

Barbed Insert Fittings Barbed Insert Fittings



STANDARDS & SPECIFICATIONS

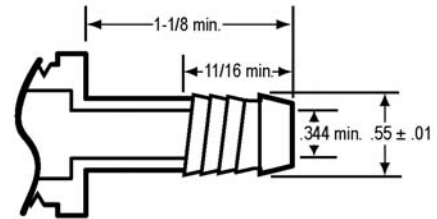


ASTM D 2609 Plastic Insert Fittings for Polyethylene (PE) Plastic Pipe.

Material Spears® Insert Fittings are produced from PVC Type 1, Cell Classification 12454, CPVC Cell Classification 23447 or Polypropylene (PP).

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

Dimensions of Spiral Barb Ends

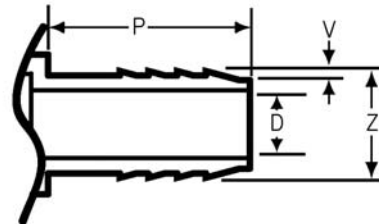


Dimensions of Polyethylene Pipe ASTM D 2104 and D 2239

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	+ .010 - .025
3	3.068	+ .015 - .030
4	4.026	+ .015 - .035

Dimensions of Insert Ends ASTM D 2609



Nominal Size	Insert Length "P"	Barb O.D. "Z"		Barb Depth "V"	Inside Diameter "D"
in.	min.	max.	min.	min.	min.
1/2	1-1/4	0.665	0.635	0.015	0.406
3/4	1-1/4	0.865	0.835	0.015	0.562
1	1-1/4	1.095	1.065	0.020	0.750
1-1/4	1-1/4	1.425	1.395	0.025	0.995
1-1/2	1-1/2	1.665	1.630	0.030	1.125
2	1-1/2	2.125	2.085	0.030	1.656
2-1/2	2	2.520	2.487	0.030	2.062
3	2-1/8	3.125	3.086	0.030	2.600
4	3	4.090	4.044	0.030	3.525

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.

TWIST LOCK INSERT INSTALLATION

Twist Lock Fittings with built in lock ring are installed the same as regular Insert Fittings, but do not require steel clamps. Check that lock ring component is fully threaded onto fitting. Slip pipe over serrated end of insert adapter. Twist lock ring back over pipe and barb to seal.

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.



Barbed Insert Fittings Barbed Insert Fittings

Part Number	Size	Std Pk	Mstr Ctn	Disc Code	Price Each
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PVC Twist Lock Coupling

Loc Insert x Loc Insert



Requires NO Clamps

1429TL-005	1/2	50	600	140	5.98
1429TL-007	3/4	50	600	140	7.27
1429TL-010	1	50	400	140	8.65

PVC Spiral Barb Tee

Spiral Barb



3/8" Spiral Barb accepts .490 Irrigation Pipe.

1401-003	3/8	50	800	140	1.81
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PVC Spiral Barb Tee

Insert x Insert x Spiral Barb

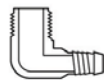


3/8" Spiral Barb accepts .490 Irrigation Pipe.

1401-099	3/4X3/8	25	450	140	3.29
1401-129	1X3/8	25	200	140	3.58

PP Spiral Barb 90° El

Mipt x Spiral Barb



3/8" Spiral Barb accepts .490 Irrigation Pipe.

1413-073	1/2X3/8	50	200	140	1.29
1413-099	3/4X3/8	50	200	140	1.29

PVC Spiral Barb Coupling

Spiral Barb x Spiral Barb



3/8" Spiral Barb accepts .490 Irrigation Pipe.

1429-003	3/8	50	300	140	1.95
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PVC Spiral Barb Coupling

Insert x Spiral Barb



3/8" Spiral Barb accepts .490 Irrigation Pipe.

1429-099	3/4X3/8	50	600	140	2.13
1429-129	1X3/8	50	200	140	2.27

PP Spiral Barb Male Adapter

Mipt x Spiral Barb



3/8" Spiral Barb accepts .490 Irrigation Pipe.

1436-073	1/2X3/8	50	300	140	1.29
1436-099	3/4X3/8	50	300	140	1.29

PVC Tee

Insert x Insert x Insert



1401-005	1/2	50	400	140	2.11
1401-007	3/4	50	0	140	2.28
1401-010	1	25	150	140	2.97
1401-012	1-1/4	10	80	140	4.64
1401-015	1-1/2	10	0	140	5.26
1401-020	2	10	0	140	10.38
1401-040*	4	2	0	140	159.86
1401-060*	6	1	0	140	299.44

* Assembled molded components

Part Number	Size	Std Pk	Mstr Ctn	Disc Code	Price Each
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CPVC Tee

Insert x Insert x Insert



1401-005C	1/2	50	400	143	3.52
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PVC Reducing Tee

Insert x Insert x Insert



1401-074	1/2X3/4	25	400	140	5.69
1401-094	3/4X1/2X1/2	25	300	140	2.85
1401-101	3/4X1/2	25	150	140	2.58
1401-102	3/4X1	25	275	140	6.56
1401-124	1X3/4X1/2	25	200	140	4.15
1401-125	1X3/4X3/4	25	200	140	4.93
1401-130	1X1/2	25	200	140	3.02
1401-131	1X3/4	25	200	140	3.05
1401-132	1X1-1/4	25	0	140	9.16
1401-156	1-1/4X1X1/2	25	0	140	5.66
1401-157	1-1/4X1X3/4	25	0	140	5.66
1401-158	1-1/4X1X1	25	0	140	5.66
1401-166	1-1/4X1/2	25	0	140	3.98
1401-167	1-1/4X3/4	25	0	140	3.98
1401-168	1-1/4X1	25	0	140	3.98
1401-201	1-1/2X1-1/4X3/4	10	80	140	7.13
1401-202	1-1/2X1-1/4X1	10	80	140	7.13
1401-203	1-1/2X1-1/4X1-1/4	10	0	140	7.13
1401-209	1-1/2X1/2	10	80	140	6.94
1401-210	1-1/2X3/4	10	80	140	6.94
1401-211	1-1/2X1	10	80	140	6.94
1401-212	1-1/2X1-1/4	10	0	140	6.94
1401-241	2X1-1/2X1-1/2	10	0	140	9.16
1401-247	2X1/2	10	0	140	9.87
1401-248	2X3/4	10	0	140	9.87
1401-249	2X1	10	0	140	9.87
1401-250	2X1-1/4	10	0	140	10.34
1401-251	2X1-1/2	10	0	140	10.64
1401-335*	3X1	5	0	140	110.40
1401-338*	3X2	5	0	140	121.67

* Assembled molded components

PVC Tee

Insert x Insert x Fipt



1402-005	1/2	50	400	140	2.28
1402-007	3/4	50	0	140	3.44
1402-010	1	25	0	140	4.05
1402-012	1-1/4	10	0	140	5.95
1402-015	1-1/2	10	0	140	10.34
1402-020	2	10	0	140	12.82

PVC Reducing Tee

Insert x Insert x Fipt



1402-094	3/4X1/2X1/2	25	200	140	3.73
1402-101	3/4X1/2	25	150	140	2.85
1402-124	1X3/4X1/2	25	200	140	4.66
1402-125	1X3/4X3/4	25	0	140	5.56
1402-130	1X1/2	25	200	140	3.74
1402-131	1X3/4	25	200	140	3.74
1402-156	1-1/4X1X1/2	25	0	140	6.89
1402-157	1-1/4X1X3/4	25	0	140	8.06
1402-166	1-1/4X1/2	25	0	140	5.11
1402-167	1-1/4X3/4	25	0	140	5.63
1402-168	1-1/4X1	25	0	140	5.95
1402-199	1-1/2X1-1/4X1/2	25	0	140	10.85
1402-201	1-1/2X1-1/4X3/4	10	0	140	12.08

Barbed Insert Fittings Barbed Insert Fittings



Part Number	Size	Std Pk	Mstr Ctn	Disc Code	Price Each
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PVC Reducing Tee (continued)

Insert x Insert x Fipt

1402-202	1-1/2X1-1/4X1	10	0	140	13.82
1402-209	1-1/2X1/2	10	80	140	7.85
1402-210	1-1/2X3/4	10	80	140	9.29
1402-211	1-1/2X1	10	0	140	9.29
1402-212	1-1/2X1-1/4	10	0	140	9.53
1402-247	2X1/2	10	0	140	10.53
1402-248	2X3/4	10	0	140	11.12
1402-249	2X1	10	0	140	12.24
1402-251	2X1-1/2	10	0	140	12.82

PVC Tee

Insert x Insert x Mipt



1403-005	1/2	50	500	140	2.92
1403-007	3/4	50	0	140	3.98
1403-010	1	25	0	140	5.11
1403-012	1-1/4	10	80	140	6.64
1403-015	1-1/2	10	0	140	7.43
1403-020	2	10	0	140	11.56

PVC Reducing Tee

Insert x Insert x Mipt



1403-130	1X1X1/2	25	200	140	4.87
1403-131	1X1X3/4	25	0	140	4.87

PVC Tee

Insert x Insert x Socket



1404-010	1	25	0	140	4.05
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PVC Reducing Tee

Insert x Insert x Socket



1404-102	3/4X3/4X1	100	0	140	6.56
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PVC Side Outlet Tee

Insert x Insert x Insert x Fipt



1416-007	3/4X3/4	50	0	140	7.16
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PVC Reducing Side Outlet Tee

Insert x Insert x Insert x Fipt



1416-101	3/4X1/2	50	0	140	7.16
1416-130	1X1/2	50	0	140	7.62
1416-131	1X3/4	50	0	140	7.62

PVC 90° EII

Insert x Insert



1406-005	1/2	50	1000	140	1.93
1406-007	3/4	50	400	140	2.36
1406-010	1	25	200	140	2.61
1406-012	1-1/4	10	180	140	2.92
1406-015	1-1/2	10	80	140	3.44
1406-020	2	10	0	140	4.80
1406-025	2-1/2	10	0	140	21.67
1406-040*	4	2	0	140	71.74

* Assembled

Part Number	Size	Std Pk	Mstr Ctn	Disc Code	Price Each
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CPVC 90° EII

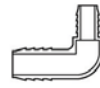
Insert x Insert



1407-007C	3/4	50	0	142	3.31
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PVC 90° Reducing EII

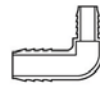
Insert x Insert



1406-101	3/4X1/2	25	300	140	2.23
1406-131	1X3/4	25	300	140	2.74
1406-168	1-1/4X1	25	0	140	4.05
1406-212	1-1/2X1-1/4	10	80	140	4.80
1406-251	2X1-1/2	10	0	140	5.28

CPVC 90° Reducing EII

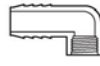
Insert x Insert



1407-074C	1/2X3/4	20	160	143	6.59
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PVC 90° EII

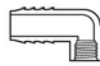
Insert x Fipt



1407-005	1/2	50	400	140	2.17
1407-007	3/4	50	0	140	2.36
1407-010	1	25	0	140	3.02
1407-012	1-1/4	10	140	140	4.48
1407-015	1-1/2	10	0	140	5.11
1407-020	2	10	0	140	8.62

PVC 90° Reducing EII

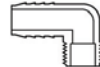
Insert x Fipt



1407-074	1/2X3/4	50	400	140	2.23
1407-101	3/4X1/2	50	400	140	2.23
1407-130	1X1/2	25	300	140	2.36
1407-131	1X3/4	25	200	140	2.74
1407-166	1-1/4X1/2	25	200	140	4.05
1407-167	1-1/4X3/4	25	250	140	4.05
1407-168	1-1/4X1	25	0	140	4.05
1407-211	1-1/2X1	10	80	140	4.61
1407-212	1-1/2X1-1/4	10	80	140	5.01
1407-251	2X1-1/2	10	0	140	8.18

PVC 90° EII

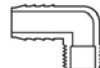
Insert x Mipt



1413-005	1/2	50	600	140	2.42
1413-007	3/4	50	400	140	3.35
1413-010	1	25	200	140	4.40
1413-012	1-1/4	10	120	140	5.85
1413-015	1-1/2	10	80	140	7.77
1413-015H	1-1/2	10	80	140	7.77
1413-020	2	10	0	140	12.26

CPVC 90° EII

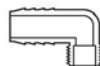
Insert x Mipt



1413-020C	2	10	0	140	15.27
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PVC 90° Reducing EII

Insert x Mipt



1413-055	3/8X3/4	50	200	140	2.61
1413-101	3/4X1/2	50	300	140	4.19
1413-130	1X1/2	50	400	140	4.77



Barbed Insert Fittings Barbed Insert Fittings

Part Number	Size	Std Pk	Mstr Ctn	Disc Code	Price Each
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PVC 90° Reducing EII (continued)

Insert x Mipt

1413-131	1X3/4	50	0	140	5.12
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PVC 90° Side Outlet EII

Insert x Insert x Fipt



1414-101	3/4X3/4X1/2	50	0	140	5.56
1414-130	1X1X1/2	25	200	140	5.97
1414-131	1X3/4	50	0	140	5.97

PVC Cross

Insert



1420-005	1/2	50	0	140	4.07
1420-007	3/4	25	150	140	5.52
1420-010	1	25	0	140	6.86

PVC Coupling

Insert x Insert



1429-005	1/2	50	600	140	.98
1429-007	3/4	50	600	140	1.18
1429-010	1	50	400	140	1.23
1429-012	1-1/4	25	200	140	1.82
1429-015	1-1/2	25	0	140	2.16
1429-020	2	25	0	140	4.08
1429-025	2-1/2	10	0	140	10.58
1429-030	3	10	0	140	17.97
1429-040	4	10	0	140	24.46
1429-060	6	8	0	140	69.32
1429-080*	8	4	0	140	150.06

* Fabricated

CPVC Coupling

Insert x Insert



1429-005C	1/2	50	600	142	1.39
1429-007C	3/4	50	600	142	2.01
1429-010C	1	50	400	042	1.75

PVC Reducer Coupling

Insert x Insert



1429-101	3/4X1/2	50	600	140	1.60
1429-130	1X1/2	50	400	140	2.20
1429-131	1X3/4	50	400	140	1.64
1429-1315	1X7/8	50	400	140	3.36
1429-167	1-1/4X3/4	25	300	140	3.36
1429-168	1-1/4X1	25	200	140	2.61
1429-210	1-1/2X3/4	25	275	140	4.08
1429-211	1-1/2X1	25	200	140	3.93
1429-212	1-1/2X1-1/4	25	0	140	3.05
1429-249	2X1	10	80	140	5.56
1429-250	2X1-1/4	10	80	140	5.17
1429-251	2X1-1/2	10	80	140	4.92
1429-291	2-1/2X1-1/2	10	0	140	14.07
1429-338*	3X2	12	0	140	39.79
1429-422	4X3	18	0	140	69.95
1429-532	6X4	8	0	140	79.57

* Fabricated

Insert Adapter (White PVC)

Insert x I.P.S. Spigot



460-005	1/2	50	300	040	2.26
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Part Number	Size	Std Pk	Mstr Ctn	Disc Code	Price Each
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Insert Adapter (White PVC) (continued)

Insert x I.P.S. Spigot

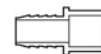
460-007	3/4	50	200	040	2.97
460-007N	3/4X3/4X1/2	50	200	040	2.97
460-010	1	50	0	040	3.11
460-012	1-1/4	20	160	040	3.20
460-012N	1-1/4X1-1/4X1	20	160	040	3.20
460-015	1-1/2	25	0	040	3.44
460-020	2	10	0	040	5.72
460-030	3	25	0	040	19.31
460-040	4	10	0	040	22.24
460-131N	3/4X1X3/4	20	160	040	3.46
460-132N	1X1-1/4X1	20	160	040	3.74
1432-060	6	8	0	140	95.61
1432-080*	8	4	0	140	189.82

N = Nesting

* Fabricated

Insert Adapter (PVC Gray)

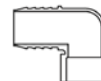
Insert x I.P.S. Spigot



460-005G	1/2	50	300	043	2.51
460-007G	3/4	50	200	043	3.31
460-010G	1	50	0	043	3.44
460-012G	1-1/4	20	160	043	3.56
460-015G	1-1/2	25	0	043	3.82
460-020G	2	10	0	043	6.36
1432-060G	6	4	0	140	106.24

Insert Adapter 90° EII (White PVC)

Insert x I.P.S. Spigot



460A-015	1-1/2	10	80	040	6.83
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Insert Adapter (White PVC)

Insert x Soc



474-005	1/2	50	600	040	2.06
474-007	3/4	50	400	040	2.47
474-010	1	50	0	040	2.62
474-012	1-1/4	25	0	040	4.16
474-015	1-1/2	25	0	040	4.61
474-020	2	25	0	040	8.54
474-030	3	15	0	040	25.45
474-040	4	15	0	040	29.09

Insert Adapter (PVC Gray)

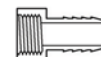
Insert x Soc



474-005G	1/2	50	600	043	2.28
474-007G	3/4	50	400	043	2.76
474-010G	1	50	0	043	2.92
474-012G	1-1/4	25	0	043	4.62
474-015G	1-1/2	25	0	043	4.79
474-020G	2	25	0	043	9.48

PVC Female Adapter

Fipt x Insert



1435-005	1/2	50	300	140	4.28
1435-007	3/4	50	400	140	4.66
1435-010	1	50	0	140	5.17
1435-012	1-1/4	25	0	140	6.35
1435-015	1-1/2	25	0	140	8.06
1435-020	2	10	0	140	10.24

Barbed Insert Fittings Barbed Insert Fittings



Part Number	Size	Std Pk	Mstr Ctn	Disc Code	Price Each
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CPVC Female Adapter

Fipt x Insert



1435-005C	1/2	50	300	143	4.87
1435-007C	3/4	50	400	143	6.65
1435-010C	1	50	0	143	7.56
1435-012C	1-1/4	25	0	143	8.29
1435-015C	1-1/2	25	0	143	10.47
1435-020C	2	10	0	143	13.72

Special Reinforced PVC Female Adapter

SR Fipt x Insert



1435-005SR	1/2	50	400	142	5.73
1435-007SR	3/4	50	400	142	6.77
1435-010SR	1	50	0	142	8.07
1435-015SR	1-1/2	20	0	142	22.78

PVC Reducing Female Adapter

Fipt x Insert



1435-074	1/2X3/4	50	500	140	5.97
1435-101	3/4X1/2	50	600	140	5.53
1435-102	3/4X1	50	0	140	6.17
1435-131	1X3/4	50	0	140	4.07

PVC Male Adapter

Mipt x Insert



1436-005	1/2	50	600	140	.96
1436-007	3/4	50	400	140	1.18
1436-010	1	50	0	140	1.22
1436-012	1-1/4	20	160	140	1.93
1436-015	1-1/2	25	0	140	2.16
1436-015W	1-1/2	20	0	001	2.16
1436-020	2	10	0	140	4.14
1436-025	2-1/2	10	0	140	17.00
1436-030	3	10	0	140	19.61
1436-040	4	10	0	140	27.26
1436-060G ¹	6	1	4	140	153.72
1436-060 ²	6	4	0	140	138.35

1 Fabricated - Gray PVC
2 Fabricated - White PVC

CPVC Male Adapter

Mipt x Insert



1436-005C	1/2	1400	0	143	1.39
1436-007C	3/4	50	400	143	1.69
1436-010C	1	50	0	143	1.74
1436-012C	1-1/4	20	160	143	2.61
1436-015C	1-1/2	25	0	143	3.11
1436-020C	2	10	0	143	5.92
1436-030C	3	10	0	143	26.77
1436-040C	4	10	0	143	41.38
1436-060C	6	4	0	001	139.49
1436-080CF	8	1	0	001	160.42

PVC Reducing Male Adapter

Mipt x Insert



1436-074	1/2X3/4	50	300	140	3.05
1436-075	1/2X1	50	200	140	3.17
1436-101	3/4X1/2	50	600	140	2.76
1436-102	3/4X1	50	400	140	3.17
1436-131	1X3/4	50	0	140	2.85

Part Number	Size	Std Pk	Mstr Ctn	Disc Code	Price Each
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PVC Reducing Male Adapter (continued)

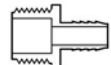
Mipt x Insert

1436-132	1X1-1/4	25	200	140	3.85
1436-133	1X1-1/2	25	0	140	5.80
1436-167	1-1/4X3/4	25	200	140	3.36
1436-168	1-1/4X1	25	200	140	3.61
1436-169	1-1/4X1-1/2	10	120	140	5.80
1436-211	1-1/2X1	25	0	140	4.40
1436-212	1-1/2X1-1/4	25	0	140	4.40
1436-213	1-1/2X2	10	80	140	7.46
1436-251	2X1-1/2	10	80	140	7.40
1436-252 ¹	2X2-1/2	10	0	140	13.44
1436-292 ²	2-1/2X2	10	0	140	59.29

*Assembled molded components

CPVC Reducing Male Adapter

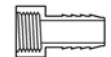
Mipt x Insert



1436-073C	1/2X3/8	50	300	143	1.53
1436-074C	1/2X3/4	50	300	142	3.48
1436-101C	3/4X1/2	50	600	142	3.93
1436-212C	1-1/2X1-1/4	25	0	143	6.09

PVC Female Hose Adapter

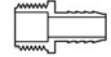
Female Hose Thread x Insert



1435-007FHT	3/4	50	400	140	5.56
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PVC Male Hose Adapter

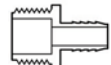
Male Hose Thread x Insert



1436-007MHT	3/4	50	400	140	2.87
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PVC Reducing Male Hose Adapter

Male Hose Thread x Insert



1436-101MHT	3/4X1/2	50	600	140	2.74
1436-102MHT	3/4X1	50	400	140	3.14

PVC Pool Adapter

Mipt x Hose ID

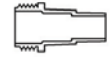


Not NSF Approved

1436-204	1-1/2X1-1/2X1-1/4	25	0	140	5.52
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PP Pool Adapter

Mipt x Hose ID

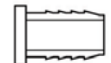


Not NSF Approved

1436-204P	1-1/2X1-1/2X1-1/4	25	0	140	5.52
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PVC Plug

Insert



1449-005	1/2	100	600	140	1.75
1449-007	3/4	100	1200	140	1.82
1449-010	1	50	600	140	2.46
1449-012	1-1/4	25	300	140	3.13
1449-015	1-1/2	25	300	140	3.40
1449-020	2	10	120	140	5.99



Barbed Insert Fittings Barbed Insert Fittings

Part Number	Size	Std Pk	Mstr Ctn	Disc Code	Price Each
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PVC Lay Flat Plug Insert



For Lay Flat Type Hose

1449-030LF	3	1	4	140	23.21
1449-040LF	4	4	0	140	30.42
1449-060LF	6	1	6	140	165.19