

Pipe Hanger & Support Recommended Specifications

This specification has been compiled from generally accepted engineering principles and standards from the American National Standards Institute (ANSI), Manufacturers Standardization Society (MSS), Factory Mutual (FM), Underwriters Laboratories (UL) and other pertinent documents. The specification is intended as a guide only and it is the design engineers responsibility to use it in conjunction with the data found in this catalog to determine the best product or products for the user's application. The Model numbers are those of ERICO.

I. MATERIAL DESIGN AND MANUFACTURE

All pipe hanger and supports shall be manufactured to comply with the latest edition of MSS-SP-58. Where applicable, design and manufacture of these products must also conform to ANSI/ASME Code for Pressure Piping, B31.1; UL203 Standard for Pipe Hanger Equipment and Fire Protection Service; Factory Mutual FM1551 Approval Standard for Pipe Hanger Components for Automatic Sprinkler Systems; Metal Framing Manufacturers Association, MFMA-2 and Local Building Codes. Pipe hangers and supports shall be supplied by ERICO.

II. SELECTION

A. STANDARDS

All selection and installation of pipe supports shall conform to MSS-SP-69 and other specifications that may apply which are listed in this document.

B. LOAD CALCULATIONS

Hangers, supports, anchors and restraints must be selected to withstand all static and dynamic loading conditions which act upon the piping system and associated equipment. Piping supports and equipment must be considered as a total system and appropriate balance calculations made to determine load forces at critical stress points.

Loading conditions to be considered may include but are not limited to:

1. The total load of pipe, fittings, valves, insulation and any expected contents of the pipe.
2. Thermal expansion and contraction.
3. Stress from cycling of equipment or process.
4. Vibration transmitted to or from equipment or terminal connection.
5. Wind, snow or ice loading on outdoor piping.
6. Loading due to seismic forces if required by code or specification.

C. STRUCTURAL LOADS

Static and dynamic forces at points of attachment must be considered to insure structural integrity of buildings or equipment. Hanger and supports must be selected so as to minimize the effect of piping system loading on the structure.

D. MATERIALS

1. Appropriate materials and protective coatings shall be used to prevent failure from environmental and galvanic corrosion.
2. Material that comes in contact with pipe shall be compatible with piping material so that neither has a deteriorating effect on the other.

E. HANGER SPACING

The maximum allowable spacing for pipe hangers shall be in accordance with Hanger Locations and Spacing Table on page 114. Where concentrated loads of flanges, valves, fittings, etc. occur, or there are building structural loading limitations, close spacing will be necessary and shall be based on the weight to be supported and the maximum recommended loads for the pipe hangers.

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F. PIPE ATTACHMENTS--HOT SYSTEMS

1. Hot systems are classified as those piping systems that have operating temperatures over 120°F (49°C).
2. Systems with operating temperatures over 450°F (232°C) require special designs for any hanger or support that is in direct contact with pipe. This is important in determining the raw materials needed as required by MSS SP-58. Maximum operating temperatures should be specified to the support manufacturer.
3. If piping is insulated, the connection of the pipe attachments to the hanger rod shall be outside the insulation so that movement of the line will not cause damage to the insulation.
4. Horizontal hot piping shall allow for expansion and contraction. If pipe movement is negligible, an ERICO® Model #1031 shall be used for pipe up thru 3". If pipe is supported from above and the movement is less than 4°, hanger components shall be selected to allow for swing using ERICO Models #450, #452 or #453 Pipe Clamps in conjunction with a Model #35 Forged Steel Eye Nut or Model #40W Welded Eye Rod. If the swing is greater than 4°, a traveling device should be provided for horizontal movement. If pipe is supported from above, ERICO Models # 605, #610, #612, or #620 Roller Hangers are to be used. For piping supported below, use ERICO #615, #617, #619 or #621 Roller Supports. ERICO Model #640 Pipe Slide Assembly may be utilized if low coefficients of friction are required on support piping. Models #630 thru #635 Protection Saddles should be tack welded to the pipe to protect the insulation from damage due to pipe movement and then filled with the specified insulating material.
5. Vertical hot piping requires a resilient support if significant movement occurs due to expansion and contraction of the pipe. Selection of the supports depends on the permissible load variation and effects on adjacent equipment. If vertical movement is negligible an ERICO Model #510 shall be used for steel pipe or a Model #511 shall be used for copper pipe. Use ERICO Variable Spring Hangers if supporting force must be limited to 6 percent and cannot be accommodated by a Variable Spring Hanger, Constant Support Hangers should be specified.

G. PIPE ATTACHMENTS--AMBIENT SYSTEMS

1. Ambient systems are classified as those piping systems that have operating temperatures between 60°F (16°C) and 119°F (48°C).
2. Horizontal piping systems shall be supported by ERICO Model #100 Swivel Loop Hanger for 1/2"-8" steel pipe and Model #400 Clevis Hanger for steel pipe 8" and larger. Copper pipe shall be supported by Model #102A PVC Coated Swivel Loop Hanger.
3. Vertical piping requires support at each floor by ERICO Model #510 Riser Clamp for steel pipe and Model #511 Riser Clamp for copper pipe. Also acceptable are U-bolts, ERICO Model #150 used with steel plates bolted securely to building structure or equipment framing.

H. PIPE ATTACHMENTS--COLD SYSTEMS

1. Cold systems are classified as those piping systems that have operating temperature below 60°F (16°C).
2. Hangers exposed to temperatures below -40°F (-40°C) require special design by the design engineer.
3. Horizontal piping requiring insulation shall be provided with vapor barriers. Under no circumstances shall supports or guides be applied directly to horizontal pipe or tubing on vapor barriered lines. Pipe shall be supported by ERICO Model #1031 Pre-Insulated Swivel Loop Hangers for pipe up to 3" and Model #4031 Pre-Insulated Clevis Hangers for pipe larger than 3". Pipe not requiring insulation shall be supported in the same manner as required for ambient temperature piping.
4. Vertical piping requirements are the same as required for ambient piping systems except that any penetration thru the vapor barrier will be covered by an approved method.

I. PIPE ATTACHMENTS - Plastic Pipe

1. Rigid plastic pipe (ABS, PVC, CPVC etc.) shall be supported by hangers with a welded-in support shield to spread the load bearing surface, ERICO Model #103 for sizes through 6" pipe and ERICO Model #403 on 8" pipe and larger.
2. Flexible plastic (polyethylene, etc.) shall be supported continuously by an 18 gauge sheet metal through ERICO Model #104 and #VTR.



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J. PIPE ATTACHMENTS - Glass Pipe

Glass pipe shall be supported with a PVC cushioned wrought steel swivel loop hanger, ERICO Model #102.

K. SPECIALTY PIPING

Asbestos Cement, Reinforced Fiberglass, or any other specialty piping shall be supported per the pipe manufacturer's recommendations.

L. INTERMEDIATE ATTACHMENTS

1. Where negligible movement of pipe occurs at hanger locations, the below listed minimum hanger rod sizes shall be used.

Nominal Pipe or Tubing Size	Minimum Rod Size
1/4" - 2"	3/8"
2-1/2" - 3-1/2"	1/2"
4" - 5"	5/8"
6"	3/4"
8" - 12"	7/8"
14" - 18"	1"
20" - 24"	1-1/4"

- 2. Where significant vertical movement of the pipe occurs at the support location, a resilient support shall be used. Selection of resilient supports shall be based on permissible variation and effects on adjacent equipment. Use ERICO Variable Spring Hangers or if supporting force must be limited to percent and cannot be accommodated by a Variable Spring Hanger, a Constant Support Spring Hanger should be specified.
- 3. The contractor shall furnish all miscellaneous hardware items designed to be utilized with various support components such as bolts, nuts, washers, turnbuckles, etc. All threads must use lock nuts or vibration resistant nuts where potential vibration may cause failure.

M. STRUCTURAL ATTACHMENTS

- 1. In general, piping shall be supported from walls, beams, columns, and slabs using approved structural attachments. In situations where approved attachments cannot be used, alternative attachments or substructure assemblies must receive approval prior to installation. Prior approval must be given for any cutting or drilling of building structural steel. Damage to the structure through welding, cutting or drilling will not be permitted if it reduces the structures strength to a point below the established safety factor for said structure. Approvals may only be granted by a qualified structural engineer.
- 2. BUILDING STEEL HORIZONTAL:
For eccentric loading applications utilize the ERICO Model #300 Universal Beam attachments and for concentric loading utilize the ERICO Model # 360 or #361 Center Load Beam Clamps.
- 3. BUILDING STEEL VERTICAL
Use ERICO Models: #352 or #353 Steel Wall Brackets where horizontal piping adjustment is necessary or strut, ERICO Models: #A-12, #B-12 or #C-14 with strut pipe clamps; Model #RIGD, or strut tubing clamps; Model #COPC, where vertical piping adjustment is necessary.
- 4. POURED CONCRETE CEILING, AND WALLS:
Use accurately located spot inserts, ERICO Model #355 or Continuous Inserts Model # CONCT and place on forms before concrete is poured.
- 5. Where pre-set spot inserts cannot be in place before the pour, use expansions shields, ERICO Model #345 series, or as approved. No drilling of precast, pre-stressed concrete will be permitted. Special types of clamps which attach to the precast slab ribbing shall be provided as structural attachments.
- 6. Expansion loops and expansion joints shall have pipe guides, ERICO Models: #650 and #651 on each side of the loop or joint to maintain alignment. Each line that has this expansion potential shall be anchored to the structure at each change of direction.
- 7. Any additional structural steel required to properly support piping or equipment shall be furnished and installed under this contract.

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N. HANGER LOCATIONS AND SPACING

1.

Nom. Pipe or Tube Dia.	Standard Weight Steel Pipe				Copper Tube			
	Water Service		Vapor Service		Water Service		Vapor Service	
	Ft	M*	Ft	M*	Ft	M*	Ft	M*
1/4"	7	2.1	8	2.4	5	1.5	5	1.5
3/8"	7	2.1	8	2.4	5	1.5	6	1.8
1/2"	7	2.1	8	2.4	5	1.5	6	1.8
3/4"	7	2.1	9	2.7	5	1.5	7	2.1
1"	7	2.1	9	2.7	6	1.8	8	2.4
1-1/4"	7	2.1	9	2.7	7	2.1	9	2.7
1-1/2"	9	2.7	12	3.7	8	2.4	10	3.0
2"	10	3.0	13	4.0	8	2.4	11	3.4
2-1/2"	11	3.4	14	4.3	9	2.7	13	4.0
3"	12	3.7	15	4.6	10	3.0	14	4.3
3-1/2"	13	4.0	16	4.9	11	3.4	15	4.6
4"	14	4.3	17	5.2	12	3.7	16	4.9
5"	16	4.9	19	5.8	13	4.0	18	5.5
6"	17	5.2	21	6.4	14	4.3	20	6.1
8"	19	5.8	24	7.3	16	4.9	23	7.0
10"	20	6.1	26	7.9	18	5.5	25	7.6
12"	23	7.0	30	9.1	19	5.8	28	8.5
14"	25	7.6	32	9.8	N/A	N/A	N/A	N/A
16"	27	8.2	35	10.7	N/A	N/A	N/A	N/A
18"	28	8.5	37	11.3	N/A	N/A	N/A	N/A
20"	30	9.1	39	11.9	N/A	N/A	N/A	N/A
24"	32	9.8	42	12.8	N/A	N/A	N/A	N/A
30"	33	10.4	44	13.4	N/A	N/A	N/A	N/A

*Meters

NOTE: These spacings do not apply where span calculations are made or where there are concentrated loads between supports such as flanges, valves, specialties, etc., or changes in direction requiring additional supports.

2. FIRE PROTECTION: follow requirements of National Fire Protection Assoc. NFPA pamphlets 11, 12, 13, 14, 15, 16, 17.
3. CAST IRON PRESSURE: 12 feet (3.7m) maximum spacing with a minimum of one (1) hanger per pipe section close to the joint on the barrel. Also at all change of directions and branch connections.
4. CAST IRON SOIL: 10 feet (3.0m) maximum spacing with a minimum of one (1) hanger per section close to joint on the barrel. Also at change of direction and branch connection.
5. GLASS: 8 feet (2.4m) maximum spacing, follow manufacturer's recommendations.
6. PLASTIC: follow pipe manufacturer's recommendations for material and service temperature.
7. FIBERGLASS REINFORCED: follow pipe manufacturer's recommendations for spacing and service condition.
8. NO SUB SOIL PIPE: horizontal piping shall be hung at every other joint except when the developed length between the hangers exceeds four (4) feet, the pipe shall be hung at each joint. Hangers shall be provided at each horizontal branch connection, on each water closet bend or elbow and at each trap. Where piping and fittings are suspended on hangers more than 18 inches long and on each water closet bend or elbow, rigid hangers or sway bracing shall be provided at every other hanger and hung piping and closet bends shall not have any horizontal movement in any direction. Hangers shall be placed within one inch of the coupling at each joint requiring a hanger. Vertical piping shall be supported at each floor level including slabs on grade with riser clamps.
9. In general, a hanger shall be used within one foot of each change of direction and at each valve or equipment connection.



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O. SPECIAL SITUATIONS

1. Under Slab On Grade and Below Ground, if it is known at time of design that soil conditions at the job site are suitable for the support of underground piping, or if no information is available as to soil conditions, all piping shall be supported as specified under maximum pipe hanger and support spacing. Each support shall be constructed of masonry units, a minimum of two bricks wide by the diameter of the pipe, with the bottoms of the supports bearing on firm undisturbed soil.
2. In general, all special situations not specifically covered herein must be approved prior to installation.

P. ATTACHMENTS MADE BY WELDING

All welded type support components shall be in accordance with MSS-SP-58. All attachments welded to the pipe shall be in accordance with MSS-SP-58 and Pipe Fabrication Institute, Standard ES-26. Welded and bolted attachments to the building structural steel shall be in accordance with the requirements of AISC Specification for the Design, Fabrication and Erection of Structural Steel Buildings.

Q. THE FOLLOWING ARE NOT ACCEPTABLE OR PERMITTED

1. Wire hangers
2. Perforated strap
3. Hanging from unreinforced metal roof deck
4. Hanging from cellular roof deck
5. Wood plugs
6. Soft insulation at point of support on cold lines

(Sections N through Q were extracted from MSS SP-69, 1991, with permission of the publisher, The Manufacturer's Standardization Society).

Visit www.erico.com for the most current specifications.

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CROSS REFERENCE MSS SPECIFICATION TO ERICO

MSS Type No.	ERICO Model No.	MSS Type No.	ERICO Model No.
1	400, 401, 402, 410 404, 405, 406, 420	29	NA
2	NA	30	360
3	452, 453	31	351
4	450, 451	32	352
5	418	33	353
6	111	34	325, 326, 327
7	105, 106	35	640
8	510, 511, 515, 520	36	720
9	1, 2, 3	37	721, 724
10	100, 101, 102, 102A, 115, 130	38	722, 723
11	NA	39	630-635
12	455, 456	40	125
13	30	41	605, 620
14	31	42	NA
15	NA	43	610,612
16	47	44	615, 617
17	35	45	NA
18	355	46	619
19	300, 301, 310	47	*
20	NA	48	*
21	361	49	625
22	320	50	*
23	200, 255, 315	51	*
24	150, 151	52	*
25	367	53	*
26	470	54	*
27	363	55	*
28	NA	56	*
		57	371
		58	*

*Contact ERICO for corresponding part number.



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CROSS REFERENCE FEDERAL SPECIFICATION WW-H-171 TO ERICO

WW-H-171 No.	ERICO Model No.
1	400, 400FL, 401, 405 406, 415, 420
2	NA
3	452, 453
4	450, 451
5	NA
6	111
7	105, 106
8	510, 511, 515, 520
9	1, 2, 3
10	100, 100FL, 100JR, 101, 102, 102A, 115, 130
11	NA
12	410, 410FL, 402
13	30
14	31
15	NA
16	46
17	35
18	NA
19	355
20	NA
21	361, 364
22	320L
23	200, 255, 315, 300/300I, 310
24	150, 151
25	455, 456
26	470
27	NA
28	NA
29	NA

WW-H-171 No.	ERICO Model No.
30	NA
31	NA
32	351
33	352
34	354
35	325, 326, 328
36	720, 723
37	720
38	721, 724
39	722, 723
40	630-635
41	125
42	605, 620
43	NA
44	610, 612
45	615, 617
46	NA
47	619
48	NA
49	*
50	625
51	*
52	*
53	367
54	363
55	*
56	*
57	371
58	*
59	*

*Contact ERICO for corresponding part number.

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STEEL PIPE DATA (Schedule 40 & 80)

Nominal Pipe Size Inches	Sched. Number	O.D. of Pipe Inches	Wall Thickness Inches	Weight lbs/ft	Weight of Pipe filled w/Water (lbs/ft)
3/8	40	.675	.091	.567	.647
	80		.126	.738	.798
1/2	40	.840	.109	.850	.980
	80		.147	1.09	1.19
3/4	40	1.050	.113	1.13	1.36
	80		.154	1.47	1.66
1	40	1.315	.133	1.68	1.99
	80		.179	2.17	2.54
1-1/4	40	1.660	.140	2.27	2.92
	80		.191	3.00	3.56
1-1/2	40	1.900	.145	2.72	3.60
	80		.200	3.63	4.40
2	40	2.375	.154	3.65	5.10
	80		.218	5.02	6.30
2-1/2	40	2.875	.203	5.79	7.86
	80		.276	7.66	9.49
3	40	3.500	.216	7.58	10.78
	80		.300	10.25	13.11
3-1/2	40	4.000	.226	9.11	13.39
	80		.318	12.51	16.36
4	40	4.500	.237	10.79	16.30
	80		.337	14.98	19.96
5	40	5.563	.258	14.62	23.28
	80		.375	20.78	28.65
6	40	6.625	.280	18.98	31.49
	80		.432	28.57	39.86
8	40	8.625	.322	25.55	47.15
	80		.500	43.40	63.20
10	40	10.750	.365	40.50	74.60
	80		.593	64.74	95.84
12	40	12.750	.406	53.60	102.10
	80		.687	88.60	132.60
14	40	14.000	.437	63.37	121.87
	80		.750	107.00	158.20
16	40	16.000	.500	83.00	159.50
	80		.843	137.00	206.70
18	40	18.000	.563	105.00	202.20
	80		.937	171.00	259.50
20	40	20.000	.593	123.00	243.40
	80		1.031	209.00	318.40
24	40	24.000	.687	171.00	345.20
	80		1.218	297.00	455.20



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STANDARD COPPER TUBING DATA

Nom. Size Inches	O.D. Inches	TYPE "K"			TYPE "L"		
		I.D. Inches	Weight lb/ft	Wt. Filled With Water lb/ft	I.D. Inches	Weight lb/ft	Wt. Filled With Water lb/ft
1/4	.375	.305	.145	.177	.315	.126	.160
3/8	.500	.402	.269	.275	.430	.198	.261
1/2	.625	.527	.344	.438	.545	.285	.385
5/8	.750	.652	.418	.563	.666	.362	.512
3/4	.875	.745	.641	.829	.785	.455	.667
1	1.125	.995	.839	1.176	1.025	.655	1.011
1-1/4	1.375	1.245	1.040	1.570	1.265	.884	1.427
1-1/2	1.625	1.481	1.360	2.109	1.505	1.140	1.889
2	2.125	1.959	2.060	3.364	1.985	1.750	3.092
2-1/2	2.625	2.435	2.930	4.927	2.465	2.480	4.539
3	3.125	2.907	4.000	6.870	2.945	3.330	6.263
3-1/2	3.625	3.385	5.120	9.051	3.425	4.290	8.284
4	4.125	3.857	6.510	11.564	3.905	5.380	10.559
5	5.125	4.805	9.670	17.532	4.875	7.610	15.697
6	6.125	5.741	13.900	25.132	5.845	10.200	21.806
8	8.125	7.583	25.900	45.494	7.725	19.300	39.580
10	10.125	9.449	40.300	70.689	9.625	30.100	61.612
12	12.125	11.315	57.800	101.355	11.565	40.400	85.890

AWWA CAST IRON PIPE (Class 150)

Nominal Pipe Size Inches	O.D. of Pipe Inches	Wall Thickness Inches	Weight of Pipe lbs/ft	Weight of Pipe Filled w/Water (lb/ft)
3	3.96	.32	12.19	15.92
4	4.80	.35	16.25	21.97
6	6.90	.38	25.63	38.43
8	9.05	.41	36.56	59.66
10	11.10	.44	48.44	73.94
12	13.20	.48	62.82	113.82
14	15.30	.51	78.75	148.05
16	17.40	.54	95.00	185.30
18	19.50	.58	114.69	228.69
20	21.60	.62	135.94	277.44
24	25.80	.73	190.31	391.31
30	32.00	.85	277.19	589.19
36	38.30	.94	365.90	814.90
42	44.50	1.05	475.30	1087.30
48	50.80	1.14	589.60	1392.60

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SERVICE WEIGHT CAST IRON SOIL PIPE (Bell & Spigot Type)

Nominal Pipe Size Inches	O.D. of Pipe Inches	Wall Thickness Inches	Weight of Pipe Inches	Weight of Pipe Filled w/Water (lb/ft)
2	2.25	.17	4.0	5.5
3	3.25	.17	6.0	9.4
4	4.25	.18	8.0	14.2
5	5.25	.18	10.4	22.7
6	6.25	.18	13.0	26.9
8	8.38	.23	20.0	45.7
10	10.5	.28	29.0	69.6
12	12.5	.28	38.0	96.2
15	15.62	.31	51.0	147.6

Based on ASTM A74

EXTRA WEIGHT CAST IRON SOIL PIPE (Bell & Spigot Type)

Nominal Pipe Size Inches	O.D. of Pipe Inches	Wall Thickness Inches	Weight of Pipe Inches	Weight of Pipe Filled w/Water (lb/ft)
2	2.38	.19	5.0	6.6
3	3.50	.25	9.0	12.7
4	4.50	.25	12.0	18.5
5	5.50	.25	15.0	25.2
6	6.50	.25	19.0	33.7
8	8.62	.31	30.0	56.1
10	10.75	.37	43.0	83.8
12	12.75	.38	54.0	112.8
15	15.88	.44	75.0	166.8

Based on ASTM A74

NO HUB CAST IRON SOIL PIPE

Nominal Pipe Size Inches	O.D. of Pipe Inches	Wall Thickness Inches	Weight of Pipe Inches	Weight of Pipe Filled w/Water (lb/ft)
1-1/2	1.90	.16	2.7	6.2
2	2.35	.16	3.6	8.6
3	3.35	.16	5.2	13.5
4	4.38	.19	7.4	20.2
5	5.30	.19	9.6	27.5
6	6.30	.19	11.0	34.0
8	8.38	.23	18.0	57.5

Based on ASTM A74



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PVC PLASTIC PIPE

Nominal Pipe Size Inches	Schedule Number	O.D. of Pipe Inches	Wall Thickness Inches	Weight lbs/ft	Weight of Pipe Filled w/Water (lb/ft)
1/8	40	.405	.068	.043	.068
	80		.095	.055	.071
1/4	40	.540	.088	.074	.119
	80		.119	.094	.125
3/8	40	.675	.091	.100	.183
	80		.126	.129	.190
1/2	40	.840	.109	.150	.282
	80		.147	.150	.251
3/4	40	1.050	.113	.199	.429
	80		.154	.295	.481
1	40	1.315	.133	.295	.669
	80		.179	.382	.693
1-1/4	40	1.660	.140	.400	1.047
	80		.191	.527	1.082
1-1/2	40	1.900	.145	.478	1.360
	80		.200	.639	1.404
2	40	2.375	.154	.643	2.095
	80		.218	.884	2.163
2-1/2	40	2.875	.203	1.020	3.092
	80		.276	1.350	3.184
3	40	3.500	.216	1.333	4.533
	80		.300	1.804	4.664
3-1/2	40	4.000	.226	1.598	5.878
	80		.318	2.195	6.045
4	40	4.500	.237	1.899	7.409
	80		.337	2.636	7.616
5	40	5.563	.258	2.770	11.430
	80		.375	4.126	11.996
6	40	6.625	.280	3.339	15.489
	80		.432	5.028	16.318
8	40	8.625	.322	5.280	26.880
	80		.500	8.023	27.823
10	40	10.750	.366	7.505	41.605
	80		.593	11.894	42.994
12	40	12.750	.406	10.023	58.523
	80		.687	16.365	60.365

GLASS PIPE DATA

REGULAR SCHEDULE					
Nominal Pipe Size Inches	O.D. of Pipe Inches	Wall Thickness Inches	Weight of Pipe Inches	Weight of Pipe Filled w/Water (lb/ft)	
1-1/2	1.84	.12	.64	.89	
2	2.34	.14	.94	1.45	
3	3.41	.17	1.60	3.19	
4	4.53	.20	2.60	5.79	
6	6.66	.24	4.70	12.78	
HEAVY SCHEDULE					
1	1.31	.16	.60	.95	
1-1/2	1.84	.17	.87	1.63	
2	2.34	.17	1.10	2.46	
3	3.41	.20	2.00	5.06	
4	4.53	.26	3.40	N/A	
6	6.66	.33	6.30	N/A	

Pipe Hanger & Support Recommended Specifications

SIZING CHARTS FOR INSULATION SHIELDS AND HANGERS for Model #: 103, 121, 122, 125, 403

FOR IRON PIPE

Nominal Pipe		Insulation Thickness									
Size	O.D.	1/2"	3/4"	1"	1-1/2"	2"	2-1/2"	3"	3-1/2"	4"	4-1/2"
1/2"	.840"	2	2	2-1/2	3-1/2	4-1/2	6	7	-	-	-
3/4"	1.050"	2	2-1/2	2-1/2	3-1/2	4-1/2	6	7	-	-	-
1"	1.315"	2	2-1/2	3	4	5	6	7	-	-	-
1-1/4"	1.660"	2-1/2	3	3	4-1/2	5	6	7	-	-	-
1-1/2"	1.900"	2-1/2	3	3-1/2	4-1/2	6	7	8	-	-	-
2"	2.375"	3	3-1/2	4	5	6	7	8	9	-	-
2-1/2"	2.875"	3-1/2	4	4-1/2	6	7	8	9	10	-	-
3"	3.500"	4	4-1/2	5	7	8	9	10	10	11	-
3-1/2"	4.000"	4-1/2	5	6	7	8	9	10	11	12	-
4"	4.500"	5	6	6	7	8	9	10	11	12	-
5"	5.562"	6	7	7	8	9	10	11	12	14	-
6"	6.625"	7	8	8	9	10	12	12	14	16	-
8"	8.625"	9	10	10	11	12	14	15	16	18	18
10"	10.750"	11	12	12	14	15	16	17	18	20	20
12"	12.750"	14	14	14	16	17	18	19	20	22	22

FOR COPPER TUBING

Nominal Tubing		Insulation Thickness			
Size	O.D.	1/2"	3/4"	1"	1-1/2"
1/2"	.625"	1-1/2	1-1/2	2-1/2	3-1/2
3/4"	.875"	2	2	2-1/2	3-1/2
7/8"	1.00"	2	2-1/2	3	3-1/2
1"	1.125"	2	2-1/2	3	3-1/2
1-1/4"	1.375"	2	2-1/2	3	4
1-1/2"	1.625"	2-1/2	3	3-1/2	4-1/2
2"	2.125"	3	3-1/2	4	5
2-1/2"	2.625"	3-1/2	4	4	5
3"	3.125"	4	4-1/2	5	6
3-1/2"	3.625"	4-1/2	4-1/2	6	6
4"	4.125"	5	5	7	7
5"	5.125"	6	6	8	8
6"	6.125"	7	7	9	9

