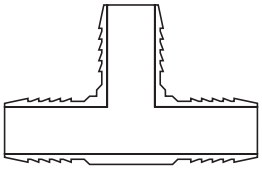
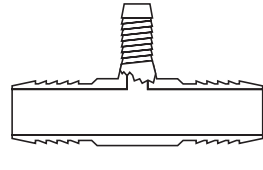
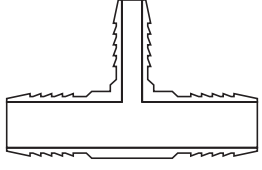
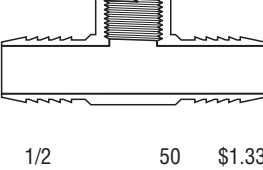
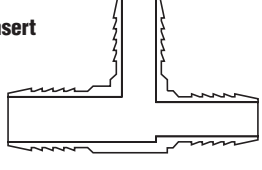
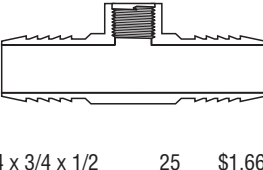
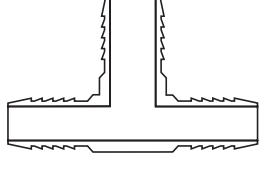
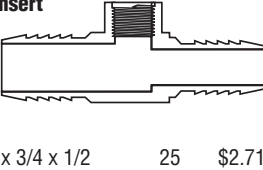
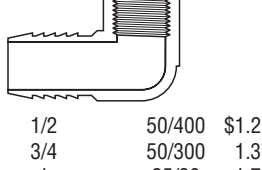
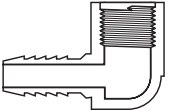
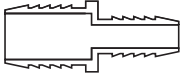
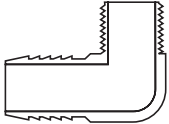

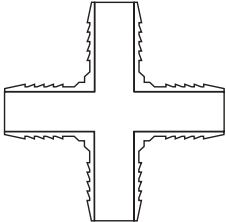
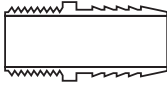
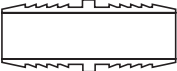
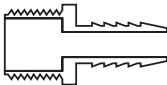
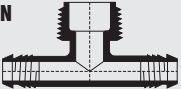
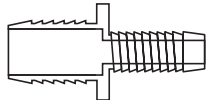
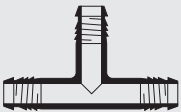
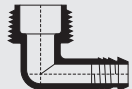
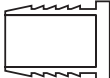
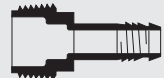


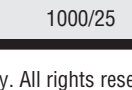


# IRRIGATION FITTINGS

## PVC and ABS Insert Fittings for Polyethylene Pipe

Universal Part Number	Size	SP/MC	List Price	Universal Part Number	Size	SP/MC	List Price	Universal Part Number	Size	SP/MC	List Price
<b>TEE Insert x Insert x Insert</b>								<b>FUNNY PIPE TEE Insert x Insert x Funny Pipe</b>			
								<b>TEE Insert x Insert x MIPT</b>			
1401-005	1/2	50/300	\$1.22	1401-007SB	3/4 x 3/4 x 3/8	25	\$1.91	1403-005	1/2	50/400	\$1.69
1401-007	3/4	50	1.33	1401-010SB	1 x 1 x 3/8	25	2.09	1403-007	3/4	50/200	2.31
1401-010	1	25	1.73					1403-010	1	25/200	2.97
1401-012	1-1/4	10	2.70					1403-012	1-1/4	10	3.85
1401-015	1-1/2	10	3.06					1403-015	1-1/2	10/80	4.33
1401-020	2	10	6.04								
<b>REDUCING TEE Insert x Insert x Reducing Insert</b>								<b>TEE Insert x Insert x FIPT</b>			
								<b>90° ELBOW Insert x Insert</b>			
1401-101	3/4 x 3/4 x 1/2	25	\$1.49	1402-005	1/2	50	\$1.33	1406-005	1/2	500/50	\$1.12
1401-130	1 x 1 x 1/2	25	1.76	1402-007	3/4	25	2.00	1406-007	3/4	50/400	1.37
1401-131	1 x 1 x 3/4	25	1.78	1402-010	1	25	2.35	1406-010	1	25	1.51
1401-167	1-1/4 x 1-1/4 x 3/4	25	2.31	1402-012	1-1/4	10	3.46	1406-012	1-1/4	10	1.69
1401-168	1-1/4 x 1-1/4 x 1	10	2.31	1402-015	1-1/2	10/60	6.01	1406-015	1-1/2	10/100	2.00
1401-210	1-1/2 x 1-1/2 x 3/4	10/80	4.03	1402-020	2	10/100	7.44	1406-020	2	10/50	2.80
1401-211	1-1/2 x 1-1/2 x 1	10/80	4.03								
1401-212	1-1/2 x 1-1/2 x 1-1/4	10	4.03								
1401-248	2 x 2 x 3/4	10	5.73								
1401-249	2 x 2 x 1	10	5.73								
<b>REDUCING TEE Insert x Reducing Insert x Reducing Insert</b>								<b>REDUCING TEE Insert x Insert x FIPT</b>			
								<b>FUNNY PIPE 90° ELBOW Insert x Funny Pipe</b>			
1401-125	1 x 3/4 x 3/4	25/200	\$2.87	1402-101	3/4 x 3/4 x 1/2	25	\$1.66	1406-007SB	3/4 x 3/8	50	\$2.52
1401-157	1-1/4 x 1 x 3/4	25	3.29	1402-130	1 x 1 x 1/2	25	2.18	1406-010SB	1 x 3/8	50	2.74
				1402-131	1 x 1 x 3/4	25/100	2.18				
				1402-166	1-1/4 x 1-1/4 x 1/2	25	2.97				
				1402-167	1-1/4 x 1-1/4 x 3/4	25/100	3.28				
				1402-168	1-1/4 x 1-1/4 x 1	25/100	3.46				
				1402-209	1-1/2 x 1-1/2 x 1/2	10/100	4.56				
				1402-210	1-1/2 x 1-1/2 x 3/4	10/100	5.40				
				1402-211	1-1/2 x 1-1/2 x 1	10	5.40				
				1402-247	2 x 2 x 1/2	10	6.12				
				1402-248	2 x 2 x 3/4	10	6.46				
<b>BULLHEAD TEE Insert x Insert x Bullhead Insert</b>								<b>REDUCING TEE Insert x Reducing Insert x Reducing FIPT</b>			
								<b>90° REDUCING ELBOW Insert x Insert</b>			
1401-102	3/4 x 3/4 x 1	25/300	\$3.82	1402-124	1 x 3/4 x 1/2	25	\$2.71	1406-101	3/4 x 1/2	25	\$1.29
				1402-125	1 x 3/4 x 3/4	25/200	3.22	1406-131	1 x 3/4	25/300	1.58
								1406-168	1-1/4 x 1	25/200	2.35
								1406-212	1-1/2 x 1-1/4	10	2.80
								1406-251	2 x 1-1/2	10	3.08
								<b>90° ELBOW Insert x FIPT</b>			
											
1407-005	1/2	50/400	\$1.27					1407-005	1/2	50/400	\$1.27
1407-007	3/4	50/300	1.37					1407-007	3/4	50/300	1.37
1407-010	1	25/20	1.76					1407-010	1	25/20	1.76
1407-012	1-1/4	10	2.60					1407-012	1-1/4	10	2.60
1407-015	1-1/2	10/100	2.97					1407-015	1-1/2	10/100	2.97
1407-020	2	10	5.02					1407-020	2	10	5.02

Universal Part Number	Size	SP/MC	List Price	Universal Part Number	Size	SP/MC	List Price	Universal Part Number	Size	SP/MC	List Price				
<b>90° REDUCING ELBOW</b> Insert x FIPT								<b>REDUCER COUPLING</b> Insert x Insert							
1407-101	3/4 x 1/2	50/400	\$1.29	1429-101	3/4 x 1/2	25	\$ .94	K09125	3/4x3/4x3/4	125	\$3.14				
1407-130	1 x 1/2	25	1.37	1429-130	1 x 1/2	50/300	1.28	<b>SWING BARB (TWIST) FITTINGS</b>							
1407-131	1 x 3/4	25	1.58	1429-131	1 x 3/4	50/300	.95	Swing Barb (Twist) Fittings feature nominal 3/8" barb dimensions for use with 1/2" flexible polyethylene irrigation hose (aka Funny Pipe®). Note: Irrigation hose (1/2") has an average I.D. of .490 inch. The spiral barbs of these fittings enable a twist-on connection to the hose. Clamps are not required. Designed for open-ended irrigation systems. Materials note: Black fittings produced in ABS or Acetal.							
1407-166	1-1/4 x 1/2	25	2.35	1429-167	1-1/4 x 3/4	25	1.96	<b>SWING BARB TRANSITION TEE (SCH 40 PVC - WHITE)</b> Soc x Soc x SB 150 psi max							
1407-167	1-1/4 x 3/4	25/300	2.35	1429-168	1-1/4 x 1	25	1.51	105-099	3/4x3/4x3/8	100/25	\$1.60				
1407-168	1-1/4 x 1	25/200	2.35	1429-210	1-1/2 x 3/4	25	2.39	105-129	1x1x3/8	100/25	1.88				
1407-211	1-1/2 x 1	10/80	2.67	1429-211	1-1/2 x 1	25	2.29	<b>SWING BARB TRANSITION 90° ELBOW (SCH 40 PVC - WHITE)</b> Soc x SB							
1407-212	1-1/2 x 1-1/4	10	2.91	1429-212	1-1/2 x 1-1/4	25/200	1.78	112-129	1x3/8	150/25	\$1.74				
<b>90° ELBOW</b> Insert x MIPT								<b>COUPLER FOR RAINJET PIPE</b> Insert x Insert							
1413-005	1/2	50	\$1.41	1429-009	1 x 7/8	25/300	\$2.46	<b>FEMALE ADAPTER</b> FIPT x Insert							
1413-007	3/4	50/300	1.95	1435-005	1/2	25/300	\$2.49	1435-005	1/2	25/300	\$2.49				
1413-010	1	25/200	2.56	1435-007	3/4	50/300	2.71	1435-007	3/4	50/300	2.71				
1413-012	1-1/4	10	3.41	1435-010	1	50/300	3.01	1435-010	1	50/300	3.01				
1413-015	1-1/2	10/80	4.52	1435-012	1-1/4	25/200	3.69	1435-012	1-1/4	25/200	3.69				
1413-020	2	10	7.12	1435-015	1-1/2	25	4.69	1435-015	1-1/2	25	4.69				
<b>CROSS</b> All Insert								<b>MALE ADAPTER</b> MIPT x Insert							
1420-007	3/4	25/200	\$3.20	1436-005	1/2	50/400	\$ .57	1436-005	1/2	50/400	\$ .57				
1420-010	1	25/150	3.99	1436-007	3/4	50/600	.68	1436-007	3/4	50/600	.68				
<b>COUPLING</b> Insert x Insert								<b>REDUCING MALE ADAPTER</b> MIPT x Insert							
1429-005	1/2	25/500	\$ .58	1436-010	1	25/300	.71	1436-010	1	25/300	.71				
1429-007	3/4	25/300	.68	1436-012	1-1/4	20	1.13	1436-012	1-1/4	20	1.13				
1429-010	1	25/300	.72	1436-015	1-1/2	25/100	1.26	1436-015	1-1/2	25/100	1.26				
1429-012	1-1/4	25/300	1.06	1436-020	2	10/100	2.40	1436-020	2	10/100	2.40				
1429-015	1-1/2	25/100	1.26	1436-040	4	10	15.85	1436-040	4	10	15.85				
1429-020	2	10/100	2.39	<b>SWING BARB TEE (BLACK)</b> SB x SB x MPT											
1429-030	3	10	10.45	105-005	3/8x3/8x1/2	400/25	\$1.14	105-005	3/8x3/8x1/2	400/25	\$1.14				
1429-040	4	10	14.23	105-007	3/8x3/8x3/4	300/25	1.28	105-007	3/8x3/8x3/4	300/25	1.28				
<b>FUNNY PIPE COUPLER</b> Insert x Funny Pipe								<b>SWING BARB TEE (BLACK)</b> SB x SB x SB							
1429-099	3/4 x 3/8	50	\$1.24	105-003	3/8x3/8x3/8	700/25	\$1.14	105-003	3/8x3/8x3/8	700/25	\$1.14				
1429-129	1 x 3/8	25	1.32	<b>SWING BARB TRANSITION 90° ELBOW (BLACK)</b> SB x MPT											
<b>PLUG</b> Insert								<b>SWING BARB TRANSITION MALE ADAPTER (BLACK)</b> MPT x SB							
1449-005	1/2	50	\$1.02	1436-074	1/2 x 3/4	50/400	\$1.78	1436-074	1/2 x 3/4	50/400	\$1.78				
1449-007	3/4	50	1.06	1436-075	1/2 x 1	25/300	1.84	1436-075	1/2 x 1	25/300	1.84				
1449-010	1	50/500	1.43	1436-101	3/4 x 1/2	50/400	1.60	1436-101	3/4 x 1/2	50/400	1.60				
1449-012	1-1/4	25	1.81	1436-102	3/4 x 1	50/300	1.84	1436-102	3/4 x 1	50/300	1.84				
1449-015	1-1/2	25/200	1.97	1436-131	1 x 3/4	25/300	1.66	1436-131	1 x 3/4	25/300	1.66				
1449-020	2	10/120	3.49	1436-132	1 x 1-1/4	25	2.24	1436-132	1 x 1-1/4	25	2.24				
<b>SWING BARB 90° ELBOW (BLACK)</b> SB x SB								<b>SWING BARB COUPLING (BLACK)</b> SB x SB							
112-003	3/8x3/8	500/25	\$ .94	1436-168	1-1/4 x 1	25	2.11	1436-168	1-1/4 x 1	25	2.11				
129-003	3/8x3/8	1000/25	\$ .81	<b>SWING BARB TRANSITION 90° ELBOW (BLACK)</b> SB x MPT											



## INSERT FITTINGS FEATURES

- Per ASTM D-2609, Colonial inserts will have four or more barbs ensuring ample area for clamp location.
- Grade one, type one, rigid PVC.
- Double threaded universal combination reducing fittings save sku's and have both 1/2" and 3/4" female pipe threads.
- Unique, patented product.

## INSTALLATION RECOMMENDATIONS FOR INSTALLERS AND USERS

### General Information

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. Components that mate 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.

### 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.

### Threaded Connections

Colonial Engineering recommends the use of a quality grade thread sealant. Choice of either Teflon® tape, paste, or other pipe joint compound is at the discretion of the installer. The manufacturer's literature for these products should be reviewed for proper selection and application procedures. **Warning:** Some pipe joint compounds or Teflon pastes may contain substances that could cause stress cracking to plastic. One (1) to two (2) turns beyond finger tight is generally all that is required to make a sound plastic threaded connection. Unnecessary overtightening will cause damage to both pipe and fitting.

### Insert Fitting Installation

Pipe is cut to length with a handsaw or knife. When installing flexible lines: 1) snake line one foot or more per 100 linear feet; 2) cold water should be run through lines prior to backfilling to permit pipe to contract; 3) care should be taken to prevent large and sharp-edged rocks from being in position to crush pipe. The insert coupling is used to join lengths of flexible pipe. Stainless steel clamps are first slipped over ends of the pipe then the fitting is inserted and the clamps are tightened securely over the barbs on the fittings. Do not use oil or detergent on any fittings. In systems utilizing insert fittings, the same procedure is followed as for the insert coupling. Use plain water as lubricant on fittings.

For attachments to previously installed metallic systems or threaded fixtures, the insert adapter is utilized. Apply thread sealant to the threaded end of the adapter and tighten into female connection.

A steel clamp is then slipped over the pipe end and the pipe is slipped over the serrated end of the insert adapter. The steel clamp is then positioned over serrations on the insert adapter and securely tightened with a screwdriver.

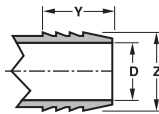
### Average Inside Pipe Diameter

Colonial Engineering insert fittings are designed for use with polyethylene pipe produced to ASTM D-2104 and ASTM D-2239 with average inside diameter as follows:

SIZE	AVERAGE PIPE I.D.
1/2	0.622
3/4	0.824
1	1.049
1-1/4	1.380
1-1/2	1.610
2	2.067

### Specifications

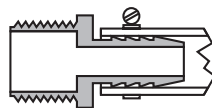
ASTM D-2609



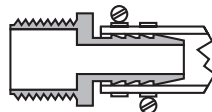
SIZE	Y (Min)	D (Min)	Z (Max)
1/2	0.750	0.406	0.665
3/4	0.750	0.562	0.865
1	0.750	0.750	1.095
1-1/4	0.750	0.995	1.425
1-1/2	0.750	1.125	1.665
2	0.750	1.656	2.125

### How to Clamp Polyethylene Pipe

Placing the clamp over the serrations of the fittings assures a tight joint and eliminates the possibility of seepage.



When double clamping, set screws on clamps 90° apart.



## CAUTION

### Water Hammer

Colonial Engineering recommends that all PVC plastic piping systems be designed and constructed to avoid excess water hammer. Water hammer can cause damage or failure to pipe, valves and fittings within the piping system.

## WARNING

### Compressed Air/Gas

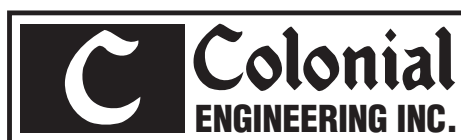
Do not use thermoplastic piping products to transport or store compressed air or gases. Do not test thermoplastic piping systems with compressed air or gases in either above-ground or buried locations. Doing so is dangerous and could cause injury or great bodily harm should a system fail under compressed air. The use of Colonial products in exposed, compressed air or gas systems automatically voids Colonial's warranty for such products.

® Teflon is a registered trademark of DuPont. Only DuPont makes Teflon.



#### LIMITED WARRANTY

Seller's products are carefully inspected for manufacturing defects; however, it is not always possible to detect hidden defects. Said products are warranted only to the extent that seller will replace, without charge, products proved to have manufacturing defects within 12 months of the date of delivery thereof and provided seller has been given the opportunity to inspect the product alleged to be defective and the installation or use thereof. Any use for other purposes than for transporting liquids or any modification of any product involving changes in the structure void any warranty of the manufacturer. No warranty is included against any expense for removal, reinstallation or other consequential damages arising from any defect. The warranties set out above are the only warranties made by seller and are expressly in lieu of all other warranties, expressed or implied, including the warranties of merchantability or fitness for a particular purpose. Any use for other purposes than for transporting liquids or any modification of any product involving changes in the structure void any warranty of the manufacturer. No warranty is included against any expense for removal, reinstallation or other consequential damages arising from any defect. The warranties set out above are the only warranties made by the seller and are expressly in lieu of all other warranties, expressed or implied, including the warranties of merchantability or fitness for a particular purpose.



#### ADMINISTRATIVE OFFICE AND DISTRIBUTION CENTER

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Phone 269-323-2495, Fax 269-323-1762 or 269-323-0630, Email: sales@colonialengineering.com

#### CUSTOMER SERVICE PHONE AND FAX NUMBERS

Toll-Free Phone: 800-374-0234, Toll-Free Fax: 866-879-5982

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