



**PVC & PP
INSERT FITTINGS**
FOR USE WITH POLYETHYLENE PIPE



Quality Systems Certificate No. 293
Corporate Facilities, Sylmar, CA
Assessed to ISO 9001

Visit our web site:
www.spearsmfg.com

PRICE SCHEDULE INS-1-0501
Effective May 26, 2001
Supersedes INS-1-0200

INSTALLATION INFORMATION

RECOMMENDATIONS FOR INSTALLERS AND USERS:

Plastic piping systems should be **ENGINEERED, INSTALLED, and OPERATED** in accordance with **ESTABLISHED DESIGN AND ENGINEERING STANDARDS AND PROCEDURES** for plastic piping systems. Suitability for the intended service application should be determined prior to installation. **PRIOR TO ASSEMBLY, all piping system components should be inspected for damage or irregularities. Mating components should be checked to assure that tolerances and engagements are compatible. Do not use any components that appear irregular or do not fit properly. Contact the appropriate manufacturer of the component product in question to determine usability.** Spears Manufacturing Company, Inc., recommends that all PVC and CPVC plastic piping systems be designed and constructed to **AVOID EXCESSIVE WATER HAMMER**. Water hammer can cause damage and failure to pipe, valves, and fittings within the piping system. Consult all applicable codes and regulations for compliance prior to installation.

CAUTION — Spears Manufacturing Company **WILL NOT ACCEPT RESPONSIBILITY** for damage or impairment of its products, or other consequential or incidental damages caused by misapplication, incorrect assembly, and/or exposure to harmful substances or conditions.

SOLVENT WELD CONNECTIONS — Use a quality grade of primer and solvent cement formulated for the type of connection, with the **CORRECT SIZE APPLICATOR**. Read and follow all of the solvent cement **MANUFACTURER'S APPLICATION AND CURE TIME INSTRUCTIONS THOROUGHLY. BEFORE APPLYING PRIMER AND CEMENT**, appropriate safety precautions should be taken. Primer and Cement should be stored in the shade between 40°F and 110°F. Eliminate all ignition sources. Avoid breathing of vapors. Use only with adequate ventilation; explosion-proof general mechanical ventilation or local exhaust is recommended to maintain vapor concentrations below recommended exposure limits. In confined or partially enclosed areas, a NIOSH-approved organic vapor cartridge respirator with full face-piece is recommended. Containers should be kept tightly closed when not in use, and covered as much as possible when in use. Avoid frequent contact with skin; wearing PVA coated protective gloves and impervious apron are recommended. Avoid any contact with eyes; splash-proof chemical goggles are recommended.

THREADED CONNECTIONS — Use a quality grade thread sealant. **WARNING: SOME PIPE JOINT COMPOUNDS OR TEFLON PASTES MAY CONTAIN SUBSTANCES THAT COULD CAUSE STRESS CRACKING TO PLASTIC.** Spears Manufacturing Company recommends the use of Spears **BLUE 75™** Thread Sealant which has been tested for compatibility with Spears products. Please follow the sealant manufacturers' application/ installation instructions. Choice of an appropriate thread sealant other than those listed above is at the discretion of the installer. 1 to 2 turns beyond **FINGER TIGHT** is generally all that is required to make a sound plastic threaded connection. Unnecessary **OVER TIGHTENING** will cause **DAMAGE TO BOTH PIPE AND FITTING**.

WARNING: DO NOT USE COMPRESSED AIR OR GAS TO TEST ANY PVC OR CPVC THERMOPLASTIC PIPING PRODUCT OR SYSTEM, AND DO NOT USE DEVICES PROPELLED BY COMPRESSED AIR OR GAS TO CLEAR SYSTEMS. THESE PRACTICES MAY RESULT IN EXPLOSIVE FRAGMENTATION OF SYSTEM PIPING AND COMPONENTS CAUSING SERIOUS OR FATAL BODILY INJURY.

THIS PRODUCT IS ONLY TO BE USED FOR ITS INTENDED PURPOSE.

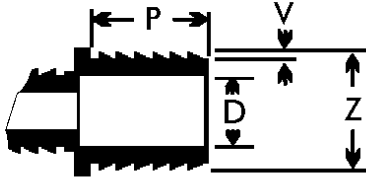
INSERT FITTING INSTALLATION

Pipe is cut to length with handsaw or knife. When installing flexible lines, (a) snake line one foot or more per 100 lineal feet, (b) cold water should be run through lines prior to backfilling to permit pipe to contract, (c) care should be taken to prevent large and sharp-edged rocks from being in position to crush pipe. Insert fittings are used to join lengths of flexible pipe. Stainless steel clamps are first slipped over ends of pipe, fitting is inserted and steel clamps are tightened securely over barbs on fittings. **DO NOT** use oil or detergent on any fittings. Use plain water or soapy water as lubricant on fitting. For attachment to previously installed metallic systems or threaded fixtures, the insert adapter is utilized. Apply thread sealant to the threaded end of adapter and tighten into female connection. Steel clamp is then slipped over pipe end and pipe slipped over serrated end of insert adapter. Steel clamp is then positioned over serrations on insert adapter and securely tightened with a screwdriver.

SPIRAL BARB FITTING INSTALLATION

Spiral Barb fittings are designed for use with 1/2" (.490) polyethylene irrigation hose and do not require steel clamps. Install with a twisting motion to fully engage barbs.

**Dimensions of Insert Ends
ASTM D 2609**



Nominal Size in.	Insert Length "P" min.	Barb O.D. "Z"		Barb Depth "V" min.	Inside Diameter "D" min.
		max.	min.		
1/2	1-1/4	.665	.635	.015	.406
3/4	1-1/4	.865	.835	.015	.562
1	1-1/4	1.095	1.065	.020	.750
1-1/4	1-1/4	1.425	1.395	.025	.995
1-1/2	1-1/2	1.665	1.630	.030	1.125
2	1-1/2	2.125	2.085	.030	1.656
2-1/2	2	2.520	2.487	.030	2.062
3	2-1/8	3.125	3.086	.030	2.600
4	3	4.090	4.044	.030	3.525

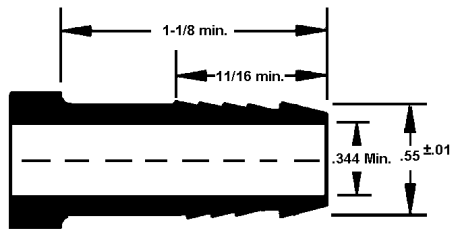
Actual dimensions may exceed specified Minimum.

**Dimensions of Polyethylene Pipe
ASTM D 2104 and D 2239**

Spears Manufacturing Company Insert Fittings are designed for use with polyethylene pipe produced with average inside diameter as shown in the chart below.

Nominal Size in.	Average I.D. in.	Tolerance in.
1/2	.622	+ .010 - .010
3/4	.824	+ .010 - .015
1	1.049	+ .010 - .020
1-1/4	1.380	+ .010 - .020
1-1/2	1.610	+ .015 - .020
2	2.067	+ .015 - .020
2-1/2	2.469	+ .015 - .025
3	3.068	+ .015 - .030
4	4.026	+ .015 - .035

Dimensions of Spiral Barb Ends



STANDARDS & SPECIFICATIONS

ASTM D 2609 Plastic Insert Fittings for Polyethylene (PE) Plastic Pipe.



National Sanitation Foundation (NSF) Standard 14 Plastic Fittings for Potable Water.



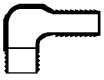



Material Spears Insert Fittings are produced from PVC Type 1, Cell Classification 12454.




It is the user's responsibility to determine the suitability for the intended service application.

Prices subject to change without notice. Possession of this price schedule shall not be construed as an offer to sell the products listed. Product drawings are representative and may not fully reflect product configurations.

PVC & PP INSERT FITTINGS FOR POLYETHYLENE PIPE









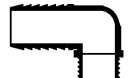
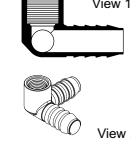

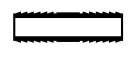
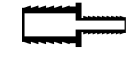


	Part Number	Size	SP/MC	Disc Code	List Price Each
PVC SPIRAL BARB TEE (Spiral Barb)					
	1401-003	3/8	50/300	140	1.05
<i>3/8" Spiral Barb accepts .490 Irrigation Pipe.</i>					
PVC SPIRAL BARB TEE (Insert x Insert x Spiral Barb)					
	1401-099	3/4 x 3/8	25/300	140	1.91
	1401-129	1 x 3/8	25/200	140	2.09
<i>3/8" Spiral Barb accepts .490 Irrigation Pipe.</i>					
PP SPIRAL BARB 90° ELL (Mipt x Spiral Barb)					
	1413-073	1/2x 3/8	50/300	140	.76
	1413-099	3/4 x 3/8	50/300	140	.76
<i>3/8" Spiral Barb accepts .490 Irrigation Pipe.</i>					
PVC SPIRAL BARB COUPLING (Spiral Barb x Spiral Barb)					
	1429-003	3/8	50/300	140	1.13
<i>3/8" Spiral Barb accepts .490 Irrigation Pipe.</i>					
PVC SPIRAL BARB COUPLING (Insert x Spiral Barb)					
	1429-099	3/4 x 3/8	50/600	140	1.24
	1429-129	1 x 3/8	50/200	140	1.32
<i>3/8" Spiral Barb accepts .490 Irrigation Pipe.</i>					
PP SPIRAL BARB REDUCING MALE ADAPTER (Mipt x Spiral Barb)					
	1436-073	1/2x 3/8	50/300	140	.76
	1436-099	3/4 X 3/8	50/300	140	.76
<i>3/8" Spiral Barb accepts .490 Irrigation Pipe.</i>					

	Part Number	Size	SP/MC	Disc Code	List Price Each
PVC TEE (Insert x Insert x Insert)					
	1401-005	1/2	50/400	140	1.22
	1401-007	3/4	50	140	1.33
	1401-010	1	25/150	140	1.73
	1401-012	1-1/4	10/80	140	2.70
	1401-015	1-1/2	10	140	3.06
	1401-020	2	10	140	6.04
PVC REDUCING TEE (Insert x Insert x Insert)					
	1401-074	1/2 x 1/2 x 3/4	25/300	140	3.31
	1401-094	3/4 x 1/2x 1/2	25/300	140	1.66
	1401-101	3/4 x 3/4 x 1/2	25/200	140	1.49
	1401-102	3/4 x 3/4 x 1	25/200	140	3.82
	1401-124	1 x 3/4 x 1/2	25/200	140	2.41
	1401-125	1 x 3/4 x 3/4	25/200	140	2.87
	1401-130	1 x 1 x 1/2	25/200	140	1.76
	1401-131	1 x 1 x 3/4	25/200	140	1.78
	1401-132	1 x 1 x 1-1/4	25	140	5.33
	1401-156	1-1/4 x 1 x 1/2	25	140	3.29
	1401-157	1-1/4 x 1 x 3/4	25	140	3.29
	1401-158	1-1/4 x 1 x 1	25	140	3.29
	1401-166	1-1/4 x 1-1/4 x 1/2	25	140	2.31
	1401-167	1-1/4 x 1-1/4 x 3/4	25	140	2.31
	1401-168	1-1/4 x 1-1/4 x 1	25	140	2.31
	1401-201	1-1/2 x 1-1/4 x 3/4	10/80	140	4.14
	1401-202	1-1/2 x 1-1/4 x 1	10/80	140	4.14
	1401-203	1-1/2 x 1-1/4 x 1-1/4	10	140	4.14
	1401-209	1-1/2 x 1-1/2 x 1/2	10/80	140	4.03
	1401-210	1-1/2 x 1-1/2 x 3/4	10/80	140	4.03
	1401-211	1-1/2 x 1-1/2 x 1	10/80	140	4.03
	1401-212	1-1/2 x 1-1/2 x 1-1/4	10	140	4.03
	1401-241	2 x 1-1/2 x 1-1/2	10	140	5.33
	1401-247	2 x 2 x 1/2	10	140	5.73
	1401-248	2x2x3/4	10	140	5.73
	1401-249	2 x 2 x 1	10	140	5.73
	1401-250	2 x 2 x 1-1/4	10	140	6.01
	1401-251	2 x 2 x 1-1/2	10	140	6.19
PVC TEE (Insert x Insert x Fipt)					
	1402-005	1/2	50	140	1.33
	1402-007	3/4	50	140	2.00
	1402-010	1	25	140	2.35
	1402-012	1-1/4	10	140	3.46
	1402-015	1-1/2	10	140	6.01
	1402-020	2	10	140	7.44



PVC & PP INSERT FITTINGS FOR POLYETHYLENE PIPE




	Part Number	Size	SP/MC	Disc Code	List Price Each	
PVC REDUCING TEE (Insert x Insert x Fipt)						
	1402-094	3/4 x 1/2 x 1/2	25/200	140	2.17	
	1402-101	3/4 x 3/4 x 1/2	25/200	140	1.66	
	1402-124	1 x 3/4 x 1/2	25/200	140	2.71	
	1402-125	1 x 3/4 x 3/4	25	140	3.22	
	1402-130	1 x 1 x 1/2	25	140	2.18	
	1402-131	1 x 1 x 3/4	25	140	2.18	
	1402-156	1-1/4 x 1 x 1/2	25	140	4.01	
	1402-157	1-1/4 x 1 x 3/4	25	140	4.69	
	1402-166	1-1/4 x 1-1/4 x 1/2	25	140	2.97	
	1402-167	1-1/4 x 1-1/4 x 3/4	25	140	3.28	
	1402-168	1-1/4 x 1-1/4 x 1	25	140	3.46	
	1402-199	1-1/2 x 1-1/4 x 1/2	10	140	6.31	
	1402-201	1-1/2 x 1-1/4 x 3/4	10	140	7.03	
	1402-202	1-1/2 x 1-1/4 x 1	10	140	8.04	
	1402-209	1-1/2 x 1-1/2 x 1/2	10/80	140	4.56	
	1402-210	1-1/2 x 1-1/2 x 3/4	10/80	140	5.40	
	1402-211	1-1/2 x 1-1/2 x 1	10	140	5.40	
	1402-212	1-1/2 x 1-1/2 x 1-1/4	10	140	5.54	
	1402-247	2 x 2 x 1/2	10	140	6.12	
	1402-248	2 x 2 x 3/4	10	140	6.46	
	1402-249	2 x 2 x 1	10	140	7.11	
	1402-251	2 x 2 x 1-1/2	10	140	7.44	
	PVC TEE (Insert x Insert x Mipt)					
		1403-005	1/2	50/400	140	1.69
		1403-007	3/4	50	140	2.31
1403-010		1	25	140	2.97	
1403-012		1-1/4	10/80	140	3.85	
1403-015		1-1/2	10	140	4.33	
1403-020		2	10	140	6.72	
PVC 90° ELL (Insert x Insert)						
	1406-005	1/2	50/600	140	1.12	
	1406-007	3/4	50	140	1.37	
	1406-010	1	25/200	140	1.51	
	1406-012	1-1/4	10/80	140	1.69	
	1406-015	1-1/2	10/80	140	2.00	
	1406-020	2	10	140	2.80	
	1406-025	2-1/2	10	140	12.59	
PVC 90° REDUCING ELL (Insert x Insert)						
	1406-101	3/4 x 1/2	25/300	140	1.29	
	1406-131	1 x 3/4	25/300	140	1.58	
	1406-168	1-1/4 x 1	25	140	2.35	
	1406-212	1-1/2 x 1-1/4	10/80	140	2.80	
	1406-251	2 x 1-1/2	10	140	3.08	
PVC 90° ELL (Insert x Fipt)						
	1407-005	1/2	50/400	140	1.27	
	1407-007	3/4	50	140	1.37	
	1407-010	1	25	140	1.76	
	1407-012	1-1/4	10/80	140	2.60	
	1407-015	1-1/2	10	140	2.97	
	1407-020	2	10	140	5.02	
PVC 90° REDUCING ELL (Insert x Fipt)						
	1407-074	1/2 x 3/4	50/400	140	1.29	
	1407-101	3/4 x 1/2	50/400	140	1.29	
	1407-130	1 x 1/2	25/300	140	1.37	
	1407-131	1 x 3/4	25/200	140	1.58	
	1407-166	1-1/4 x 1/2	25/200	140	2.35	
	1407-167	1-1/4 x 3/4	25/200	140	2.35	
	1407-168	1-1/4 x 1	25	140	2.35	
	1407-211	1-1/2 x 1	10/80	140	2.67	
	1407-212	1-1/2 x 1-1/4	10/80	140	2.91	
	1407-251	2 x 1-1/2	10	140	4.74	





	Part Number	Size	SP/MC	Disc Code	List Price Each
PVC 90° ELL (Insert x Mipt)					
	1413-005	1/2	50/600	140	1.41
	1413-007	3/4	50/400	140	1.95
	1413-010	1	25/200	140	2.56
	1413-012	1-1/4	10/120	140	3.41
	1413-015	1-1/2	10/80	140	4.52
	1413-015H	1-1/2	10/80	140	4.52
	1413-020	2	10	140	7.12
PVC SIDE OUTLET ELL (Insert x Insert x Fipt)					
	1414-101	3/4 x 3/4 x 1/2	50	140	3.22
	1414-130	1 x 1 x 1/2	N/A	140	3.47
PVC CROSS (Insert)					
	1420-007	3/4	25/150	140	3.20
	1420-010	1	25	140	3.99
PVC COUPLING (Insert x Insert)					
	1429-005	1/2	50/600	140	.58
	1429-007	3/4	50/600	140	.68
	1429-010	1	50/400	140	.72
	1429-012	1-1/4	25/200	140	1.06
	1429-015	1-1/2	25	140	1.26
	1429-020	2	10/80	140	2.38
	1429-025	2-1/2	10	140	6.15
	1429-030	3	10	140	10.45
	1429-040	4	10	140	14.23
	PVC REDUCER COUPLING (Insert x Insert)				
	1429-101	3/4 x 1/2	50/600	140	.94
	1429-130	1 x 1/2	50/400	140	1.28
	1429-131	1 x 3/4	50/400	140	.95
	1429-167	1-1/4 x 3/4	25/300	140	1.96
	1429-168	1-1/4 x 1	25/200	140	1.51
	1429-210	1-1/2 x 3/4	25/200	140	2.38
	1429-211	1-1/2 x 1	25/200	140	2.29
	1429-212	1-1/2 x 1-1/4	25	140	1.78
	1429-249	2 x 1	10/80	140	3.22
	1429-250	2 x 1-1/4	10/80	140	3.01
	1429-251	2 x 1-1/2	10/80	140	2.86
	PVC INSERT x IPS SPIGOT ADAPTER				
	460-007	3/4	50/200	040	•
	460-010	1	50	040	•
	460-012	1-1/4	20/160	040	•
	460-015	1-1/2	25	040	•
	460-020	2	10	040	•
	460-030	3	25	040	•
	460-040	4	10	040	•
	PVC INSERT x IPS SOCKET ADAPTER				
	474-005	1/2	50/600	040	•
	474-007	3/4	50/400	040	•
	474-010	1	50	040	•
	474-012	1-1/4	25	040	•
	474-015	1-1/2	25	040	•
	474-020	2	25	040	•
	474-030	3	15	040	•
	474-040	4	10	040	•

• Refer to Spears PVC Schedule 40 Price Schedule 40-1

PVC & PP INSERT FITTINGS FOR POLYETHYLENE PIPE



	Part Number	Size	SP/MC	Disc Code	List Price Each
PVC FEMALE ADAPTER (Fipt x Insert)					
	1435-005	1/2	50/600	140	2.49
	1435-007	3/4	50/400	140	2.71
	1435-010	1	50	140	3.01
	1435-012	1-1/4	25	140	3.69
	1435-015	1-1/2	25	140	4.69
	1435-020	2	10	140	7.91
PVC MALE ADAPTER (Mipt x Insert)					
	1436-005	1/2	50/600	140	.57
	1436-007	3/4	50/400	140	.68
	1436-010	1	50	140	.71
	1436-012	1-1/4	20/160	140	1.12
	1436-015	1-1/2	25	140	1.26
	1436-020	2	10	140	2.40
	1436-025	2-1/2	10	140	9.88
	1436-030	3	10	140	11.39
	1436-040	4	10	140	15.85
	PVC REDUCING MALE ADAPTER (Mipt x Insert)				
	1436-074	1/2 x 3/4	50/600	140	1.78
	1436-075	1/2 x 1	50/200	140	1.84
	1436-101	3/4 x 1/2	50/600	140	1.60
	1436-102	3/4 x 1	50/400	140	1.84
	1436-131	1 x 3/4	50	140	1.66
	1436-132	1 x 1-1/4	25/200	140	2.24
	1436-133	1 x 1-1/2	25	140	3.37
	1436-167	1-1/4 x 3/4	25/200	140	1.96
	1436-168	1-1/4 x 1	25/200	140	2.11
	1436-169	1-1/4 x 1-1/2	10/120	140	3.37
	1436-211	1-1/2 x 1	25	140	2.56
	1436-212	1-1/2 x 1-1/4	25	140	2.56
	1436-213	1-1/2 x 2	10/80	140	4.34
	1436-251	2 x 1-1/2	10/80	140	4.30

	Part Number	Size	SP/MC	Disc Code	List Price Each
PVC HOSE ADAPTER (Male Hose Thread x Insert)					
	1436-007MHT	3/4	50/400	140	1.67
PVC REDUCING HOSE ADAPTER (Male Hose Thread x Insert)					
	1436-101MHT	3/4 x 1/2	50/600	140	1.58
	1436-102MHT	3/4 x 1	50/400	140	1.82
PVC POOL ADAPTER (Mipt x Hose ID) Not NSF Approved					
	1436-204	1-1/2 x 1-1/4	25	140	3.20
PVC PLUG (Insert)					
	1449-005	1/2	100/1200	140	1.02
	1449-007	3/4	100/1200	140	1.06
	1449-010	1	50/600	140	1.43
	1449-012	1-1/4	25/300	140	1.81
	1449-015	1-1/2	25/300	140	1.97
	1449-020	2	10/120	140	3.49



SPEARS® MANUFACTURING COMPANY

CORPORATE OFFICES

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P.O. Box 9203, Sylmar, CA
91392
(818) 364-1611
(800) 862-1499
FAX: (818) 367-3014

NORTHWEST

3902 "B" Street NW
Auburn (Seattle), WA
98001
(253) 939-4433
(800) 347-7327
FAX: (253) 939-7557

ROCKY MOUNTAIN

4880 Florence Street
Denver, CO
80238
(303) 371-9430
(800) 777-4154
FAX: (303) 375-9546

SOUTH CENTRAL

1838 Forms Drive
Carrollton (Dallas), TX
75006
(972) 245-0387
(800) 441-1437
FAX: (972) 245-4205

UTAH

1641 S 700 West
Salt Lake City, UT
84104
(801) 972-0659
FAX: (801) 972-0688

NORTHEAST

543 Industrial Drive
Lewisberry (Harrisburg), PA
17339-9532
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