

Certa-Set® Technical Data Sheet

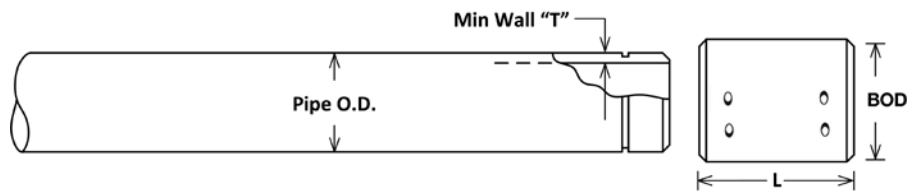
Main Line Crop Irrigation System Products



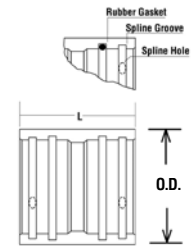
North American
Specialty Products

Certa-Set Main Line PVC Pipe (includes couplings, O-ring gaskets & splines)									
CLASS	SIZE	SDR	PIPE O.D.	COUPLING		MIN WALL "T"	WEIGHT (LBS./FT.)	LENGTH/PART NUMBER	
				L	BOD			20 FT.	40 FT.
Class 125 Main Line (Yellow)	6"	32.5	6.625"	8.25"	7.84"	0.204"	2.99	243219	236297
	8"	32.5	8.625"	10.13"	10.19"	0.265"	5.00	244216	236303
	10"	32.5	10.750"	12.13"	12.44"	0.331"	7.97	245213	-
	10"	32.5	10.750"	12.00"	12.44"	0.331"	7.97	245299 (39' 10")	
	12"	32.5	12.750"	12.00"	14.65"	0.392"	11.11	246203 (19' 11")	
Class 100 Emerald Main Line (Green)	6"	41	6.625"	8.25"	7.84"	0.162"	2.11	243349	243356
	8"	41	8.625"	10.13"	10.19"	0.210"	3.50	241215	241260
	10"	41	10.750"	12.13"	12.44"	0.262"	5.40	240218	240225
	12"	41	12.750"	12.13"	14.65"	0.311"	7.70	242212	242229

NOTE: Weight does not include coupling.

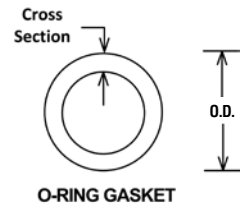


Standard Dual Spine Hole Couplings (includes O-ring gaskets and splines)					
SIZE	PSI	O.D.	L	WEIGHT (LBS./PIECE)	PART NUMBER
6"	250	7.840"	8.25"	6.20	705199
8"	250	10.190"	10.13"	11.00	715150
10"	125	12.440"	12.13"	21.20	740619
12"	125	14.650"	12.13"	27.90	740626



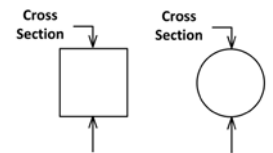
STANDARD COUPLING

O-ring Gaskets					
DESCRIPTION	SIZE	CROSS SECTION	MATERIAL	O.D.	PART NUMBER
Main Line	6"	0.275"	NBR	7.176"	861277
Main Line	8"	0.375"	IR/SBR	9.350"	862717
Main Line	10"	0.407"	IR/SBR	11.500"	861697
Main Line	12"	0.407"	IR/SBR	13.500"	861703



O-RING GASKET

Splines					
DESCRIPTION	SIZE	LENGTH	CROSS SECTION	TYPE	PART NUMBER
Main Line	6"	24"	0.250"	Round	864636
Main Line	8"	32"	0.313"	Square	864643
Main Line	10"	20"	0.313"	Square	865121
Main Line	12"	24"	0.313"	Square	865251



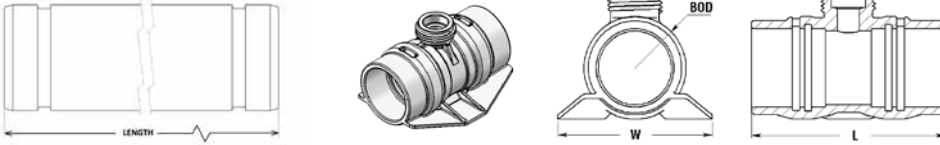
SQUARE & ROUND SPLINE

Certa-Set® Technical Data Sheet

Lateral Crop Irrigation System Products

Certa-Set Lateral Sprinkler Pipe

SIZE	PRESSURE RATING, PSI	O.D.	L	WEIGHT (LBS./FT.)	LENGTH/ PART NUMBER				
					15 FT.	19 FT.	20 FT.	30 FT.	40 FT.
3"	125	3.00"	7.5"	0.80	001529	252204	252211	252310	252419



Certa-Set Sled Kit Components

DESCRIPTION	CONFIGURATION	PRESSURE RATING, PSI	L	W	WEIGHT (LBS./PIECE)	BOD	PART NUMBER
Kit – Sled	Kit – Sled Coupler Kit (Coupler, 2 Splines, 2 O-rings)	125	7.50"	6.00"	1.40	3.625"	700606

Certa-Set Riser & Sled Components

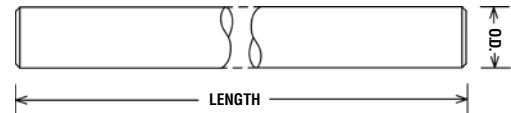
DESCRIPTION	CONFIGURATION	PRESSURE RATING, PSI	WEIGHT (LBS./PIECE)	PART NUMBER
Riser Cap	1/2" Single Hook Riser Cap	125	0.10	700361
Riser Cap	3/4" Riser Cap*	125	0.13	700347
Kit – Cap	Kit – 1/2" Cap (Single Hook Cap and Chevron Gasket)	125	0.10	700613
Assembled Riser	3/4" x 18" (includes sled cap, flange o-ring, 1/2" Nelson Acme Adapter)	125	0.90	862519
Assembled Riser	3/4" x 24" (includes sled cap, flange o-ring, 1/2" Nelson Acme Adapter)	125	1.20	862540
Assembled Riser	3/4" x 30" (includes sled cap, flange o-ring, 1/2" Nelson Acme Adapter)	125	1.50	862618
Assembled Riser	3/4" x 36" (includes sled cap, flange o-ring, 1/2" Nelson Acme Adapter)	125	1.80	862885



* NOTE: Sold only with assembled riser. Individual sales opportunities must be discussed with Territory and Sales Managers.

Riser Pipe Stock

SIZE	PRESSURE CLASS	O.D.	MIN. WALL	WEIGHT (LBS./FT.)	LENGTH	PART NUMBER
1/2"	SCH 80	0.840"	0.147"	0.21	20'	050008
3/4"	SCH 80	1.050"	0.154"	0.28	20'	050015



Gaskets

DESCRIPTION	SIZE	MATERIAL	PART NUMBER
Certa-Set 1/2" Cap Chevron	1/2"	NBR	862564
Certa-Set Sled Coupling	3"	NBR	862502
Certa-Set 3/4" Cap w/Flange	3/4"	NBR	862533



Splines

DESCRIPTION	SIZE	LENGTH	CONFIG.	PART NUMBER
Certa-Set	3"	12"	Serrated	864599



Certa-Set® Technical Data Sheet



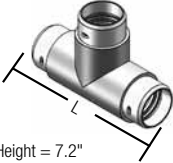

Lateral Fittings

DESCRIPTION		CONFIGURATION	PSI	LENGTH	WEIGHT (LBS./PIECE)	PART NUMBER
Adapter Nipple		3" Certa-Set Male x 3" IPS Plain End	125	6.50"	1.95	700392
Adapter Nipple		3" Certa-Set Male x 3" IPS MIPT*	125	5.00"	0.63	745652
Nipple		3" Certa-Set Male x 3" Certa-Set Male	125	5.75"	0.70	745737
Nipple		3" Certa-Set Female x 3" IPS MIPT	125	3.75"	0.67	745669
Nipple		3" Certa-Set Female x 3" IPS Plain End	125	3.75"	0.80	715907
		Long Version	125	5.25"	0.80	715938
Nipple		3" Certa-Set Male x	125	6.25"	0.50	715884
		Long Version	125	6.50"	0.53	700385
End Plug		Sled Coupling End Plug	125	3.88"	0.94	745607
Coupling		3" Certa-Set Female x 3" Certa-Set Female	125	5.25"	0.65	715204

NOTE: 3" Certa-Set = 3.00"
 3" IPS = 3.50"
 3" Adapter Nipple not for use with Nelson valves

Certa-Set® Technical Data Sheet

Lateral Fittings (continued)

DESCRIPTION		CONFIGURATION	PSI	LENGTH	WEIGHT (LBS./PIECE)	PART NUMBER
Coupling		Certa-Set Solvent Weld Coupling	125	6.00"	0.45	715969
Flange		3" Certa-Set Female x Flange	125	5.25"	3.10	715952
Tee		3" Certa-Set Female Tee	125	11.4"	4.50	745720
Elbow (90°)		3" Certa-Set 90° Female Elbow	125	5.8"	3.00	700378
Adapter Nipple		3" Certa-Set Male x 2 1/2" Solvent Weld Bell Adapter	125	6.25"	0.60	715921
Pipe Repair Fitting		3" Certa-Set Male x 3" Solvent Weld Bell Adapter	125	11.75"	0.90	715877

NOTE: 3" Certa-Set = 3.00"
3" IPS = 3.50"

Splines Insertion Tool (for faster & easier insertion of splines)			
DESCRIPTION	SIZE	WEIGHT (LBS./PIECE)	PART NUMBER
Main Line	6"	2.25	707964
Main Line	8" – 12"	2.25	707971

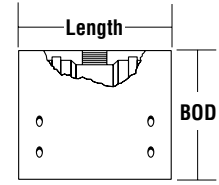


Certa-Set® Technical Data Sheet

Yelomine® Accessories – Compatible with Certa-Set Products

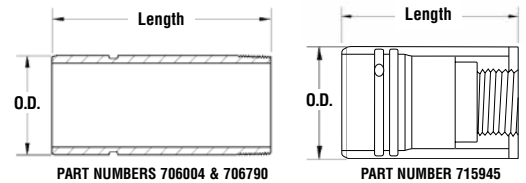
Tapped Dual Spine Hole Couplings (includes O-ring gaskets and splines)						
SIZE	OUTLET SIZE	PSI	BOD	L	WEIGHT (LB./PIECE)	PART NUMBER
6"	2" ST	160	7.840"	11.25"	7.90	709555
	2" DT	160	8.370"	11.25"	7.90	709562
	3" ST	130	8.370"	12.25"	12.50	709500
	3" DT	130	8.370"	12.25"	12.50	715754
	3" DT, 2" ST	125	8.370"	12.25"	12.50	715785
8"	2" ST	160	10.190"	12.50"	15.75	709616
	2" DT	160	10.190"	12.50"	15.75	709623
	3" ST	130	10.940"	13.50"	16.50	709593
	3" DT	130	10.940"	13.50"	16.50	715747
	3" DT, 2" ST	125	10.940"	13.50"	16.50	716706
10"	2" ST	125	12.440"	15.00"	19.60	709685
	2" DT	125	12.440"	15.00"	19.60	709647
	3" ST	125	12.440"	16.00"	24.90	727917
	3" DT	125	12.440"	16.00"	24.90	725760
	3" DT, 2" ST	125	12.440"	16.00"	24.90	727924
12"	2" ST	125	14.650"	15.00"	34.00	709739
	3" ST	125	14.650"	16.00"	34.50	709708
	3" DT	125	14.650"	16.00"	34.50	709746
	3" DT, 2" ST	125	14.650"	16.00"	34.50	709784

* DT = Double Tap ST = Single Tap



TAPPED COUPLING

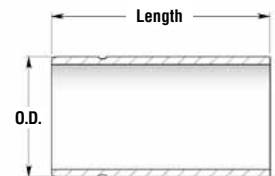
Valve Transition Fittings					
SIZE	PSI	WEIGHT (LBS./PIECE)	O.D.	L	PART NUMBER
3"	190	1.30	3.5"	9.00"	706004
3"	190	1.06	3.5"	6.00"	706790
3"	190	1.20	3.0"	5.5"	715945



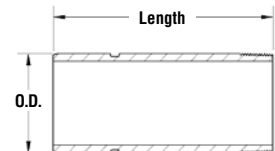
PART NUMBERS 706004 & 706790

PART NUMBER 715945

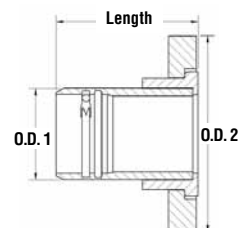
Male x Male (Plain End) Nipples					
SIZE	PSI	WEIGHT (LBS./PIECE)	O.D.	L	PART NUMBER
6" IPS	250	5.20	6.625"	12.00"	705878
8" IPS	250	9.70	8.625"	13.00"	705885
10" IPS	200	11.10	10.750"	16.00"	706325
12" IPS	160	15.50	12.750"	16.00"	706332



Male x Male (Threaded) Nipples					
SIZE	PSI	WEIGHT (LBS./PIECE)	O.D.	L	PART NUMBER
6"	140	5.20	6.625"	12.00"	706028
8"	120	9.00	8.625"	13.00"	706035



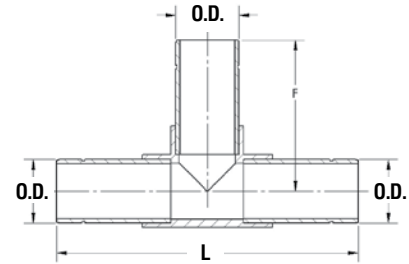
Flange Adapters								
SIZE	PSI	WEIGHT (LBS./PIECE)	O.D. 1	O.D. 2	L	BOLT CIRCLE		PART NUMBER
						DIAMETER A	NO HOLES	
6"	150	9.00	6.625"	11.000"	12.44"	9.50"	8"	705779
8"	150	16.00	8.625"	13.500"	13.38"	11.75"	8"	705786
10"	150	25.40	10.75"	16.000"	16.69"	14.25"	12"	707773
12"	150	36.70	12.75"	19.000"	16.63"	17.00"	12"	745539



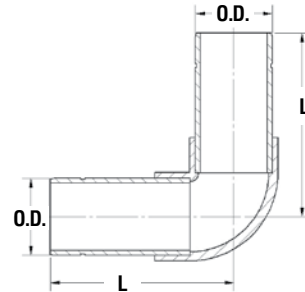
Certa-Set® Technical Data Sheet

Yelomine® Accessories – Compatible with Certa-Set Products (continued)

Plain End Tees						
SIZE	PSI	WEIGHT (LBS./PIECE)	O.D.	L	F	PART NUMBER
6" IPS	250	25.00	6.625"	31.00"	15.50"	704635
8" IPS	250	48.00	8.625"	36.25"	17.75"	704642
10" IPS	200	81.52	10.750"	45.38"	22.70"	704581
12" IPS	160	125.63	12.750"	45.00"	22.50"	745522






Plain End Elbows					
SIZE	PSI	WEIGHT (LBS./PIECE)	O.D.	L	PART NUMBER
6" IPS	250	17.40	6.625"	15.75"	704895
8" IPS	250	33.70	8.625"	17.75"	704901
10" IPS	200	59.66	10.750"	21.78"	704765
12" IPS	160	99.28	12.750"	22.88"	745515



End Caps						
SIZE	PSI	WEIGHT (LBS./PIECE)	SIZE	O.D.	LENGTH	PART NUMBER
6"	250	9.00		7.840"	9.00"	700019
8"	250	17.00		10.190"	10.13"	700026
10"	200	22.00		12.440"	12.13"	700033
12"	160	28.00		14.650"	12.13"	745508

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

Nelson Irrigation Parts	
DESCRIPTION	
Valve (Twig)	
MRDC	
Sprinklers	

For more information contact:



Nelson Irrigation Corporation
 848 Airport Road
 Walla Walla, WA 99362
 Website: www.nelsonirrigation.com
 Phone: (509) 525-7660
 Toll Free: (800) 405-1400

For information regarding our mechanized pulling equipment, please contact Ag Industrial Manufacturing, Inc. at (800) 700-2461.

Certa-Set® Technical Data Sheet

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
		19'			1,102	882	32	35,264	3.13	252204
		20'			1,160	928	28	32,480	3.57	252211
		30'			1,740	1,392	16	27,840	7.14	252310
		40'			2,320	1,856	14	32,480	7.14	252419
6"	Certa-Set 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
6"	Certa-Set Emerald Class 100 Main Line	20'	100	2.11	400	844	20	8000	5.0	243349
		40'			800	1,689	10	8000	10.0	243356
8"	Certa-Set 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-Set Emerald 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
10"	Certa-Set Class 125 Main Line	20'	125	7.97	160	1,275	18	2,880	5.56	245213
		30'			240	1,913	9	2,160	11.11	245237
		40'			320	2,550	9	2,880	11.11	245220
	Certa-Set Emerald 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-Set Class 125 Main Line	20'	125	11.11	160/80	1,777/889	12/4	2,240	7.14/3.75	246210
	Certa-Set Emerald Class 100 Main Line	20'	100	7.70	160/80	1,232/616	12/4	2,240	7.14/3.75	242212

Important Certa-Set® Application Limitations

North American Specialty Products offers a seven-year limited warranty on 3" Certa-Set pipe and sled couplings. 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, 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

(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.

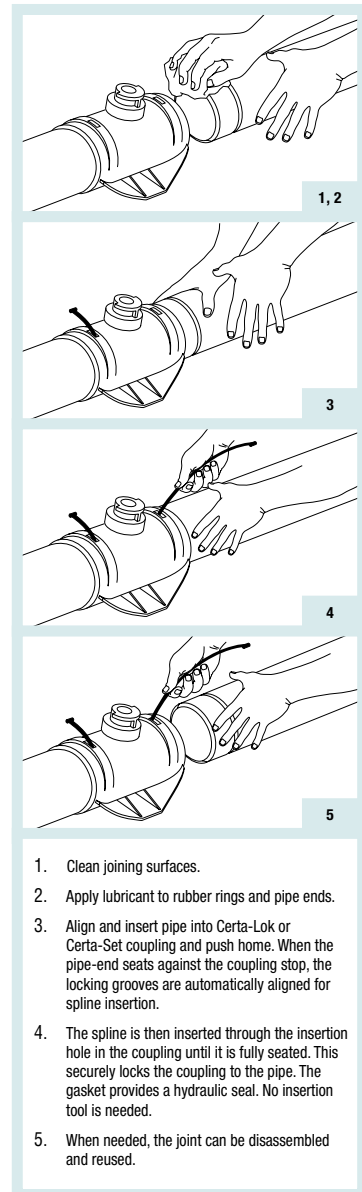
4. During mechanized lateral movement of the 3" Certa-Set pipe, pipe offset must not exceed 40 inches per 20 feet of pipe. Exceeding this level will place excessive stress on the sled coupling at the spline groove, resulting in premature coupling breakage.
5. CAUTION – Under no circumstances should any 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. North American Specialty Products 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 our standard products.

Certa-Set® Technical Data Sheet

Main Line Crop Irrigation System Products

- 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, we recommend that a small amount of pipe lubricant be applied to the rubber O-rings and pipe ends when assembling Certa-Set pipe.
Important – At no time should any oil-based lubricant be applied to the spline or placed in the spline groove. Oil-based lubricants 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 1/2" riser stubs below the quick disconnect hook must be a 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 is .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 be utilized to stabilize the system.
- All 3/4" risers are provided with a sled coupling threaded cap and 1/2" Nelson Acme Threaded Adapter. These parts, spin-welded by North American Specialty Products at our Lodi, California, manufacturing plant, utilize the latest welding technology and allow for quick installation of the riser to the sled coupling, as well as a variety of Nelson Irrigation Rotator Sprinklers and Mini Regulator/Drain Check options.

- **CAUTION** – If farm implements are intended to be driven over the Certa-Set 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 or Certa-Set Emerald Main Line pipe. 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. The rollers and guides must provide an uninterrupted passage of pipe and couplings. Rollers and guides need to be manufactured from materials such as rubber Yelomine™ or urethane, which exhibit absorptive properties. There must be no knocking or abrupt contact with the couplings during shifting.
- 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.
- The 6" Certa-Set 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-Set by solvent weld coupling or a Certa-Set adapter.
- Transition from the Certa-Set Main Line to the Certa-Set lateral line can be made via a Certa-Lok® Main Line tapped coupling and a 3" Certa-Lok Male x Male Pipe Thread Nipple (Part No. 745652), or transition from the main line by installing a male pipe thread ball valve directly into the Certa-Lok tapped coupling.



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 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.

Certa-Set Main Line and Lateral Pipe Flow Performance Data

	CERTA-SET MAIN LINE (CLASS 125)				CERTA-SET MAIN LINE EMERALD (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"	2.732"
GPM*	473	802	1246	1752	824	1280	1800	91
Friction Flow Loss (FT. H ₂ 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.