

CertainTeed

CERTA-LOK™ WELL CASING

PVC Well Products



CertainTeed 

Quality made certain. Satisfaction guaranteed.™

CERTA-LOK™ –

THE NEXT

GENERATION

IN PVC

WELL CASING

FROM THE

INDUSTRY

LEADER

Certa-Lok™ PVC Well Casing utilizes CertainTeed's 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"-8", is supplied with a conventional belled-end joint for even faster assembly.

- No couplings required
- Economical
- Greatly reduced assembly time
- 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 24".

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).

2. Lubricate

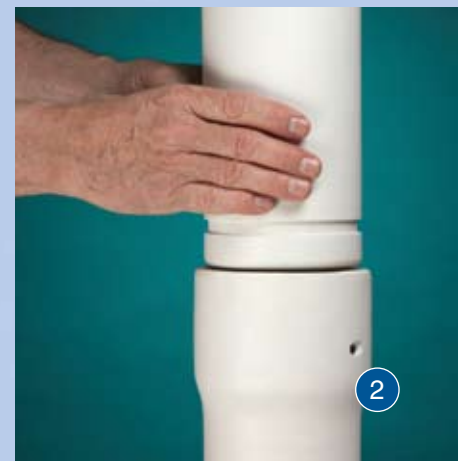
If lubrication is needed to ease joint assembly, soapy water or CertainTeed-approved PVC pipe lubricant can be applied to the joining surfaces prior to assembly. Apply only to the exposed gasket surface and to the tapered end of the casing.

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. This automatically aligns the locking grooves for receiving the spline. The spline is then inserted 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 CertainTeed 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 30 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

“Works in all weather conditions without special preparations. Easy to install and retract – a real benefit when drilling in heaving shales.”

Ray Whisenant Jr.
Aquautility Construction
Dripping Springs, TX

“Certa-Lok gives us a competitive advantage because of its speed of installation. We’ve saved time and expense on every job where we’ve used this product.”

Bill Stoner
Stoner Drilling Inc.
Corsicana, TX

“There have been several jobs where we’ve had to pull casing and re-set, which would have been very costly and time-consuming with glue-type joints. Have been using Certa-Lok for nine years – it’s a proven product.”

Mark Gorsuch
Beinhower Brothers
Drilling Company
Johnstown, OH

“Ran 8” Certa-Lok casing to 410 feet with stainless steel screens in less than 1/2 hour.”

Hewitt Fredebaugh
Fredebaugh Well Drilling
Grand River, OH

“Certa-Lok casing is quick and easy to assemble – no handling of solvents or glues, and we do not have to wait for glues to set-up before we can continue to set casing.”

Todd Campbell
Henry Boysen Company
Hainesville, IL



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"–24", 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 and Couplings Made in Standard Dimension Ratios (SDR), SCH 40 and SCH 80.

NSF International:

NSF61 – Drinking Water System Components – Health Effects
NSF14 – 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 classification 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. The exterior surface area (excluding the ends) of the couplings are to be coated with a minimum of 2 mils Carbit Series 12 clear polyurethane coating.

3.2 Approvals: Products intended for contact with potable water shall be evaluated, tested, and certified for conformance with NSF61 by an acceptable certifying organization, when required by the regulatory authority having jurisdiction. Casing, as applicable shall be approved and listed under NSF14.

3.3 Physical Requirements: Product dimensions, weights, and performance data are summarized on **pages 5 & 6**. 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 full 360° 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)
- NSF-wc (NSF14), as applicable

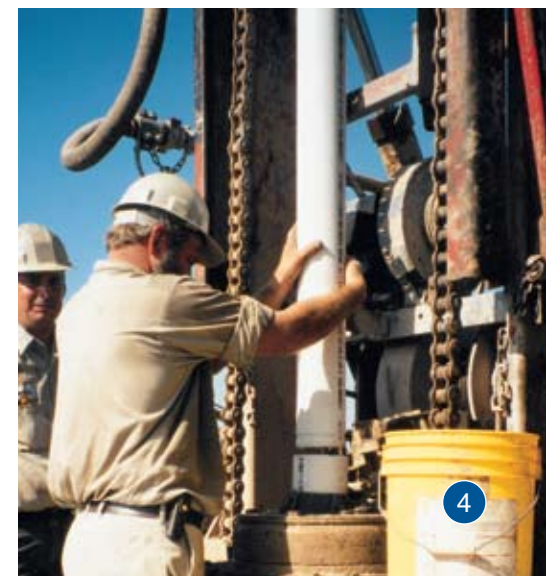
3.7 Workmanship: Pipe and couplings shall be homogeneous throughout and free from visible cracks, holes, foreign inclusions, blisters and dents, interior roughness, and other injurious defects that may affect wall integrity. The pipe and couplings shall be as uniform as commercially practicable in color,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

4.0 SLOTTING

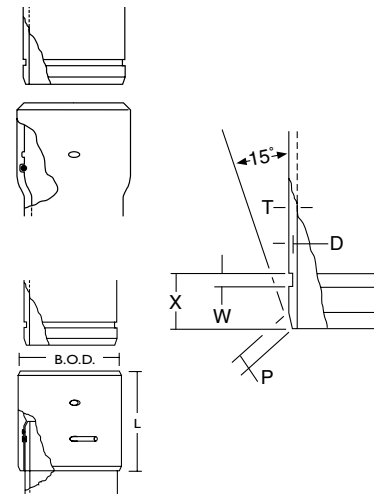
Pipe can be supplied with multiple rows of machined circumferential slots, to allow for water entry into the casing. Slot patterns should be specified to provide the required open area and flow rate (taking into account the surrounding embedment material), while maintaining structural integrity of the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

5.0 SUGGESTED SOURCE OF SUPPLY

Certa-Lok PVC Well Casing as supplied by:
CertainTeed Corporation
P.O. Box 860
Valley Forge, PA 19482
866-CT4-PIPE



O.D. SIZE	X	W	D		P	BELL DEPTH	
			MIN.	MAX.			
INTEGRAL BELL JOINT							
4.500"	1.313	.375	.125	.145	.25	3.00	
4.950"	1.313	.375	.125	.145	.25	3.00	
5.563"	1.313	.375	.125	.145	.25	3.00	
6.625"	1.313	.375	.125	.145	.25	3.00	
6.900"	1.313	.375	.125	.145	.25	3.00	
8.625"	3.163	.500	.135	.155	.66	5.00	
O.D. SIZE	X	W	D		P	L	COUPLING B.O.D.
			MIN.	MAX.			
COUPLED JOINT							
10.750"	3.500	.500	.205	.215	.66	12.00	12.438
12.750"	3.500	.500	.205	.215	.66	12.00	14.000
14.000"	3.500	.500	.205	.215	.66	12.00	16.000
16.000"	3.500	.500	.205	.215	.66	12.00	17.400
17.400"	3.500	.500	.205	.215	.66	12.00	18.701
24.000"	3.810	.750	.205	.215	.66	13.00	25.375



NOMINAL SIZE DESIGNATION	O.D. SIZE	CLASS	T MIN. WALL	I.D.		BELL O.D.	R.H.C.P. (PSI)	MAX. TENSILE PULL (LBS.)	MAX. INTERNAL PRESSURE (PSI)	APPROX. WEIGHT LBS./FT.	PART NO.
				MIN.	MAX.						
INTEGRAL BELL JOINT											
4"	4.500"	SCH40	.237	3.968	4.026	5.06	158	4,900	115	2.06	653001
4.5"	4.950"	SDR26	.190	4.502	4.570	5.50	59	4,500	115	1.86	653100
		SCH40	.248	4.379	4.454	5.55	135	4,700	130	2.37	653025
		SDR17	.291	4.288	4.368	5.65	224	6,300	160	2.75	653018
5"	5.563"	SDR21*	.265	4.941	5.033	6.20	115	6,300	130	2.86	653032
		SDR17	.327	4.810	4.909	6.25	224	8,500	180	3.49	653049
		SCH80	.375	4.708	4.813	6.35	347	8,500	215	3.96	654268
6"	6.625"	SCH40	.280	5.961	6.065	7.23	79	8,500	115	3.63	653070
		SDR21	.316	5.885	5.993	7.30	115	8,800	150	4.06	653056
		SDR17	.390	5.728	5.845	7.45	224	10,000	200	4.95	653063
6.9" O.D.	6.900"	SDR21	.329	6.128	6.242	7.61	115	7,400	160	4.47	653209
		SDR17	.406	5.964	6.088	7.71	224	9,400	200	5.22	653087
8"	8.625"	SDR17	.508	7.458	7.609	9.75	224	17,000	140	8.38	653094
COUPLED JOINT (INCLUDES CASING AND COUPLING)											
10"	10.750"	SDR17	.632	9.310	9.486		224	26,000	300	13.27	654015
12"	12.750"	SDR17	.750	11.040	11.250		224	30,800	150	18.89	657016
14"	14.000"	SDR17	.823	12.105	12.354		224	36,440	150	22.55	657115
16"	16.000"	SDR26	.616	14.544	14.768		59	35,200	150	20.48	652813
		SDR17	.941	13.855	14.118		224	35,200	150	31.66	654718
17.4" O.D.	17.400"	SDR17	1.024	15.079	15.352		224	37,000	125	34.43	657214
24.0"	24.000"	SDR17	1.412	20.767	21.176		224	87,500	650	64.00	657221

* Equivalent to SCH40

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, Literature Code 40-37-02, for additional details.

Note 1: Dimensions in all tables are in inches. All dimensions and weights are subject to manufacturing tolerances.

Note 2: Standard laying length = 20'.

Short-term pressure ratings represent the maximum allowable differential pressure (internal minus external) during well installation, figures are based on stress considerations – joint will generally seal up to considerably higher pressures, especially with grout support in the annular space. Consult with manufacturer for details.

O.D. SIZE	CLASS	FEET PER FASTPAK	FAST-PAKS PER T/L	FEET PER T/L	LBS. PER T/L
4.500"	SCH40	580	28	16240	33454
4.950"	SDR26	520	24	12480	23213
	SCH40	520	24	12480	29578
	SDR17	520	24	12480	34320
5.563"	SDR21/SCH40	460	24	11040	31574
	SDR17	460	24	11040	38530
	SCH80	460	24	11040	43718
6.625"	SCH40	400	20	8000	29040
	SDR21	400	20	8000	32480
	SDR17	400	20	8000	39600
6.900"	SDR21	340	20	6800	30396
	SDR17	340	20	6800	35496
8.625"	SDR17	280	16	4480	37542
10.750"	SDR17	80	36	2880	38217
12.750"	SDR17	80	28	2240	42314
14.000"	SDR17	120	12	1440	32472
16.000"	SDR26	120	12	1440	29491
	SDR21	120	12	1440	35410
	SDR17	120	12	1440	45590
17.400"	SDR17	60/40	10/10	1000	34430
24.000"	SDR17	40	12	480	30720

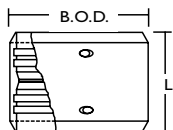
COUPLING

INCLUDES GASKETS AND SPLINES

O.D. SIZE	PART NUMBER	L	B.O.D.
4.500"	707032	6.00	4.950
4.950"	707049	6.00	5.563
5.563"	707056	6.00	6.180
6.625"	707063	6.00	7.600
6.900"	707278	7.00	7.840
6.900" x 6.625" ¹	707285	7.00	7.840
8.625"	707087	10.00	9.854
10.750"	707124	12.00	12.438
12.750"	707094	12.00	14.000
14.000"	707100	12.00	16.000
16.000"	707117	12.00	17.400
17.400"	707193	12.00	18.701
24.000" ²	741289	13.00	25.375

¹ Reducing

² Composite Coupling

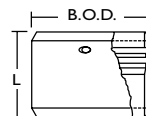


COUPLING

CERTA-LOK BELL BY SOLVENT WELD BELL
INCLUDES GASKET AND SPLINE

O.D. SIZE	SOLVENT O.D. SIZE	PART NUMBER	L	B.O.D.
4.500"	4.500"	717031	6.00	4.950
4.950"	4.950"	717048	6.00	5.563
5.563"	5.563"	717055	6.13	6.180
6.625"	6.625"	717062	6.63	7.600
6.900"	6.900"	717130	7.00	7.840
6.900"	6.625"*	717147	7.00	7.840
8.625"	8.625"	717079	10.00	9.854
10.750"	10.750"	717109	12.00	12.438
12.750"	12.750"	717116	12.00	14.000

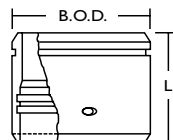
*Reducing



REDUCER BUSHING

CERTA-LOK SPIGOT BY CERTA-LOK BELL
INCLUDES GASKET AND SPLINE

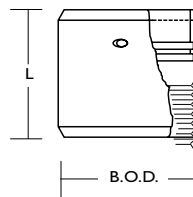
O.D. SIZE	PART NUMBER	L	B.O.D.
8.625" x 6.625"	712258	8.25	8.625
8.625" x 6.900"	712203	7.00	8.625
10.750" x 8.625"	712272	10.00	10.750
12.750" x 10.750"	712296	12.00	12.750
14.000" x 12.750"	712302	12.00	14.000
16.000" x 14.000"	712326	12.00	16.000
17.400" x 16.000"	712319	12.00	17.400



THREAD ADAPTER

CERTA-LOK FEMALE X FIPT
INCLUDES GASKET AND SPLINE

O.D. SIZE	FEMALE THREAD SIZE	PART NUMBER	L	B.O.D.
4.500"	4"	810770	6.00	5.470
4.950"	4"	810787	6.00	5.563
5.563"	5"	810794	6.13	6.180
6.625"	6"	810800	6.63	7.600
6.900"	6"	810862	6.63	7.840
8.625"	8"	810824	10.00	9.854



SPLINE

O-RING (GASKET)

O.D. SIZE	PART NUMBER	L	SIZE	PART NUMBER	C/S	COLOR
4.500"	864629	18	.250 ¹	861239	.210	Brown
4.950"	864629	18	.250 ¹	861284	.210	Brown
5.563"	864629	18	.250 ¹	861246	.210	Brown
6.625"	864636	24	.250 ¹	861253	.210	Brown
6.900"	864636	24	.250 ¹	861796	.210	Brown
8.625"	864643	32	.313 ²	862717	.375	Blue
10.750"	864650	39	.375 ²	861963	.375	Green
12.750"	864667	46	.375 ²	861789	.375	Green
14.000"	864902	48	.375 ²	861710	.375	Green
16.000"	864919	53	.375 ²	861727	.375	Green
17.400"	864926	60	.375 ²	861734	.407	Green
24.000"	864742	39	.375x.625 ³	861819	.438	Green

1 Round Spline
2 Square Spline
3 Rectangular (Use 2 Splines)

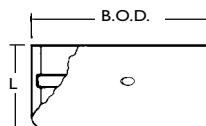
C/S = Ring Cross-Section Diameter

Material: 4.5" - 6.9" NBR
8.625" & up Poly Isoprene

CASING & SCREEN CAP

CERTA-LOK BELL
INCLUDES SPLINE

O.D. SIZE	PART NUMBER	L	B.O.D.
4.500"	810619	4.00	4.950
4.950"	810626	4.00	5.563
5.563"	810633	4.25	6.180
6.625"	810640	4.25	7.600
6.900"	810602	4.25	7.600
8.625"	810664	4.50	9.854
10.750"	810688	5.00	11.600
12.750"	810695	5.00	14.000
14.000"	810701	5.00	15.300
16.000"	810718	5.25	17.400
17.400"	810725	5.50	18.700



ALSO AVAILABLE FROM CERTAINTEED...



SLOTTED WELL CASING
BROCHURE AVAILABLE UPON REQUEST

building responsibly™

BUILDING RESPONSIBLY WITH PVC PIPE

- PVC resin starts with two simple building blocks: chlorine (57%) from common salt, a plentiful **inexhaustible raw material**, and ethylene (43%) from natural gas. Most of the natural gas utilized to manufacture ethylene is domestically produced, which **reduces consumption of imported oil products**.
- PVC pipe manufacturing is an extremely efficient process. The ability to immediately return scrap and off-specification materials (regrind) directly into the manufacturing process results in **virtually no manufacturing waste**.
- PVC pipes are completely **recyclable** and **consume less energy to produce** than alternative pipes.
- Smooth and corrosion resistant PVC lowers flow losses and **reduces energy costs** for pumping water.
- Durability and long life: The number of recorded failures in PVC pipes is low compared to other materials (AWWA Water Research Foundation, 2005) – valuable **water resources are conserved**.
- Considering equipment utilization and reduced traffic disruption, trenchless construction methods using restrained-joint PVC pipes result in **significantly lower carbon outputs** compared to conventional open-cut methods.
- PVC is often used to pump reclaimed, treated wastewater for applications such as irrigation of parks – **conserves highly treated, expensive drinking water**.



ASK ABOUT OUR OTHER CERTAINTEED PRODUCTS AND SYSTEMS:

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Valley Forge, PA 19482

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