

# Plumbing Material Salient Characteristics

ITEM	QUANTITY	UNIT	ITEM DESCRIPTION
<b>NO-HUB PIPE (see NO-HUB PIPE on page 5 for additional requirements)</b>			
1	10	LF	2" NO-HUB PIPE
2	10	LF	3" NO-HUB PIPE
3	10	LF	4" NO-HUB PIPE
4	1	EA	2" NO-HUB BANDS
5	1	EA	3" NO-HUB BANDS
6	1	EA	4" NO-HUB BANDS
7	1	EA	2" NO-HUB SANTEES
8	1	EA	2" NO-HUB SHORT TURN 90
9	1	EA	2" NO-HUB MEDIUM SWEEP 90
10	1	EA	2" HANGERS
11	1	EA	3" HANGERS
12	1	EA	4" HANGERS
13	1	EA	2" X 1-1/2" NO-HUB TAP AND SANTEE
14	1	EA	2" NO-HUB TAP AND SANTEE
15	1	EA	2" NO-HUB TAP AND C-O TEE
16	1	EA	3" NO-HUB TAP AND SANTEE
17	1	EA	3" X 2" NO-HUB TAP AND SANTEE
18	1	EA	2" NO-HUB P-TRAP W/TPC
19	1	EA	3" NO-HUB P-TRAP W/ TPC
20	1	EA	2" NO-HUB P-TRAP WYE
21	1	EA	3" NO-HUB P-TRAP WYE
22	1	EA	2" NO-HUB COMBO
23	1	EA	3" NO-HUB 90
24	1	EA	4" NO-HUB 90
25	1	EA	3" NO-HUB COMBO
26	1	EA	3" X 2" NO-HUB COMBO
27	1	EA	3" X 2" NO-HUB REDUCER
28	1	EA	4" X 2" NO-HUB REDUCER
29	1	EA	2" NO-HUB 45
30	1	EA	3" NO-HUB 45
31	1	EA	4" NO-HUB 45
32	1	EA	4" NO-HUB SANTEE
33	1	EA	4" NO-HUB COMBO
34	1	EA	4" X 3" NO-HUB COMBO
35	1	EA	4" X 2" NO-HUB COMBO
36	1	EA	4" NO-HUB WYE
37	1	EA	4" X 2" NO-HUB WYE
38	1	EA	4" X 3" NO-HUB WYE
39	1	EA	4" X 3" NO-HUB REDUCER
40	1	EA	4" NO-HUB TAP AND C-O TEE
<b>ALL THREAD ROD (see PIPE HANGERS &amp; ALL THREAD ROD and DROP-IN ANCHORS on page 5 &amp; 6 for additional requirements)</b>			
41	10	LF	3/8" ALL THREAD ROD
42	10	LF	1/2" ALL THREAD ROD
43	1	PK	3/8" NUTS
44	1	PK	1/2" NUTS
45	1	PK	3/8" WASHERS
46	1	PK	1/2" WASHERS
47	1	PK	3/8" ROD COUPLINGS
48	1	PK	1/2" ROD COUPLINGS
49	1	C	3/8" X 3-1/2" DROP IN ANCHOR W/ MALE THREAD
50	1	C	1/2" X 3-1/2" DROP IN ANCHOR W/MALE THREAD
<b>COPPER PIPE (see COPPER PIPE on page 5 for additional requirements)</b>			
51	1	EA	1/2" C X C CAP
52	1	EA	1/2" C X C TEE
53	1	EA	1/2" C X C COUPLING

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54	1	EA	1/2" C X C 90
55	1	EA	3/4" C X C TEE
56	1	EA	3/4" C X C COUPLING
57	1	EA	3/4" C X C 90
58	1	EA	3/4" X 1/2" COPPER 90
59	1	EA	3/4" X 1/2" X 1/2" COPPER TEE
60	1	EA	3/4" X 3/4" X 1/2" COPPER TEE
61	1	EA	1" C X C 90
62	1	EA	1" C X C TEE
63	1	EA	1" C X C COUPLINGS
64	1	EA	1" X 3/4" C X C 90
65	1	EA	1" C X C CAPS
66	1	EA	1/2" BALL VALVE SWEAT (IPS)
67	1	EA	3/4" BALL VALVE SWEAT (IPS)
68	1	EA	1" BALL VALVE SWEAT (IPS)
69	1	EA	1-1/4" BALL VALVE SWEAT (IPS)
70	1	EA	1-1/2" BALL VALVE SWEAT (IPS)
71	1	EA	2" BALL VALVE SWEAT (IPS)
72	20	LF	1/2" TYPE L PIPE
73	20	LF	3/4" TYPE L PIPE
74	20	LF	1" TYPE L PIPE
75	20	LF	1-1/4" TYPE L PIPE
76	20	LF	1-1/2" TYPE L PIPE
77	20	LF	2" TYPE L PIPE
78	1	EA	1/2" C X MIP ADAPTER
79	1	EA	1/2" C X FIP ADAPTER
80	1	EA	3/4" C X MIP ADAPTER
81	1	EA	3/4" C X FIP ADAPTER
82	1	EA	1" C X MIP ADAPTER
83	1	EA	1" C X FIP ADAPTER
84	1	EA	1-1/4" C X MIP ADAPTER
85	1	EA	1-1/4" C X FIP ADAPTER
86	1	EA	1-1/2" C X MIP ADAPTER
87	1	EA	1-1/2" C X FIP ADAPTER
88	1	EA	2" C X MIP ADAPTER
89	1	EA	2" C X FIP ADAPTER
90	1	EA	3/4" X 1/2" C X C REDUCER
91	1	EA	1" X 3/4" X 3/4" COPPER TEE
92	1	EA	1" X 3/4" X 1" COPPER TEE
93	1	EA	1" X 3/4" C X C REDUCER
94	1	EA	1-1/4" X 1" C X C REDUCER
95	1	EA	1-1/2" X 1-1/4" C X C REDUCER
96	1	EA	2" X 1-1/2" C X C REDUCER
97	1	EA	1-1/4" C X C CAP
98	1	EA	1-1/4" C X C TEE
99	1	EA	1-1/4" C X C COUPLING
100	1	EA	1-1/4" C X C 90
101	1	EA	1-1/4" X 1" C X C 90
102	1	EA	1-1/4" X 1-1/4" X 1" C X C TEE
103	1	EA	1-1/4" X 3/4" C X C TEE
104	1	EA	1-1/2" C X C COUPLING
105	1	EA	1-1/2" C X C CAP
106	1	EA	1-1/2" C X C TEE
107	1	EA	1-1/2" C X C 90
108	1	EA	1-1/2" X 3/4" C X C TEE
109	1	EA	1-1/2" X 1-1/4" C X C TEE
110	1	EA	1-1/2" X 1" C X C TEE
111	1	EA	1-1/2" X 1-1/4" X 1-1/4" C X C TEE
112	1	EA	1/2" C X C 45

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113	1	EA	3/4" C X C 45
114	1	EA	1" C X C 45
115	1	EA	1-1/4" C X C 45
116	1	EA	1-1/2" C X C 45
117	1	EA	2" C X C 45
118	1	EA	1/2" FELTED J-HANGER
119	1	EA	3/4" FELTED J-HANGER
120	1	EA	1" FELTED J-HANGER
121	1	EA	1-1/4" FELTED J-HANGER
122	1	EA	1-1/2" FELTED J-HANGER
123	1	EA	2" FELTED J-HANGER
124	1	EA	2" C X C 90
125	1	EA	2" C X C TEE
126	1	EA	2" C X C CAP
127	1	EA	2" C X C COUPLING
128	1	EA	2" X 1-1/2" C X C TEE
129	1	EA	2" X 1-1/2" X 1-1/2" C X C TEE
130	1	EA	2" X 1" C X C TEE
131	1	EA	2" X 1-1/4" C X C TEE
132	1	EA	2" X 3/4" C X C TEE
133	1	EA	2" X 1/2" C X C TEE
134	1	EA	1/2" TRAP PRIMER MALE X FEMALE
<b>BLACK IRON PIPE (see BLACK IRON PIPE on page 5 for additional requirements)</b>			
135	1	EA	1/2" X 1-1/2" NIPPLE
136	1	EA	1/2" X 2" NIPPLE
137	1	EA	1/2" X 2-1/2" NIPPLE
138	1	EA	1/2" X 3" NIPPLE
139	1	EA	1/2" X 3-1/2" NIPPLE
140	1	EA	1/2" X 4" NIPPLE
141	1	EA	1/2" X 4-1/2" NIPPLE
142	1	EA	1/2" X 5" NIPPLE
143	1	EA	1/2" X 5-1/2" NIPPLE
144	1	EA	1/2" X 6" NIPPLE
145	1	EA	3/4" X 1-1/2" NIPPLE
146	1	EA	3/4" X 2" NIPPLE
147	1	EA	3/4" X 2-1/2" NIPPLE
148	1	EA	3/4" X 3" NIPPLE
149	1	EA	3/4" X 3-1/2" NIPPLE
150	1	EA	3/4" X 4" NIPPLE
151	1	EA	3/4" X 4-1/2" NIPPLE
152	1	EA	3/4" X 5" NIPPLE
153	1	EA	3/4" X 5-1/2" NIPPLE
154	1	EA	3/4" X 6" NIPPLE
155	1	EA	1" X 1-1/2" NIPPLE
156	1	EA	1" X 2" NIPPLE
157	1	EA	1" X 2-1/2" NIPPLE
158	1	EA	1" X 3" NIPPLE
159	1	EA	1" X 3-1/2" NIPPLE
160	1	EA	1" X 4" NIPPLE
161	1	EA	1" X 4-1/2" NIPPLE
162	1	EA	1" X 5" NIPPLE
163	1	EA	1" X 5-1/2" NIPPLE
164	1	EA	1" X 6" NIPPLE
165	1	EA	1-1/4" X 1-1/2" NIPPLE
166	1	EA	1-1/4" X 2" NIPPLE
167	1	EA	1-1/4" X 2-1/2" NIPPLE
168	1	EA	1-1/4" X 3" NIPPLE
169	1	EA	1-1/4" X 3-1/2" NIPPLE
170	1	EA	1-1/4" X 4" NIPPLE

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171	1	EA	1-1/4" X 4-1/2" NIPPLE
172	1	EA	1-1/4" X 5" NIPPLE
173	1	EA	1-1/4" X 5-1/2" NIPPLE
174	1	EA	1-1/4" X 6" NIPPLE
175	1	EA	1-1/2" X 1-1/2" NIPPLE
176	1	EA	1-1/2" X 2" NIPPLE
177	1	EA	1-1/2" X 2-1/2" NIPPLE
178	1	EA	1-1/2" X 3" NIPPLE
179	1	EA	1-1/2" X 3-1/2" NIPPLE
180	1	EA	1-1/2" X 4" NIPPLE
181	1	EA	1-1/2" X 4-1/2" NIPPLE
182	1	EA	1-1/2" X 5" NIPPLE
183	1	EA	1-1/2" X 5-1/2" NIPPLE
184	1	EA	1-1/2" X 6" NIPPLE
185	1	EA	2" X 2" NIPPLE
186	1	EA	2" X 2-1/2" NIPPLE
187	1	EA	2" X 3" NIPPLE
188	1	EA	2" X 3-1/2" NIPPLE
189	1	EA	2" X 4" NIPPLE
190	1	EA	2" X 4-1/2" NIPPLE
191	1	EA	2" X 5" NIPPLE
192	1	EA	2" X 5-1/2" NIPPLE
193	1	EA	2" X 6" NIPPLE
			<b>MISCELLANEOUS</b>
194	1	EA	3/4" X 1" HOLDRITE
195	1	EA	1/2" X 1/2" HOLDRITE
196	1	EA	SAWZALL BLADES BI-METAL LONG
197	1	EA	SAWZALL BLADES BI-METAL SHORT
198	1	EA	1/4" MASONRY DRILL BIT
199	1	EA	3/8" MASONRY DRILL BIT
200	1	EA	1/2" MASONRY DRILL BIT
201	1	EA	5/8" MASONRY DRILL BIT
202	1	EA	SOLDER 95/5
203	1	ROLL	SANDCLOTH MESA TYPE
204	1	EA	FLUX
205	1	LB	SILVER SOLDER
206	1	EA	FLUX BRUSHES
207	1	EA	2" DECK CLAMPS
208	1	EA	3" DECK CLAMPS
209	1	EA	4" DECK CLAMPS
210	1	EA	P-TAPE
211	1	EA	CAST IRON SAWZALL BLADE
212	1	CAN	PIPE DOPE
213	1	EA	1/2" TEFLON TAPE
214	1	EA	3/4" TEFLON TAPE
215	1	EA	12" X 12" STAINLESS STEEL ACCESS PANELS
			<b>PIPE INSULATION (see PIPE INSULATION on page 6 for additional requirements)</b>
216	3	FT	2-1/8" OD FOR 2" CC PIPE
217	3	FT	1-5/8" OD FOR 1-1/4" CC PIPE
218	3	FT	1-1/8" OD FOR 1" CC PIPE
219	3	FT	7/8" OD FOR 3/4" CC PIPE
220	3	FT	5/8" OD FOR 1/2" CC PIPE

# Plumbing Material Salient Characteristics

## **NO-HUB PIPE**

1. Cast iron waste, drain, and vent pipe and fittings.
  - a. Cast iron Pipe shall be hub less (plain end or no-hub or hub less).
    - i. The material for all pipe and fittings shall be cast iron soil pipe and fittings and shall conform to the requirements of CISPI 301, ASTM A888, or ASTM A74.
    - ii. Cast iron pipe and fittings shall be made from a minimum of 95 percent post-consumer recycled material.
    - iii. Joints for hub less pipe and fittings shall conform to the manufacturer's installation instructions. Couplings for hub less joints shall conform to CISPI 310. Joints for hub and spigot pipe shall be installed with compression gaskets conforming to the requirements of ASTM C564.

## **COPPER PIPE**

1. Material or equipment containing a weighted average of greater than 0.25 percent lead are prohibited in any potable water system intended for human consumption, and shall be certified in accordance with NSF 61 or NSF 372. Endpoint devices used to dispense water for drinking shall meet the requirements of NSF 61, Section 9.
  - a. Pipe: Copper tube, ASTM B88, Type L, drawn.
  - b. Fittings for Copper Tube:
    - i. Wrought copper or bronze castings conforming to ASME B16.18 and B16.22. Unions shall be bronze, MSS SP-72, MSS SP-110, solder or braze joints. Use 95/5 tin and antimony for all soldered joints.
    - ii. Brazing alloy: AWS A5.8M/A5.8, brazing filler metals shall be BCuP series for copper to copper joints and BAg series for copper to steel joints.

## **BLACK IRON PIPE**

1. Steel: ASTM A53/A53M Grade B, seamless or ERW, Schedule 40.

## **PIPE HANGERS & ALL THREAD ROD**

1. Hanger Rods: All-thread rods, Hot-rolled steel, ASTM A36/A36M or ASTM A575 for allowable load listed in MSS SP-58.
2. Pipe Hangers and Supports: (MSS SP-58)
  - a. General Types (MSS SP-58):
    - i. J-style clevis hanger: adjustable, & galvanized provide bolt and locknut.

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- ii. Copper Tube:
  - a. J-style galvanized clevis hanger: adjustable, & felted: provide bolt and locknut.

## **DROP-IN ANCHORS**

- 1. Drop-in anchors and wedge anchors shall meet the requirements of ASTM B633, ASTM A563, & ASTM F844.

## **PIPE INSULATION**

- 1. Preformed fiber glass pipe insulation - ASTM C547 (Pipe Fitting Insulation and Preformed Pipe Insulation), Class 1,  $k = 0.037$  (0.26) at 24 degrees C (75 degrees F), for use at temperatures up to 230 degrees C (446 degrees F) with an all service vapor retarder jacket (ASJ) and with polyvinyl chloride (PVC) premolded fitting covering.