the job done in a timely fashion and get onto the next job. I recommend this product to other drillers."

Travis Flint
Thomas Flint & Son, Inc.
Cadillac, MI



Certa-Lok – Rapid assembly in all weather conditions without solvent cements.

Engineering Specification

1.0 SCOPE

This specification covers Polyvinyl Chloride (PVC) Well Casing which utilizes a spline-lock mechanical joining system. Pipe is produced in nominal sizes 4"–17.4", and is available in both solid and slotted configurations.

2.0 REFERENCE DOCUMENTS

ASTM International:

ASTM D1784 – Standard Specification for Rigid PVC Compounds and Chlorinated PVC Compounds.

ASTM D2837 – Standard Test Method for Obtaining Hydrostatic Design Basis for Thermoplastic Pipe Materials.

ASTM F480 – Standard Specification for Thermoplastic Well Casing Pipe Made in Standard Dimension Ratios (SDR), SCH 40 and SCH 80.

NSF International:

NSF-61 – Drinking Water System Components – Health Effects

NSF-14 – Plastic Piping System Components and Related Materials.

3.0 REQUIREMENTS

3.1 Materials: Pipe and PVC couplings shall be made from unplasticized PVC compounds having a minimum cell class-ification of 12454, as defined in ASTM D1784. The compound shall qualify for a Hydrostatic Design Basis (HDB) of 4000 psi for water at 73.4°F, in accordance with the requirements of ASTM D2837. White pipe shall be supplied, unless otherwise agreed upon at time of purchase.

3.1.1 Composite Couplings: 58% – 62% volume (60% – 80% weight) 450 yield E-Glass Rovings, Bisphenol-A-Epoxy, Resin, and Anhydride Curing Agent.

3.2 Approvals: Products intended for contact with potable water shall be evaluated, tested, and certified for conformance with NSF-61 by an acceptable certifying organization, when required by the regulatory authority having jurisdiction. Casing, as applicable shall be approved and listed under NSF-14.

3.3 Physical Requirements: Product dimensions, weights, and performance data are summarized on pages 9, 10, & 11. Standard pipe laying length is 20'. Nominal casing size should be selected by the Design Engineer based on required flow performance, pump diameter, and the local installation conditions under which the well will be constructed.

3.4 Performance: 4'' through 16'' pipe supplied to this specification shall meet the stiffness (crush resistance), flattening, impact, and puncture test requirements of ASTM F480.

3.5 Joints: Pipe shall be joined using non-metallic couplings which, together, have been designed as an integral system for maximum reliability and interchangeability. On small to medium diameter casing, the coupling may be replaced by an integral bell spline lock joint. High-strength flexible thermoplastic splines shall be inserted into mating precision-machined grooves to provide continuous restraint with evenly distributed loading. No external pipe-to-pipe restraining devices which clamp onto or otherwise damage the pipe surface as a result of point-loading shall be permitted. The joining system shall incorporate elastomeric sealing gasket(s) which are designed to provide a watertight seal. Note that this specification does not cover integral bell pipe with solvent-cement joints.

3.6 Marking: Well Casing pipe shall be legibly and permanently marked in ink with the following information:

- Manufacturer and Trade Name
- Nominal Size and SDR or SCH Rating
- Manufacturing Date Code
- NSF® -61-G
- NSF®-pw-G, as applicable

3.7 Workmanship: Pipe and couplings shall be homogeneous throughout and free from visible cracks, holes, foreign inclusions, blisters and dents, interior roughness, and other injurious defects that may affect wall integrity. The pipe and couplings shall be as uniform as commercially practicable in color, opacity, density, and other physical characteristics.

4.0 SLOTTING

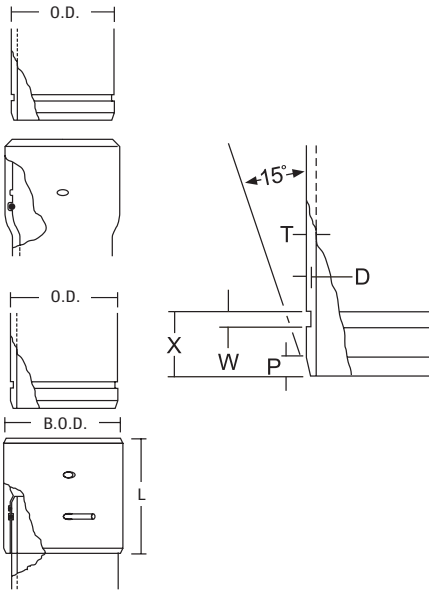
Pipe can be supplied with multiple rows of machined circumferential slots, to allow for water entry into the casing. Slot patterns should be specified to provide the required open area and flow rate (taking into account the surrounding embedment material), while maintaining structural integrity of the installed system. Consult the manufacturer for design data and product availability.

5.0 SUGGESTED SOURCE OF SUPPLY

Certa-Lok PVC Drop Pipe as supplied by:
Westlake Pipe & Fittings
2801 Post Oak Blvd., Suite 600
Houston, TX 77056
855.624.7473

Certa-Lok® Dimensions, Weight & Performance Data

Certa-Lok Integral Bell							
Nom. Size	O.D.	X	W	D		P	Bell Depth
				Min.	Max.		
4"	4.500	1.313	0.375	0.125	0.145	0.271	3.000
4 1/2"	4.950	3.000	0.375	0.125	0.145	0.271	4.250
5"	5.563	3.000	0.375	0.125	0.145	0.271	4.250
6"	6.625	1.313	0.375	0.125	0.145	0.271	3.000
6 1/8", 6.9"	6.900	1.313	0.375	0.125	0.145	0.271	3.000
8"	8.625	3.163	0.500	0.135	0.155	0.634	5.000
10"	10.750	3.500	0.500	0.205	0.225	0.634	5.300
12"	12.750	3.500	0.500	0.205	0.225	0.634	5.300
17.4"	17.400	3.578	0.620	0.205	0.225	0.634	5.300



Certa-Lok Coupled Joint								
Nom. Size	O.D.	X	W	D		P	L	Coupling B.O.D.
				Min.	Max.			
14"	14.000	3.500	0.500	0.205	0.225	0.634	12.000	16.000
16"	16.000	3.500	0.500	0.205	0.225	0.634	12.000	17.400
17.4"	17.400	3.500	0.500	0.205	0.225	0.634	12.000	18.701

Certa-Lok Integral Bell										
Nom. Size	O.D.	Class	T Min.	I.D. Min.	Bell O.D.	Casing Weight (lbs./ft.)	Max. Tensile Strength (lbs.)	R.H.C.P. (psi)	Max. Internal Pressure (psi)	Part Number
4"	4.500	SCH 40	0.237	3.951	5.063	2.09	4,900	152	115	34S0400202100F
4 1/2"	4.950	SCH 40	0.248	4.368	5.563	2.43	4,700	130	130	34S04502021020
		SDR 17	0.291	4.272	5.625	2.82	6,300	215	160	34D04502021020
5"	5.563	SDR 21/SCH 40	0.265	4.946	6.188	2.92	6,300	111	130	34G05002021020
		SDR 17	0.327	4.808	6.313	3.56	8,500	215	180	34D05002021020
		SCH 80	0.375	4.700	6.438	4.05	8,500	329	215	34T05002021020
6"	6.625	SCH 40	0.280	5.970	7.313	3.68	8,500	77	115	34S06002021000
		SDR 21	0.316	5.890	7.375	4.13	8,800	111	150	34G06002021000
		SDR 17	0.390	5.724	7.500	5.04	10,000	215	200	34D06002021000
6 1/8"	6.900	SDR 21	0.329	6.137	7.688	4.47	7,400	111	160	34G06902021000
6.9"	6.900	SDR 17	0.406	5.965	7.688	5.44	9,400	215	200	34D06902021000
8"	8.625	SDR 17	0.508	7.450	9.625	8.59	17,000	215	140	34D08002021000
10"	10.750	SDR 17	0.632	9.294	12.188	13.40	24,200	215	160	34D10002021000
12"	12.750	SDR 17	0.750	11.020	14.250	18.79	29,000	215	200	34D12002021000
17.4	17.400	SDR 17	1.024	15.021	19.456	34.16	37,000	215	125	34D17402021000

Max tensile strengths are applicable to both solid wall and slotted Certa-Lok casing and joints.

Certa-Lok Coupled (Includes Casing and Coupling)										
Nom. Size	O.D.	Class	T Min.	I.D. Min.	Coupling Weight (lbs.)	Casing Weight (lbs./ft.)	Max. Tensile Strength (lbs.)	R.H.C.P. (psi)	Max. Internal Pressure (psi)	Part Number
14"	14.000	SDR 17	0.824	12.071	22.15	22.09	36,440	215	150	34D14002031000
16"	16.000	SDR 26	0.616	14.535	34.40	19.31	35,200	58	150	34I16002031000
		SDR 17	0.941	13.807	34.40	28.86	35,200	215	150	34D16002031000

FG = FIBERGLASS COUPLING PVC = PVC COUPLING

R.H.C.P. = RESISTANCE TO HYDRAULIC COLLAPSE PRESSURE (PREDICTED FAILURE POINT AT ROOM TEMPERATURE – NO SAFETY FACTOR INCLUDED). SEE BROCHURE ON THE *SELECTION OF PVC WELL CASING BASED ON HYDRAULIC COLLAPSE CONSIDERATIONS*, FOR ADDITIONAL DETAILS.

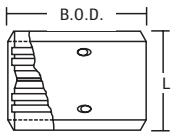
Note 1: Dimensions in all tables are in inches. All dimensions and weights are subject to manufacturing tolerances.
Note 2: Standard setting length = 20'.

Certa-Lok® Accessories

COUPLING
Certa-Lok Female x Certa-Lok Female
Includes Gaskets and Splines

Nom. Size	Part Number	L	B.O.D.
4"	82157707032	6.00	4.950
4 1/2"	82157707179	8.25	5.563
5"	82157717178	8.25	6.180
6"	82157707063	6.00	7.600
6 1/8", 6.9"	82157707278	7.00	7.840
6 1/8", 6.9" x 6"[1]	82157707285	7.00	7.840
8"	82157707087	10.00	9.854
10"	82157707124	12.00	12.438
12"	82157707094	12.00	14.000
14"	82157707100	12.00	16.000
16"	82157707117	12.00	17.400
17.4"	82157707193	12.00	18.701
24" FG	82157741289	13.00	25.375

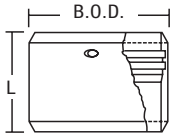
[1] *Reducing*



CERTA-LOK x SOLVENT WELD ADAPTER
Certa-Lok Female x Solvent Weld Female
Includes Gasket and Spline

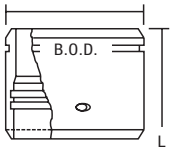
Nom. Size	Part Number	L	B.O.D.
4"	82157717031	6.00	4.950
4 1/2"	82157717161	8.25	5.563
5"	82157717185	8.25	6.180
6"	82157717062	6.00	7.600
6 1/8", 6.9"	82157717130	7.00	7.840
6 1/8", 6.9" x 6"[1]	82157717147	7.00	7.840
8"	82157717079	10.00	9.854
10"	82157717109	12.00	12.438
12"	82157717116	12.00	14.000

[1] *Reducing*



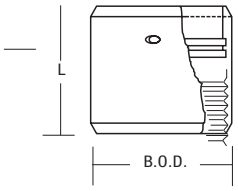
REDUCER BUSHING
Certa-Lok Male x Certa-Lok Female
Includes Gasket and Spline

Nom. Size	Part Number	L	B.O.D.
8" X 6"	82157712258	8.25	8.625
10" X 8"	82157712272	10.00	10.750
12" X 10"	82157712296	12.00	12.750
14" X 12"	82157712302	12.00	14.000
16" X 14"	82157712326	12.00	16.000
17.4" X 16"	82157712319	12.00	17.400



THREADED ADAPTER
Certa-Lok Female x Female NPT
Includes Gasket and Spline

Nom. Size	Female Thread Size	Part Number	L	B.O.D.
4"	4"	82157810770	6.00	5.470
4 1/2"	4"	82157810909	8.25	5.563
5"	5"	82157810916	8.25	6.180
6"	6"	82157810800	6.63	7.600
6 1/8", 6.9"	6"	82157810862	6.63	7.840
8"	8"	82157810824	10.00	9.854
10"	10"	82157810848	12.35	12.438
12"	12"	82157810855	12.23	14.000

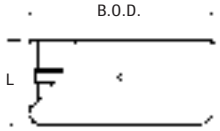


Spline (Nylon)				O-Ring			
Nom. Size	Part Number	L	Size	Part Number	C/S	Color	Material
4"	S4518RN0	18	.250 RND	OR040YMNN	.210	Brown	NBR
4 1/2"	S4518RN0	18	.250 RND	OR045IBON	.210	Brown	NBR
5"	S4518RN0	18	.250 RND	OR050IBON	.210	Brown	NBR
6"	S0624RN0	24	.250 RND	OR060IBON	.210	Brown	NBR
6 1/8", 6.9"	S0624RN0	24	.250 RND	OR069IBON	.210	Brown	NBR
8"	S0832SN0	32	.313 SQR	OR080YMNI	.375	Blue	NBR
10"	S1039SN0	39	.375 SQR	OR100WCOI	.375	Green	IR/SBR
12"	S1246SN0	46	.375 SQR	OR120WCOI	.375	Green	IR/SBR
14"	S1448SN0	48	.375 SQR	OR140WCOI	.375	Green	IR/SBR
16"	S1653SN0	53	.375 SQR	OR160WCOI	.375	Green	IR/SBR
17.4"	S1760SN0	60	.375 SQR	OR174WCOI	.407	Green	IR/SBR

C/S = O-Ring Cross-Section Diameter

CASING & SCREEN CAP
Certa-Lok Female Includes Spline

Nom. Size	Part Number	L	B.O.D.
4"	82157810619	4.00	4.950
4 1/2"	82157810923	4.00	5.563
5"	82157810930	4.00	6.180
6"	82157810640	4.25	7.600
6 1/8", 6.9"	82157810602	4.25	7.600
8"	82157810664	4.50	9.854
10"	82157810688	5.00	11.600
12"	82157810695	5.00	14.000
14"	82157810701	5.00	15.300
16"	82157810718	5.25	17.400
17.4"	82157810725	5.50	18.700



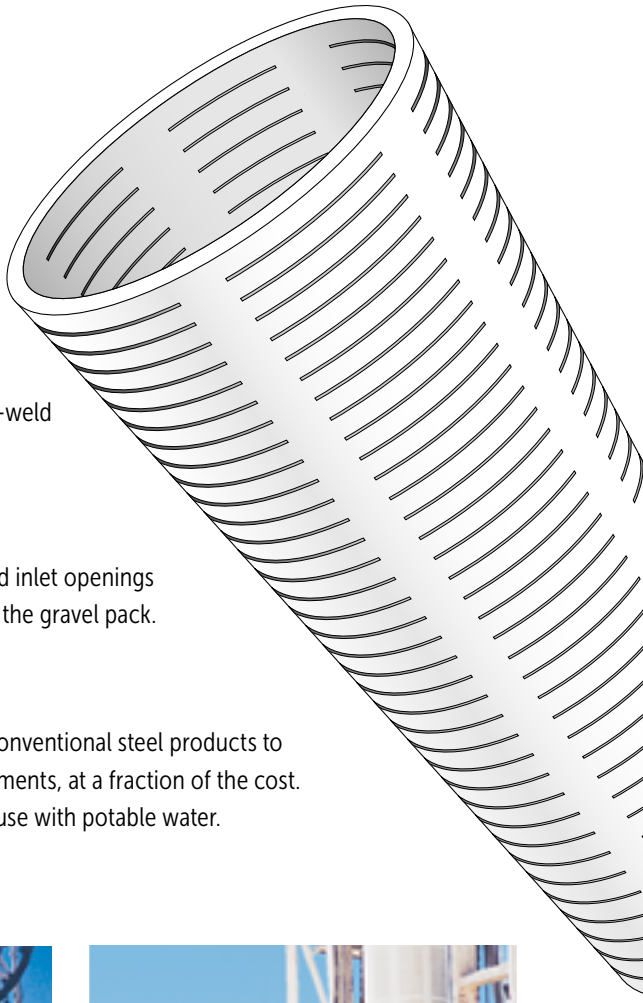
Sure-Fit® & Certa-Lok® Slotted PVC Well Casing

Westlake Pipe & Fittings – the name that contractors have come to associate with the industry's broadest line of high-quality PVC well products – is also the industry leader in high performance slotted well casing. Using new manufacturing technology, slotted casing can now be produced with open areas and efficiencies that rival those of other screens, often at a fraction of the cost. Combine PVC screens with PVC well casing for the ultimate corrosion-resistant, low-maintenance water well!

A Size and Joining System for Every Application

Slotted casing can be produced in sizes from 2" up to 17.4" O.D., in a variety of wall thicknesses and strengths to suit virtually all applications:

- Domestic
- Irrigation
- Municipal
- Aquifer Storage and Recovery
- Environmental



Westlake Pipe & Fittings also offers a choice of joining systems: traditional Sure-Fit™ solvent-weld or the contractor-proven, all-weather Certa-Lok® mechanical joint.

Slot Width Selection

A wide selection of precision-machined factory slot designs (.010"-.125") with closely spaced inlet openings provides for uniform development over the length of the screen and proper stabilization of the gravel pack.

Long Life

Well rehabilitation costs are minimized, as PVC screens are inherently more resistant than conventional steel products to clogging and encrustation. PVC also outperforms stainless steel in highly corrosive environments, at a fraction of the cost. All screens are manufactured from PVC casing that is listed by NSF International as safe for use with potable water.

Single Source for All Your Well Product Needs

No more unloading, local-machining, and repackaging required. With Westlake Pipe & Fittings, the industry's best slotted casing is shipped ready to use – no field fabrication required – along with your other PVC well product needs, including solid casing, drop pipe for submersible pumps, and a variety of fittings.

Sure-Fit® & Certa-Lok® Underdrain Pipe

Slotted PVC well casing is also ideal for use as underdrain pipe. Applications include, but are not limited to:

- Leachate collection systems for solid waste landfills
- Drainage and dewatering applications
- Mining heap leach projects

PVC underdrain pipe is supplied with precision-machined slots, which provide greater intake capacity and continuous, clog-resistant drainage of fluids, as compared to standard round-hole perforated pipe. Slotted underdrain reduces entrance velocity into the pipe, thereby reducing the possibility that solids will be carried into the system. Slot rows can generally be positioned symmetrically or asymmetrically around the pipe circumference, depending upon the application. Outside diameters are generally the same for PVC and non-corrugated polyethylene (HDPE) pipe. However, the HDPE pipe must be extruded with a thicker wall (and therefore a reduced cross-sectional flow area) to obtain a comparable stiffness rating.

Calculating Flow in Gravel-Packed Well

Use this formula along with the outside diameter open area information from the tables to calculate the estimated flow rate per foot of slotted casing:

$$\text{Flow Rating}\left(\frac{\text{gpm}}{\text{ft of screen}}\right) = 3.12 \times A_{open} \times F_{blockage} \times V_{flow}$$

A_{open} = O.D. Open area of screen from tables, in^2/ft.

$F_{blockage}$ = 0.5 for gravel-packed well, 1.0 for fully open flow.

V_{flow} = Water flow velocity at entrance to screen slots, ft/s. Generally 0.1 ft/s.

Slotted PVC Well Casing & Underdrain Pipe Specifications

This chart illustrates standard manufacturing capabilities only. Not all products shown are routinely stocked – call for availability. Slot configurations not included on this chart are covered under Westlake Pipe & Fittings' non-standard product warranty. Westlake Pipe & Fittings can supply a detailed Engineering Specification for any of the products shown, or for special made-to-order products.

1/8" SLOT SPACING

Nom. Size	OD	Number of Slot Rows	Class	Joint Availability	O.D. Open Area (in²/foot of Slotted Casing) Slot Width @ 1/8" Slot Spacing							
					0.008	0.01	0.013	0.016	0.02	0.025	0.032	0.04
2"	2.375"	4	Sch. 40	SW	3.7	4.6	5.9	7.0	9.3			
4"	4.5	4	Sch. 40	SW		5.9	7.4	9.0	14.8			
		6				8.8	11.2	13.5	16.4			
5"	5.563	4	SDR 21/Sch. 40	SW			8.5	10.3	18.7	22.6	23.0	27.4
		6				10.0	12.8	15.4				
		6	SDR 17									

1/4" SLOT SPACING

Nom. Size	OD	Length	Number of Slot Rows	Class	Joint Availability	O.D. Open Area (in²/foot of Slotted Casing) Slot Width @ 1/4" Spacing											
						0.008	0.010	0.013	0.016	0.020	0.025	0.032	0.040	0.050	0.085	0.100	0.125
2"	2.375	10'	4	Sch. 40	SW	1.8	2.2	2.9	3.5	4.3							
		20'					2.4	3.1	3.7	4.6	5.6	7.0					
3"	3.500	20'	4	Sch. 40	SW	1.9	2.6	3.4	4.1	5.0	6.2	7.7					
4"	4.500	10'	4	Sch. 40	SW		2.8	3.7	4.5	7.4	9.1	11.4					
			6		SW		4.3	5.5	6.7								
		20'	6		SW	3.7	4.6	5.9	7.1								
			4		SW, CLIC, CLIB	2.5 (SW only)	3.0	3.9	4.8 (SW only)	8.0	9.7	12.2	14.8 (CLIB/ CLIC only)	17.9 (SW only)			
			4	SDR 21, SDR 26	SW			3.9 (SDR21)	4.8			12.2 (SDR21)	14.8				
			6						7.1								
4 1/2"	4.950	20'	6	Sch. 40	SW			6.7	8.2				25.7				
			4		SW, CLIB, CLIC			4.5	5.4	9.2	11.3 (SW)	14.1	17.1 (SW)				
			4	SDR 17	SW, CLIB, CLIC						11.3		17.1	20.7 (CLIB & CLIC Only)			
			4	SDR 26	SW												
			2					2.2		4.6	5.6	7.0					
5"	5.563	20'	4	Sch. 80	CLIB, CLIC					10.0	12.3	15.4	18.7				
			6	SDR 17	SW			6.7	8.2				28.0				
			4		SW, CLIB, CLIC			4.5	5.4 (CLIB,CLIC)	10.0	12.3	15.4	18.7	22.6			45.2 (SW)
			4	SDR 21/ Sch. 40	SW, CLIB, CLIC			4.5 (SW,CLIC)	8.2 (SW), 5.4 (CLIC, CLIC)		12.3 (SW)						
			6		SW		5.2	6.7	8.2	15.1							
			6	SDR 26	SW							19.2					
			4							10.0	12.3	15.4					

Key: SW = Sure-Fit Solvent Weld Belled End
CLIB = Certa-Lok Restrained Joint Integral Bell
CL = Certa-Lok Restrained Joint (w/ coupling)
CLIC = Certa-Lok Restrained Joint Integral Bell (w/ CLIC spline)

Notes: 1. All dimensions are in inches unless otherwise specified.

2. Specifications subject to change. Standard manufacturing tolerances apply.

1/4" SLOT SPACING *(continued)*

Nom. Size	OD	Length	Number of Slot Rows	Class	Joint Availability	O.D. Open Area (in²/foot of Slotted Casing) — Slot Width @ 1/4" Spacing											
						0.008	0.010	0.013	0.016	0.020	0.025	0.032	0.040	0.050	0.085	0.100	0.125
6"	6.625	20'	6	SDR 17	SW, CLIB, CLIC					12.6	15.4	19.2	23.4				
				SDR 21	SW, CLIB, CLIC					12.6 (SW)	15.4 (SW)			28.2			
				Sch. 40	SW, CLIB, CLIC					12.6				28.2 (SW)			
				SDR 26	SW						15.4						
6.9"	6.900	20'	4	SDR 17	SW						10.3	12.8	15.6				
			6		SW, CLIB, CLIC					12.6	15.4	19.2	23.4				
				SDR 21	SW, CLIB, CLIC					12.6 (SW)				28.2 (SW)			
				SDR 27.6	SW					12.6							
8"	8.625	20'	6	SDR 17	CLIB & CLIC						21.4	26.7	32.4	39.2			78.4
				SDR 21	SW					17.4					59.6		
				SDR 26	SW					14.9							
10"	10.750	20'	6	SDR 17	CL						23.0	28.8	34.9	42.2	64.2		
					CLIB & CLIC						23.7	29.5	35.9	43.4	66.0		
				SDR 21	SW												
				SDR 26	SW					19.3							
12"	12.750	20'	8	SDR 17	CL							38.3	46.6	56.3	85.6		
					CLIB & CLIC							39.4	47.9	57.8	88.0		
				Sch. 40	SW							37.2		54.7	83.3	93.8	
		18'8"			SW									55.1			
		20'		SDR 21	SW							39.4	47.9	57.8	88.0		
				SDR 26	SW						31.5						
14"	14.000	20'	8	SDR 17	CL							42.1	51.1	61.7			
					CLIB & CLIC							43.2	52.5	63.4			
				Sch. 40	SW							40.7		59.7	90.8		119.4
16"	16.000	20'	8	SDR 17	CL							44.5	54.1	65.3	105.0		
					CLIB & CLIC							45.7	55.6	67.1	102.2		
			10	Sch. 40	SW							47.6	57.9	69.9	106.5		139.9
				SDR 26	SW												
					CLIB & CLIC										106.5		139.9
					CL										103.6		136.2
17.4"	17.400	20'	8	SDR 17	CLIB & CLIC							45.7	55.6	74.6	113.6		
					CL							44.5	54.1	72.6	110.5		

1/2" SLOT SPACING

Nom. Size	OD	Length	Number of Slot Rows	Class	Joint Availability	O.D. Open Area (in²/foot of Slotted Casing) — Slot Width @ 1/2" Spacing			
						0.032"	0.050"	0.085"	0.125"
4.5"	4.950"	20'	2	SDR 17	CLIB & CLIC	3.7	5.6		
12"	12.750"	20'	8	SDR 17	CLIB				69.4
					CL				67.4
16"	16.000"	20'	10	SDR 26	SW			59.3	
17.4"	17.400"	20'	8	SDR 17	CLIC				80.6
					CL & CLIB				78.3

Key: SW = Sure-Fit Solvent Weld Belled End
CLIB = Certa-Lok Restrained Joint Integral Bell
CL = Certa-Lok Restrained Joint (w/ coupling)
CLIC = Certa-Lok Restrained Joint Integral Bell (w/ CLIC spline)

Notes: 1. All dimensions are in inches unless otherwise specified.
2. Specifications subject to change. Standard manufacturing tolerances apply.

1" SLOT SPACING										
Nom. Size	OD	Length	Number of Slot Rows	Class	Joint Availability	O.D. Open Area (in²/foot of Slotted Casing)				
						Slot Width @ 1" Spacing				
						0.020"	0.025"	0.032"	0.040"	0.125"
4"	4.5"	20'	3	SDR 21	SW	1.5	1.9	2.5		
			3	Sch. 40	SW, CLIB, CLIC			2.5		
			4		SW			3.3		11.9
4.5"	4.950"	20'	3	Sch. 40	SW			2.9	3.6	
			4		SW			3.8		
					CLIB & CLIC		2.9	3.8	4.7	
				SDR 17	CLIB & CLIC			3.8		
5"	5.563"	20'	4	SDR 21/Sch. 40	SW			4.2		15
				SDR 17	CLIB & CLIC			4.2		
6"	6.625"	20'	4	Sch. 40	CLIB & CLIC		2.7		4.3	
					SW			3.5		
10"	10.750"	20'	6	SDR17	CLIB & CLIC					28.9

Key: SW = Sure-Fit Solvent Weld Belled End
CLIB = Certa-Lok Restrained Joint Integral Bell
CL = Certa-Lok Restrained Joint (w/ coupling)
CLIC = Certa-Lok Restrained Joint Integral Bell (w/ CLIC spline)

Notes: 1. All dimensions are in inches unless otherwise specified.
2. Specifications subject to change. Standard manufacturing tolerances apply.

Certa-lok® Packaging & Weights

Nom. Size	Class	Weight per Foot	Feet per Lift	Lifts per Truckload	Feet per Truckload	Lbs. per Truckload
4"	SCH 40	2.09	580	28	16,240	33,454
4 1/2"	SCH 26	1.87	520	24	12,480	23,213
	SCH 40	2.43	520	24	12,480	29,578
	SDR 17	2.82	520	24	12,480	34,320
5"	SDR 21/SCH 40	2.92	460	24	11,040	31,574
	SDR 17	3.56	460	24	11,040	38,530
	SCH 80	4.05	460	24	11,040	43,718
6"	SCH 40	3.68	400	20	8,000	29,040
	SDR 21	4.13	400	20	8,000	32,480
	SDR 17	5.04	400	20	8,000	39,600
6 1/8"	SDR 21	4.47	340	20	6,800	30,396
6.9"	SDR 17	5.44	340	20	6,800	35,496
8"	SDR 17	8.59	280	16	4,480	37,542
10"	SDR 17	13.40	80	36	2,880	38,217
12"	SDR 17	18.79	80	28	2,240	42,314
14"	SDR 17	23.19	120	12	1,440	32,472
16"	SDR 26	21.03	120	12	1,440	29,491
	SDR 17	30.58	120	12	1,440	45,590
17.4"	SDR 17	35.46	60/40	10/10	1,000	34,430

Westlake Pipe & Fittings

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