

CertainTeed

# AGRICULTURAL IRRIGATION PIPING SYSTEMS

Certa-Set™, Certa-Lok™ and Kwik-Latch™



**CertainTeed** 

*Quality made certain. Satisfaction guaranteed.*



# AGRICULTURAL IRRIGATION PIPING SYSTEMS



**C**ertainTeed has manufactured polyvinyl chloride (PVC) piping systems for mining and industrial applications for nearly 40 years.


The piping system that has been tested and approved in these demanding environments is now available to meet the needs of row crop and turf grass growers.

Certa-Set™, Certa-Lok™ and Kwik-Latch™ Agricultural Irrigation Piping Systems have features that no other irrigation piping system, aluminum or plastic, can offer, backed by a company known around the world for quality and innovation. The modified polyvinyl chloride from which these piping systems are made is virtually impervious to the effects of sunlight, electrolysis, chemicals and fertilizers. Unlike aluminum, PVC pipe breakage

can be easily repaired with standard solvent weld repair couplings.

Certa-Set is designed to provide a portable solid-set irrigation system with nothing less than total reliability. The patented Certa-Set sled coupling is designed to eliminate leakage during start-up, operation and shutdown, while ensuring the risers remain upright (even during mechanical handling). Certa-Set is a highly efficient above-ground portable irrigation piping system that offers numerous advantages over traditional aluminum irrigation products.

CertainTeed experience is also at your service with the Kwik-Latch™ hand-move piping system for solid-set and hand-move irrigation applications. Designed for above-ground applications, Kwik-Latch™ Hand-Move piping systems do not





build up heat like aluminum pipe after prolonged hours in hot sunlight. The pipe can be easily attached to quick connect latch couplings with a recommended epoxy adhesive.

Certa-Lok Main Line is a perfect complement to the Certa-Set and Kwik-Latch piping systems, possessing the same material quality and durability. Certa-Lok Main Line and Certa-Set Lateral piping systems are suitable for use with the AIM Golden Retriever, which makes pipe installation and retrieval in the field a simple task for growers.

**NOTE**—This brochure is intended to provide product specifications and general information concerning the installation of Certa-Set lateral and Certa-Lok main line irrigation piping. It is intended to serve only as a guide, in as much as conditions encountered in the field vary significantly between installations. The pipe, couplings, fittings and accessories listed are subject to normal manufacturing tolerances. This information is supplied for user reference only and is subject to change.



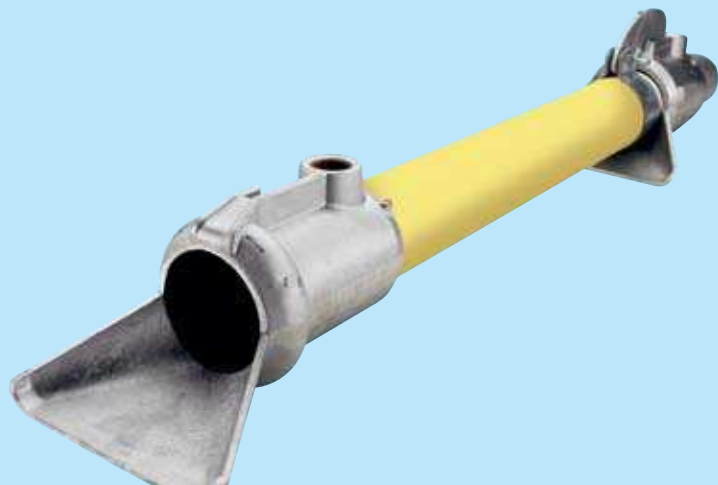
### Certa-Set™



### Certa-Lok™



### Kwik-Latch™





# FEATURES & ADVANTAGES

**Corrosion Resistance** — Polyvinyl chloride simply cannot pit or corrode, under any circumstances. CertainTeed piping systems will not deteriorate due to electrolysis or injection of fertilizers or chemicals, even copper-based products.

**Certa-Set Sled Coupling** — The patented sled coupling is specifically designed to solve two chronic problems with aluminum coupling systems: leaky joints and unreliable performance (risers tipping over, joints coming apart during operation, etc.).

## Leak-proof Operation

- **Conserves Water:** The Certa-Set system is designed to maintain a watertight seal not only during operation, but also during start-up and shut-down, no matter how often the joint is taken apart and put back together. The system provides for instant pressurization during start-up.

## Unparalleled Reliability

- The patented Certa-Set sled coupling offers extraordinary stability thanks to the “wings” that keep the coupling in place and the riser upright, even in harsh weather.
- The Certa-Set restrained joint is designed to ensure the system will not come apart during start-up, operation or shutdown.

## Mechanization

- The Certa-Set system is suitable for mechanical side shift operations of up to 20 feet for cultivation.
- The system is also suitable for mechanized pipe placement and retrieval; AIM Inc’s Golden Retriever is ideally suited for this purpose, and works with both Certa-Set and Certa-Lok Main Line. Mechanization reduces overall costs to the Grower by saving on labor and time required for pipe movement.

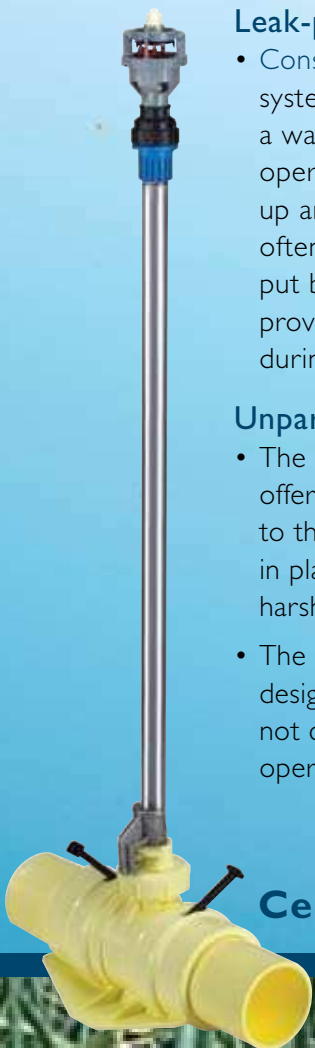
## Durability

- **Modified PVC** — Counteracts the potentially damaging effects of prolonged sunlight and gives the piping system added toughness.
- **Seven-Year Limited Warranty** — On Certa-Set pipe and couplings and Kwik-Latch. (CertainTeed document No. 40-90-47).

**Automation Capability** — Certa-Set can be inexpensively fitted for automation systems with compatible connectors available in the industry. Cert-Set is also available for use with impact sprinklers.

## Ease of Use

- **Easy to install** — Certa-Set and Certa-Lok components are easy to install and disassemble



**Certa-Set Sled Coupling**



for relocation and reuse. Kwik-Latch hand-move pipe can be easily assembled and disassembled using its quick-connect latch-style coupling.

- **Easy to handle** — Certa-Set pipe is available in convenient 15, 20, 30 and 40 foot lengths that can be handled without the use of heavy equipment or special tooling.

### Value —

- Watertight and corrosion free CertainTeed Agricultural Irrigation PVC piping systems provide an extremely smooth interior surface which can reduce pumping costs.
- The installation of CertainTeed Agricultural Irrigation piping systems will conserve water and reduce the possibility of crop loss due to puddling around leaking joints.

### Certa-Set™ System No Leaking Joints



### AIM Inc's Golden Retriever



### Certification Of Quality

1. Certa-Lok and Certa-Set formulations will contain sufficient impact modifier to demonstrate approximately twice the Izod impact strength of conventional white PVC pipe.
2. Only Type I, 2000 psi hydrostatic design stress high impact material, Class 12454 per ASTM D1784, will be used in the production of Certa-Lok and Certa-Set pipe.

### CERTAINTED IMPACT PRODUCTION SPECIFICATIONS FOR CERTA-LOK PVC MAIN LINE AND EMERALD PIPE

Normal Size	SDR 41 ft.-lbs.	SDR 32.5 ft.-lbs.	Standard Pipe ft.-lbs.
6"	—	250	120
8"	200	300	160
10"	250	350	160
12"	300	400	160
16"	—	450	160

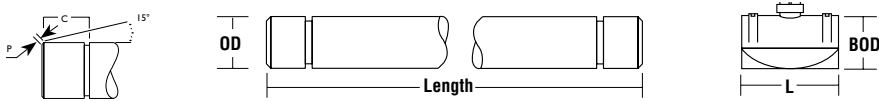
### Aluminum System Puddling Around Leaking Joints



# Certa-Set™ Piping System

## LATERAL SPRINKLER PIPE

Size	Pressure Rating, psi	OD	L	BOD	P	C	Weight (lbs./ft.)	Lay Length Feet	Part Number
3"	125	3.00	7.5	3.625	0.250	1.315	0.80	15	001529
3"								20	252211
3"								30	252310
3"								40	252419

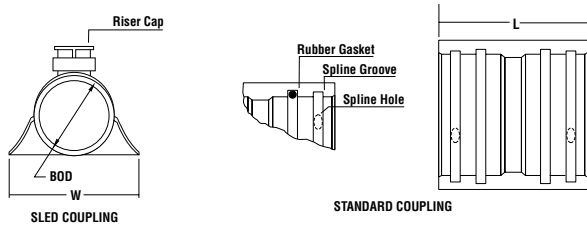


## RISER PIPE STOCK (20 Feet Lay Length)

Size	Pressure Class	OD	Min. Wall	Weight (lbs./ft.)	Part Number
1/2"	SCH80	0.840	0.147	0.21	050008
3/4"	SCH80	1.050	0.154	0.28	050015

## CERTA-SET SLED COMPONENTS

Description	Configuration	Pressure Rating, psi	L	Width	Weight (lbs./piece)	BOD	Part Number
Lateral Couplings (with O-ring & Splines)	3" Sled Kit (with Single-Hook Cap)	125	7.50	6.0	1.40	3.625	700484
	3" Standard Coupling	125	5.25	—	1.50	3.500	700477
Riser Cap	3 1/4" Single-Hook Riser Cap	125	NA	NA	0.10	NA	700361



## CERTA-SET FITTINGS

Description	Configuration	PSI	Length	OD	Weight (lbs./piece)	Part Number
Adapter Nipple	3" Certa-Set x 3" IPS Solvent Weld	125	8.00	3.000	1.95	745348
Adapter Nipple	3" Certa-Set x 3" IPS MIPT	125	8.00	3.000	1.95	745331
End Plug	Coupling End Plug	125	4.00	3.000	0.94	745607
Coupling	3" Certa-Set x Plain End	125	5.25	3.500	0.80	715938
Nipple	3" Solvent Weld x Solvent Weld	125	6.00	3.000	0.45	715969
Nipple	3" Certa-Set x 2 1/2" Solvent Weld	125	6.25	3.000	0.60	715921
Nipple	3" Certa-Set x Plain End (long)	125	8.00	3.000	0.70	745300
Nipple	3" Certa-Set x Plain End	125	6.25	3.000	0.50	715884
Nipple	3" Certa-Set Male x Certa-Lok Male	125	8.00	3.000	0.70	745324
Pipe Repair Fitting	3" Certa-Set Male x Solvent Weld	125	12.00	3.000	0.90	715877
Valve Transition	3" Certa-Set Female x 2" FIPT	125	5.25	3.500	1.20	715945

Note: All dimensions are in inches and are subject to manufacturing tolerances.

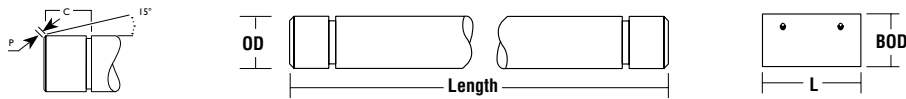
# Kwik-Latch™ Hand Move Piping System

Size	Lay Length Feet	Pressure Rating, psi	OD	Min. Wall	Weight (lbs./ft.)	PartNumber
3"	30	125	3.00	0.134	0.80	252327

# Certa-Lok™ Main Line Piping System

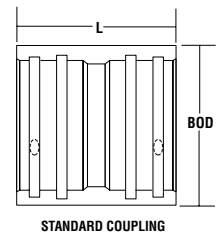
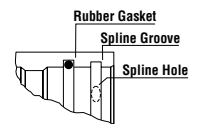
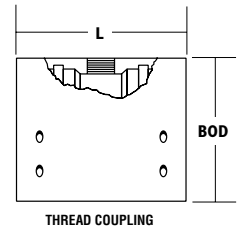
**PIPE** (includes Couplings, Gaskets (O-rings) and Spline)

	Size	SDR	OD	L	BOD	P	C	Min. Wall	Weight (lbs./ft.)	Lay Length		
										20 feet	30 feet	40 feet
Class 125 Main Line (yellow)	6"	32.5	6.625	8.25	7.84	0.313	3.00	0.204	2.99	243219		236297
	8"	32.5	8.625	9.50	10.19	0.656	3.16	0.265	5.00	244216	243325	236303
	10"	32.5	10.750	12.00	12.44	0.656	3.50	0.331	7.97	245213	245237	245220
	12"	32.5	12.750	12.00	14.65	0.656	3.50	0.392	11.11	246210		
	16"	32.5	16.000	12.125	17.40	0.656	3.61	0.492	15.61	246302		
Class 100 Emerald Main Line (green)	8"	41	8.625	8.25	10.19	0.656	3.16	0.210	3.50	241215		241260
	10"	41	10.750	9.50	12.44	0.656	3.50	0.262	5.40	240218		240225
	12"	41	12.750	12.00	14.65	0.656	3.50	0.311	7.70	242212		242229



## CERTA-LOK COUPLINGS 2 Spline holes and Non-Perm Rings

Size	Tapped	PSI	Outlet Size	BOD	L	Weight (lbs./piece)	Part Number
6"	No	250	NA	7.840	8.25	6.20	705199
6"	Yes	160	2"	7.840	11.25	7.90	709555
6"	Yes	160	2" DT	8.370	11.25	19.50	709562
6"	Yes	130	3"	8.370	12.25	13.70	709500
6"	Yes	130	3" DT	8.370	12.25	13.60	715754
6"	Yes	130	3" DT, 2" ST	8.370	12.25	13.60	715785
8"	No	250	NA	10.190	10.13	11.00	715150
8"	Yes	130	2"	10.190	12.50	19.50	709616
8"	Yes	160	2" DT	10.190	12.50	17.30	709623
8"	Yes	130	3"	10.940	13.50	19.50	709593
8"	Yes	130	3" DT	10.940	13.50	20.60	715747
10"	No	200	NA	12.440	12.13	21.20	740619
10"	Yes	125	2"	12.440	15.00	19.60	709685
10"	Yes	125	2" DT	12.440	15.00	26.02	709647
10"	Yes	125	3"	12.440	16.00	24.90	727917
10"	Yes	125	3" DT	12.440	16.00	24.90	725760
10"	Yes	125	3" DT, 2" ST	12.440	16.00	24.90	727924
12"	No	160	NA	14.650	12.13	27.90	740626
12"	Yes	125	2"	14.650	15.00	30.60	709739
12"	Yes	125	3"	14.650	16.00	36.60	709708
12"	Yes	125	3" DT	14.650	16.00	36.60	709746
16"	No	200	NA	17.220	12.00	30.00	745416



\* DT = Double Tap ST = Single Tap

Note: All dimensions are in inches and are subject to manufacturing tolerances.

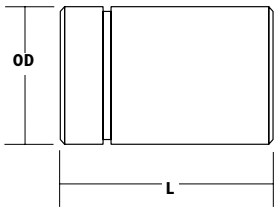


## CERTA-LOK END CAPS

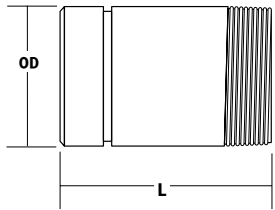
Size	PSI	Weight (lbs./piece)	OD	Length	Part Number
6"	250	9.00	7.8400	9.00	700019
8"	250	17.00	10.190	10.13	700026
10"	200	22.00	12.440	12.13	700033
12"	200	28.00	14.650	12.13	745508

## Fittings

### CERTA-LOK NIPPLES Male x Plain End

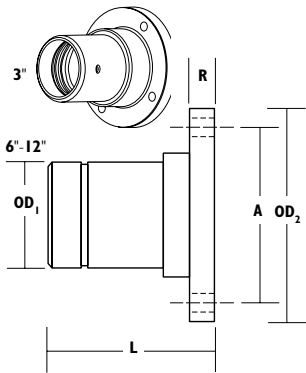


Description	Size	PSI	Weight (lbs./piece)	OD	L	Part Number
Certa-Set	3"	125	0.50	3.000	6.25	715884
Main Line	6"	250	5.20	6.625	12.00	705878
Main Line	8"	250	9.70	8.625	13.00	705885
Main Line	10"	200	11.10	10.750	16.00	706325
Main Line	12"	125	15.50	12.750	16.00	706332



### CERTA-LOK NIPPLES Male x Male Pipe Threads

Description	Size	PSI	Weight (lbs./piece)	OD	L	Part Number
Certa-Set	3"	125	1.50	3.500	5.25	715815
Main Line	6"	140	5.20	6.625	12.00	706028
Main Line	8"	120	9.00	8.625	13.00	706035



### FLANGE ADAPTERS

Description	Size	PSI	Weight (lbs./piece)	OD1	OD2	R.	L	Bolt Circle		Part Number
								Dia. A.	No. Holes	
Certa-Set	3"	125	3.10	3.100	7.500	1.000	5.50	6.00	4	715952
Main Line	6"	150	9.00	6.625	11.000	1.281	12.44	9.50	8	705779
Main Line	8"	150	16.00	8.625	13.500	1.375	13.38	11.75	8	705786
Main Line	10"	150	25.40	10.75	16.000	1.625	16.69	14.25	12	707773
Main Line	12"	150	36.70	12.75	19.000	1.500	16.63	17.00	12	745539

Note: 3": Certa-Lok Female x Flange, 6"-12": Certa-Lok Male x Flange.

### TEES

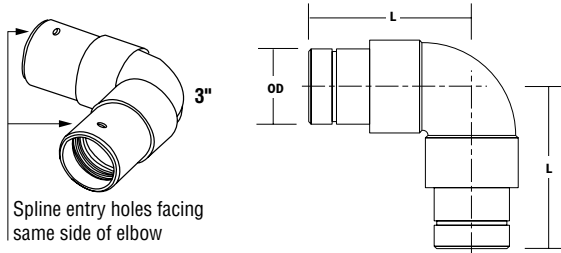
Description	Size	PSI	Weight (lbs./piece)	OD	L	F	Part Number
Certa-Set	3"	125	4.50	3.500	7.25	7.75	715860
Main Line	6"	250	25.00	6.625	31.00	15.50	704635
Main Line	8"	250	48.00	8.625	36.25	17.75	704642
Main Line	10"	200	81.52	10.750	45.38	22.70	704581
Main Line	12"	160	125.63	12.750	45.00	22.50	745522

Note: All dimensions are in inches and are subject to manufacturing tolerances.



## ELBOWS, 90°

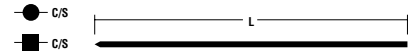
Description	Size	PSI	Weight (lbs./piece)	OD	L	Part Number
Certa-Set	3"	125	3.00	3.500	7.15	715853
Main Line	6"	250	17.40	6.625	15.63	704895
Main Line	8"	250	33.70	8.625	18.00	704901
Main Line	10"	200	59.66	10.750	26.75	704765
Main Line	12"	125	99.28	12.750	28.75	745515



## Splines, O-rings and Insertion Tools

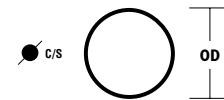
### SPLINES

Description	Size	Length	C/S	Config.	Part Number
Certa-Set	3"	12	NA	Serrated	864599
Main Line	6"	24	0.250	Round	864636
Main Line	8"	32	0.313	Square	864643
Main Line	10"	39	0.313	Square	864872
Main Line	12"	46	0.313	Square	864896



### O-RINGS

Description	Size	C/S	Material	OD	Part Number
Certa-Set Sled	1/2"	NA	NBR	NA	862564
Certa-Set Coupling	3"	0.210	NBR	3.395	862502
Main Line	6"	0.275	NBR	7.176	861277
Main Line	8"	0.375	IR	9.350	862717
Main Line	10"	0.407	IR	11.500	861697
Main Line	12"	0.407	IR	13.500	861703



### CERTA-LOK SPLINE INSERTION TOOLS\*

Description	Size	Weight (lbs./piece)	Part Number
Certa-Set	3"	3.00	707988
Main Line	6"	2.25	707964
Main Line	8" - 12"	2.25	707971

\* Only for assembly

Note: All dimensions are in inches and are subject to manufacturing tolerances.

# Packaging and Weights

Size	Type	Lay Length	Pressure Rating, psi	Approx. Weight (lbs./ft.)	Feet Per Fast-Pak	Approx. Weight Lbs./Fast-Pak	Fast-Paks Per Truck Load	Feet Per Truck Load	Fast-Pak % of Truck Load	Part Number			
1/2"	Certa-Set Riser Stock	20	850	0.21	8,000	1,672	28	224,000	3.57	050008			
3/4"	Certa-Set Riser Stock	20	690	0.28	8,000	2,256	21	168,000	4.76	050015			
3"	Certa-Set	15	125	0.80	870	696	32	27,840	3.13	001529			
		20			1,160	928	28	32,480	3.57	252211			
		30			1,740	1,392	14	24,360	7.14	252310			
		40			2,320	1,856	14	32,480	7.14	252419			
3"	Kwik-Latch	30	125	0.80	1,740	1,392	16	27,840	6.25	252327			
6"	Certa-Lok Class 125 Main Line	20	125	2.99	400	1,196	20	8,000	5.00	243219			
		40			800	2,392	10	8,000	10.00	236297			
8"	Certa-Lok Class 125 Main Line	20	125	5.00	280	1,400	16	4,480	6.25	244216			
		30			420	2,100	8	3,360	12.50	243325			
		40			560	1,674	8	4,480	12.50	236303			
	Certa-Lok Class 100 Main Line	20	100	3.50	280	980	16	4,480	6.25	241215			
		40			560	1,960	8	4,480	12.50	241260			
		20			100	5.40	160	1,275	18	2,880	5.56	245213	
30	240	1,913	9	2,160			11.11	245237					
10"	Certa-Lok Class 125 Main Line	40	125	7.97	320	2,550	9	2,880	11.11	245220			
		Certa-Lok Class 100 Main Line			20	100	5.40	160	864	18	2,880	5.56	240218
					40			230	1,728	9	2,880	11.11	240225
	12"	Certa-Lok Class 125 Main Line	20	125	11.11	160/80	1,777/889	12/4*	2,240	7.14/3.75	246210		
Certa-Lok Class 100 Main Line		20	100	7.70	160/80	1,232/616	12/4*	2,240	7.14/3.75	242212			
16"	Certa-Lok Class 125 Main Line	20	125	15.61	120	1,873	12	1,440	8.33	246302			

## Important Certa-Set Application Limitations



CertainTeed offers a seven-year limited warranty on 3" Certa-Set pipe and couplings (see CertainTeed Document Number 40-90-47). Please note the following pertinent application limitations:

1. Certa-Set lateral piping has been designed for drag applications where the tensile pull must not exceed 3,500 lbs. Exceeding 3,500 lbs. pull will stress the pipe at the spline groove, resulting in spline override and possible premature pipe or coupling breakage.
2. All risers must be removed from the couplings prior to drag movement in heavy foliage installations, in as much as under certain crop conditions, foliage can become entangled with the risers, resulting in excessive deflection (stress) on the coupling

boss during movement. Any excessive deflection can result in possible breakage at the coupling boss.

3. Water needs to be drained from the 3" lateral pipe before drag or mechanical retrieval. Failure to do so will result in spline override, with resulting coupling damage. Also, failure to drain water in drag applications will cause severe abrasion to the sled coupling and pipe over time. To remove water, simply remove the Certa-Set end plug (CertainTeed Part No. 745607) and allow the water to drain. It is not required to drain the water when performing a lateral mechanical shift of up to 20 feet.
4. During mechanized lateral movement of the 3" Certa-Set pipe, pipe offset must not exceed 40 inches per 20 feet of pipe. Exceeding this level will place excessive stress on the sled coupling at the spline groove, resulting in premature coupling breakage.
5. CAUTION – Under no circumstances should any farm implement (tractor, mower, etc.) be used to impact the coupling or pipe for the intended purpose of lateral or directional movement. Additionally, no farm implements are to be driven over the 3" lateral pipe.
6. CertainTeed will not assume any responsibility or liability for damage directly or indirectly resulting from the failure to serve the intended purpose of any component, such as saddles, which are used to modify CertainTeed's standard products.



# ADDITIONAL JOINT ASSEMBLY AND SYSTEM INSTALLATION GUIDELINES

- Use of spline insertion tools will greatly speed the assembly and disassembly of main lines. **CAUTION** – Use of vice grips or pliers for spline insertion may notch the spline, which may cause premature breakage in the coupling during disassembly.

- Although all rings are Teflon coated to ease assembly and disassembly, CertainTeed recommends that a small amount of pipe lubricant be applied to the rubber rings and pipe ends when assembling pipe sizes 3" and above.

**Important – At no time should any oil-based lubricant be applied to the spline or placed in the spline groove. Oil-based lubricants placed in those areas will reduce the strength of the restrained joint and potentially cause the spline to swell, causing premature breakage.**

- The Certa-Set solid set system is designed to use rotator sprinklers installed on risers. You may use Certa-Set risers safely for this application.

- All riser stubs below the quick disconnect hook must be minimum 2.25" in length to ensure full engagement of the riser Chevron seal to prevent water leakage and to ensure full engagement of the coupling boss for proper riser support. Riser O.D. shaft specification .840 ± .010". Maximum height for the riser is 36 inches when used with rotator sprinklers and 24 inches when used with impact sprinklers. When using a riser that is higher than the dimensions mentioned above it is recommended that stakes are utilized to stabilize the system.

- **CAUTION** – If farm implements are intended to be driven over the Certa-Lok Class 125 Main Line pipe, the pipe must be installed in V-cut trench, which covers at least 3/4 of the pipe diameter. Under no circumstances should any farm implement be driven over the 3" lateral (both Certa-Set and Kwik-Latch) and Certa-Lok Class 100 pipe Main Line. Care should be taken to avoid pipe external loading or impacting with any equipment that would lead to a permanent deformation.

- Certa-Set pipe and sled coupling may be mechanically shifted providing the rollers and guides provide an uninterrupted passage of

pipe and couplings. Rollers and guides need to be manufactured from materials such as rubber or urethane, which exhibit absorptive properties. There must be no knocking or abrupt contact with the couplings during shifting. Under no circumstances should any farm implement (tractor, mower, etc.) be used to impact the coupling or pipe for the intended purpose of lateral or directional movement.

- To repair Certa-Set lateral pipe broken ends, first make a square cut on the broken pipe end to ensure proper alignment in the repair fitting. Solvent weld Part Number 715877, Certa-Set Male x Solvent Weld Bell, onto the cut end of the pipe. To repair breaks in the middle of the pipe, make a square cut on both of the broken pieces and solvent weld both cut ends into Part Number 715969, Certa-Set Solvent Weld x Solvent Weld Coupling.

- Kwik-Latch™ Hand-Move pipe can be easily attached to quick connect latch coupling with recommended epoxy adhesive such as Araldite 2021 designed for metal-to-plastic adhesion. CertainTeed recommends that the shank of the aluminum coupling be lightly sanded and wiped before applying epoxy adhesive to remove any oxidized material that would reduce adhesion.

- The 6" Class 125 Main Line is produced with thickened ends to accommodate the Certa-Lok groove while maintaining the designed pressure rating. Grooving the non-thickened pipe body will result in less than designed pressure rating for the new joint and ultimately the entire system. When fabrication is required for 6" Class 125, apply a Certa-Lok by solvent weld coupling or apply a Certa-Lok adapter.

- Transition from the Certa-Lok Main Line to the Certa-Set lateral line can be made via a Certa-Lok main line tapped coupling and a 3" C/L Female x Male Pipe Thread Nipple (CertainTeed Part No. 715815), or one can transition from the main line by installing a male pipe thread ball valve directly into the Certa-Lok tapped coupling.

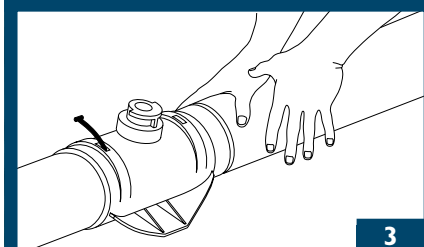
- Data on Certa-Lok Main Line, and Certa-Set lateral line:

	Certa-Lok Main Line (Class 125)				Certa-Lok Main Line (Class 100)			Certa-Set (Class 125)
	6"	8"	10"	12"	8"	10"	12"	3"
Maximum I.D.	6.217	8.094	10.088	11.965	8.204	10.226	12.128	2.7320
GPM*	473	802	1246	1752	824	1280	1800	91
Friction Flow Loss, ft. H <sub>2</sub> O/1000 ft.	12.184	8.969	6.944	5.696	8.829	6.836	5.607	31.67

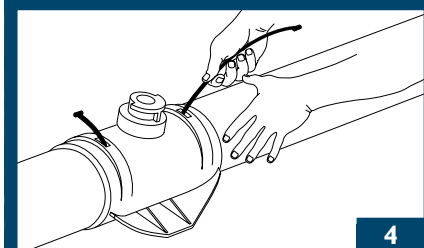
\*Calculated at velocity of 5 ft./sec.



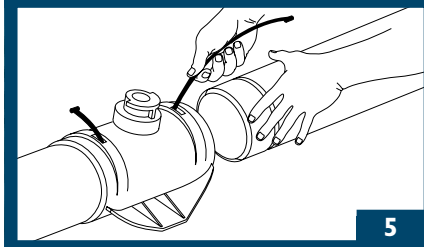
1, 2



3



4



5

1. Clean joining surfaces.
2. Apply lubricant to rubber rings and pipe ends
3. Align and insert pipe into Certa-Lok or Certa-Set coupling and push home. When the pipe-end seats against the coupling stop, the locking grooves are automatically aligned for spline insertion.
4. The spline is then inserted through the insertion hole in the coupling using a spline insertion tool, until it is fully seated. This securely locks the coupling to the pipe. The gasket provides a hydraulic seal. No insertion tool is needed
5. When needed, the joint can be disassembled and reused.

## 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 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**.

buildingresponsibly™



### ASK ABOUT OUR OTHER CERTAINTeed PRODUCTS AND SYSTEMS:

**EXTERIOR:** ROOFING • SIDING • WINDOWS • FENCE • RAILING • TRIM • DECKING • FOUNDATIONS • PIPE  
**INTERIOR:** INSULATION • GYPSUM • CEILINGS

CertainTeed Corporation Phone: 866-CT4-PIPE (866-284-7473)  
P.O. Box 860 Fax: 610-254-5428  
Valley Forge, PA 19482 [www.certainteed.com](http://www.certainteed.com)

**CertainTeed**