

Table 82.40-4
MAXIMUM ALLOWABLE LOAD FOR COPPER TUBE—TYPE K, ASTM B88

Pressure Loss Due to Friction (in lbs. per 100 ft. of length)	Pipe Diameter (in inches)																									
	1/2"			3/4"		1"			1-1/4"			1-1/2"			2"			2-1/2"			3"			4"		
	G P M	WSFU		G P M	W SF U	G P M	WSFU		G P M	WSFU		G P M	WSFU		G P M	WSFU		G P M	WSFU		G P M	WSFU		G P M	WSFU	
		F M	FT				F M	FT		F M	FT		F M	FT		F M	FT		F M	FT		F M	FT		F M	FT
0.5	—	—	—	0.5	—	3.0	—	3.0	5.0	—	6.0	9.0	—	12.0	18.0	6.0	27.0	31.0	15.0	57.0	51.0	50.0	132	110	300	425
1	—	—	—	2.0	—	4.0	—	4.0	8.0	—	10.0	13.0	4.5	18.0	27.0	10.0	47.0	48.0	44.0	120	75.0	128	250	160	620	695
2	0.5	—	0.5	3.0	—	6.4	—	8.0	12.0	4.0	17.0	18.0	6.0	27.0	39.0	26.0	83.0	70.0	108	225	110	300	425	230	1180	
3	1.0	—	1.0	4.0	—	8.0	—	10.0	15.0	5.0	22.0	23.0	7.5	38.0	50.0	48.0	128	85.0	170	300	140	485	580	280	1630	
4	1.5	—	1.5	4.0	—	9.0	—	12.0	17.0	5.5	25.0	27.0	10.0	47.0	56.0	65.0	154	100	245	375	160	620	695	NP		
5	2.0	—	2.0	5.0	—	11.0	4.0	15.0	19.0	6.0	28.5	31.0	15.0	57.0	65.0	90.0	200	115	335	450	NP			NP		
6	2.0	—	2.0	5.5	—	12.0	4.0	17.0	21.0	7.0	32.0	34.0	19.0	67.0	70.0	108	225	NP								
7	2.5	—	2.5	6.0	—	13.0	4.5	18.0	23.0	7.5	38.0	37.0	23.0	77.0	73.0	120	240	NP								
8	2.5	—	2.5	6.5	—	14.0	4.5	20.0	25.0	8.5	43.0	40.0	27.0	87.0	NP											
9	3.0	—	3.0	7.0	—	15.0	5.0	22.0	27.0	10.0	47.0	42.0	30.0	100	NP											
10	3.0	—	3.0	7.5	—	16.0	5.0	23.0	28.0	11.0	50.0	NP														
11	3.0	—	3.0	7.5	—	17.0	5.5	25.0	30.0	14.0	55.0	NP														
12	3.5	—	3.5	8.0	—	18.0	6.0	27.0	NP																	
13	3.5	—	3.5	8.5	—	19.0	6.0	28.5	NP																	
14	3.5	—	3.5	9.0	—	20.0	6.5	30.0	NP																	
15	3.5	—	3.5	9.0	—	NP																				
16	3.5	—	3.5	9.5	—	NP																				
17	4.0	—	4.0	9.5	—	NP																				
18	4.0	—	4.0	10.0	4.0	NP																				
19	4.0	—	4.0	10.5	4.0	NP																				
20	4.0	—	4.0	11.0	4.0	NP																				
21	4.5	—	5.0	NP																						
22	4.5	—	5.0	NP																						
23	4.5	—	5.0	NP																						
24	4.5	—	5.0	NP																						
25	5.0	—	6.0	NP																						
26	5.0	—	6.0	NP																						
27	5.0	—	6.0	NP																						
28	5.0	—	6.0	NP																						
29	5.5	—	6.5	NP																						
30	5.5	—	6.5	NP																						

Notes: WSFU means water supply fixture units.
 GPM means gallons per minute.
 FM means predominately flushometer type water closets or syphon jet urinals.
 FT means predominately flush tank type water closets or washdown urinals.
 NP means not permitted, velocities exceed 8 feet per second.

For using this table, round the calculated pressure loss due to friction to the next higher number shown.
 Comm 82.40 (7) (f) and (g) specifies minimum sizes for water distribution piping.

Table 82.40-5
MAXIMUM ALLOWABLE LOAD FOR COPPER TUBE—TYPE L, ASTM B88

Pressure Loss Due to Friction (in lbs. per 100 ft. of length)	Pipe Diameter (in inches)																										
	1/2"			3/4"			1"			1-1/4"			1-1/2"			2"			2-1/2"			3"			4"		
	G P M	WSFU		G P M	WSFU		G P M	WSFU		G P M	WSFU		G P M	WSFU		G P M	WSFU		G P M	WSFU		G P M	WSFU		G P M	WSFU	
		FM	FT		FM	FT		FM	FT		FM	FT		FM	FT		FM	FT		FM	FT		FM	FT		FM	FT
0.5	—	—	—	1.0	—	1.0	3.0	—	3.0	6.0	—	7.0	9.0	—	12.0	19.0	6.0	28.5	34.0	19.0	67.0	54.0	60.0	144	112	315	435
1	—	—	—	2.5	—	2.5	5.0	—	6.0	8.0	—	10.0	13.0	4.5	18.0	28.0	11.0	50.0	50.0	48.0	128	77.0	136	260	164	655	715
2	0.5	—	0.5	3.5	—	3.5	7.0	—	9.0	12.0	4.0	17.0	19.0	6.0	28.5	41.0	28.0	90.0	72.0	116	235	115	335	450	240	1540	
3	1.5	—	1.5	4.5	—	5.0	9.0	—	12.0	15.0	5.0	22.0	24.0	8.0	40.0	51.0	50.0	132	90.0	192	325	144	515	605	NP		
4	2.0	—	2.0	5.0	—	6.0	10.0	4.0	13.0	18.0	6.0	27.0	29.0	12.0	52.0	60.0	75.0	174	105	270	400	170	700	700	NP		
5	2.0	—	2.0	5.5	—	6.5	12.0	4.0	17.0	21.0	7.0	32.0	33.0	17.0	63.0	67.0	97.0	210	120	365	475	NP			NP		
6	2.5	—	2.5	6.5	—	8.0	13.0	4.5	18.0	23.0	7.5	38.0	36.0	22.0	73.0	75.0	128	250	NP			NP					
7	2.5	—	2.5	7.0	—	9.0	14.0	4.5	20.0	25.0	8.5	43.0	39.0	26.0	83.0	NP			NP								
8	3.0	—	3.0	7.5	—	9.5	15.0	5.0	22.0	26.0	9.0	45.0	42.0	30.0	100	NP			NP								
9	3.0	—	3.0	8.0	—	10.0	16.0	5.0	23.0	28.0	11.0	50.0	45.0	37.0	110	NP			NP								
10	3.0	—	3.0	8.5	—	11.0	17.0	5.5	25.0	30.0	13.5	55.0	NP			NP											
11	3.5	—	3.5	9.0	—	12.0	18.0	6.0	27.0	32.0	16.0	60.0	NP			NP											
12	3.5	—	3.5	9.0	—	12.0	19.0	6.0	28.5	NP			NP														
13	3.5	—	3.5	9.5	—	12.5	20.0	6.5	30.0	NP			NP														
14	4.0	—	4.0	10.0	4.0	13.0	21.0	7.0	32.0	NP			NP														
15	4.0	—	4.0	10.5	4.0	14.0	NP			NP																	
16	4.0	—	4.0	11.0	4.0	15.0	NP			NP																	
17	4.5	—	5.0	11.5	4.0	16.0	NP			NP																	
18	4.5	—	5.0	12.0	4.0	17.0	NP			NP																	
19	4.5	—	5.0	12.0	4.0	17.0	NP			NP																	
20	4.5	—	5.0	NP			NP																				
21	5.0	—	6.0	NP			NP																				
22	5.0	—	6.0	NP			NP																				
23	5.0	—	6.0	NP			NP																				
24	5.0	—	6.0	NP			NP																				
25	5.5	—	6.5	NP			NP																				
26	5.5	—	6.5	NP			NP																				
27	5.5	—	6.5	NP			NP																				
28	6.0	—	7.0	NP			NP																				
29	6.0	—	7.0	NP			NP																				

Notes: WSFU means water supply fixture units.
 GPM means—gallons per minute.
 FM means—predominately flushometer type water closets or syphon jet urinals.
 FT means—predominately flush tank type water closets or washdown urinals.
 NP means—not permitted, velocities exceed 8 feet per second.

For using this table, round the calculated pressure loss due to friction to the next higher number shown.
 Comm 82.40 (7) (f) and (g) specifies minimum sizes for water distribution piping.

Table 82.40-6

MAXIMUM ALLOWABLE LOAD FOR COPPER TUBE—TYPE M, ASTM B88

Pressure Loss Due to Friction (in lbs. per 100 ft. of length)	Pipe Diameter (in inches)																										
	1/2"			3/4"			1"			1-1/4"			1-1/2"			2"			2-1/2"			3"			4"		
	G P M	WSFU		G P M	WSFU		G P M	WSFU		G P M	WSFU		G P M	WSFU		G P M	WSFU		G P M	WSFU		G P M	WSFU		G P M	WSFU	
		FM	FT		FM	FT		FM	FT		FM	FT		FM	FT		FM	FT		FM	FT		FM	FT		FM	FT
0.5	—	—	—	1.5	—	1.5	3.5	—	3.5	6.0	—	7.0	9.5	—	12.5	20.0	6.5	30.0	34.0	19.0	67.0	56.0	65.0	154	110	334	450
1	—	—	—	3.0	—	3.0	6.0	—	6.0	9.0	—	12.0	14.0	4.5	20.0	29.0	12.0	52.0	50.0	48.0	128	80.0	148	275	160	700	750
2	1.0	—	1.0	4.0	—	4.0	7.5	—	9.5	13.0	4.5	18.0	20.0	6.5	30.0	42.0	30.0	100	75.0	128	250	120	365	475	250	1350	
3	1.5	—	1.5	5.0	—	6.0	9.5	—	12.5	16.0	5.0	23.0	25.0	8.5	42.0	52.0	53.0	136	93.0	205	340	150	555	640	280	1630	
4	2.0	—	2.0	5.5	—	6.5	11.0	4.0	15.0	19.0	6.0	28.5	30.0	13.5	55.0	62.0	80.0	184	110	300	425	175	740	780	NP		
5	2.5	—	2.5	6.5	—	8.0	12.5	4.5	17.5	22.0	7.0	35.0	34.0	19.0	67.0	70.0	108	225	120	365	475	NP			NP		
6	2.5	—	2.5	7.0	—	9.0	14.0	4.5	20.0	24.0	8.0	40.0	37.0	23.0	77.0	77.0	136	260	NP			NP					
7	3.0	—	3.0	7.5	—	9.5	15.0	5.0	22.0	26.0	9.0	45.0	40.0	27.0	87.0	80.0	148	275	NP			NP					
8	3.5	—	3.5	8.0	—	10.0	16.0	5.0	23.0	28.0	11.0	50.0	44.0	35.0	107	NP			NP			NP					
9	3.5	—	3.5	8.5	—	11.0	17.0	5.5	25.0	30.0	13.5	55.0	46.0	40.0	113	NP			NP			NP					
10	3.5	—	3.5	9.5	—	12.5	18.0	6.0	27.0	31.0	15.0	57.0	NP			NP			NP			NP					
11	4.0	—	4.0	10.0	4.0	13.0	19.0	6.0	28.0	32.0	16.0	60.0	NP			NP			NP			NP					
12	4.0	—	4.0	10.0	4.0	13.0	20.0	6.5	30.0	NP			NP			NP			NP			NP					
13	4.0	—	4.0	10.5	4.0	14.0	21.0	7.0	32.0	NP			NP			NP			NP			NP					
14	4.5	—	5.0	11.0	4.0	15.0	NP			NP			NP			NP			NP			NP					
15	4.5	—	5.0	11.5	4.0	16.0	NP			NP			NP			NP			NP			NP					
16	4.5	—	5.0	12.0	4.0	17.0	NP			NP			NP			NP			NP			NP					
17	5.0	—	6.0	12.5	4.5	17.5	NP			NP			NP			NP			NP			NP					
18	5.0	—	6.0	13.0	4.5	18.0	NP			NP			NP			NP			NP			NP					
19	5.0	—	6.0	NP			NP			NP			NP			NP			NP			NP					
20	5.5	—	6.5	NP			NP			NP			NP			NP			NP			NP					
21	5.5	—	6.5	NP			NP			NP			NP			NP			NP			NP					
22	5.5	—	6.5	NP			NP			NP			NP			NP			NP			NP					
23	5.5	—	6.5	NP			NP			NP			NP			NP			NP			NP					
24	6.0	—	7.0	NP			NP			NP			NP			NP			NP			NP					
25	6.0	—	7.0	NP			NP			NP			NP			NP			NP			NP					
26	6.0	—	7.0	NP			NP			NP			NP			NP			NP			NP					
27	6.0	—	7.0	NP			NP			NP			NP			NP			NP			NP					
28	6.5	—	8.0	NP			NP			NP			NP			NP			NP			NP					
	NP			NP			NP			NP			NP			NP			NP			NP			NP		

Notes: WSFU means water supply fixture units.
 GPM means—gallons per minute.
 FM means—predominately flushometer type water closets or syphon jet urinals.
 FT means—predominately flush tank type water closets or washdown urinals.
 NP means—not permitted, velocities exceed 8 feet per second.
 For using this table, round the calculated pressure loss due to friction to the next higher number shown.
 Comm 82.40 (7) (f) and (g) specifies minimum sizes for water distribution piping.

Table 82.40-7
ALLOWABLE MAXIMUM LOAD FOR GALVANIZED STEEL PIPE, SCHEDULE 40
ASTM A53 and ASTM 120

Pressure Loss Due to Friction (in lbs. per 100 ft. of length)	Pipe Diameter (in inches)																											
	1/2"			3/4"			1"			1-1/4"			1-1/2"			2"			2-1/2"			3"			4"			
	G P M	WSFU		G P M	WSFU		G P M	WSFU		G P M	WSFU		G P M	WSFU		G P M	WSFU		G P M	WSFU		G P M	WSFU		G P M	WSFU		
		FM	FT		FM	FT		FM	FT		FM	FT		FM	FT		FM	FT		FM	FT		FM	FT		FM	FT	
0.5	—	—	—	1.5	—	1.5	3.5	—	3.5	7.0	—	9.0	11.0	—	12.5	21.0	7.0	32.0	34.0	19.0	67.0	60.0	75.0	175	122	375	485	
1	0.5	—	0.5	2.5	—	2.5	5.0	—	6.0	10.5	4.0	14.0	16.0	4.5	20.0	30.0	14.0	55.0	49.0	46.0	124	87.0	180	310	180	770	810	
2	2.0	—	2.0	4.0	—	4.0	7.5	—	9.5	15.5	5.0	22.5	23.0	6.5	30.0	45.0	37.0	110	72.0	116	235	127	405	510	260	1440		
3	2.5	—	2.5	5.0	—	6.0	9.5	—	12.5	19.0	6.0	28.5	29.0	8.5	42.0	55.0	62.0	150	90.0	192	325	160	615	695	285	1660		
4	2.5	—	2.5	5.5	—	6.5	11.0	4.0	15.0	22.0	7.0	35.0	34.0	13.5	55.0	65.0	90.0	200	105	270	400	180	770	810	NP			
5	3.0	—	3.0	6.5	—	8.0	12.5	4.5	17.5	25.0	8.5	42.0	39.0	19.0	67.0	73.0	120	240	120	365	475	NP			NP			
6	3.5	—	3.5	7.5	—	9.5	14.0	4.5	20.0	28.0	11.0	50.0	43.0	23.0	77.0	81.0	152	280	NP							NP		
7	3.5	—	3.5	8.0	—	10.0	15.0	5.0	22.0	31.0	15.0	57.0	46.0	27.0	87.0	NP							NP					
8	4.0	—	4.0	8.5	—	11.0	16.0	5.0	23.0	33.0	17.0	63.0	50.0	35.0	107	NP							NP					
9	4.0	—	4.0	9.0	—	12.0	17.0	5.5	25.0	35.0	20.0	70.0	NP				NP											
10	4.5	—	5.0	9.5	—	12.5	18.0	6.0	27.0	37.0	23.0	77.0	NP				NP											
11	5.0	—	6.0	10.0	4.0	13.0	19.0	6.0	28.5	NP				NP														
12	5.0	—	6.0	10.5	4.0	14.0	20.0	6.5	30.0	NP				NP														
13	5.0	—	6.0	11.0	4.0	15.0	21.0	7.0	32.0	NP				NP														
14	5.5	—	6.5	11.5	4.0	16.0	NP				NP																	
15	6.0	—	7.0	12.0	4.0	17.0	NP				NP																	
16	6.0	—	7.0	12.5	4.5	17.5	NP				NP																	
17	6.0	—	7.0	13.0	4.5	18.0	NP				NP																	
18	6.0	—	7.0	13.5	4.5	19.0	NP				NP																	
19	6.5	—	8.0	NP			NP				NP																	
20	6.5	—	8.0	NP			NP				NP																	
21	7.0	—	9.0	NP			NP				NP																	
22	7.0	—	9.0	NP			NP				NP																	
23	7.0	—	9.0	NP			NP				NP																	
24	7.5	—	9.5	NP			NP				NP																	
25	7.5	—	9.5	NP			NP				NP																	
	NP			NP			NP				NP																	

Notes: WSFU means water supply fixture units.
 GPM means gallons per minute.
 FM means predominately flushometer type water closets or syphon jet urinals.
 FT means predominately flush tank type water closets or washdown urinals.
 NP means not permitted, velocities exceed 8 feet per second.
 For using this table, round the calculated pressure loss due to friction to the next higher number shown.
 Comm 82.40 (7) (f) and (g) specifies minimum sizes for water distribution piping.

Table 82.40-8
MAXIMUM ALLOWABLE LOAD FOR POLYBUTYLENE TUBING—ASTM D3309 and
CHLORINATED POLYVINYL CHLORIDE TUBING—ASTM D2846

Pressure Loss Due to Friction (in lbs. per 100 ft. of length)	Pipe Diameter (in inches)																	
	1/2"			3/4"			1"			1-1/4"			1-1/2"			2"		
	G P M	WSFU		G P M	WSFU		G P M	WSFU		G P M	WSFU		G P M	WSFU		G P M	WSFU	
		FM	FT		FM	FT		FM	FT		FM	FT		FM	FT		FM	FT
0.5	—	—	—	0.5	—	0.5	2.5	—	2.5	4.0	—	4.0	6.5	—	8.0	13.0	4.5	18.0
1	—	—	—	1.5	—	1.5	3.5	—	3.5	6.0	—	7.0	9.5	—	12.5	19.0	6.0	28.5
2	—	—	—	2.5	—	2.5	5.5	—	6.5	9.0	—	12.0	14.0	4.5	20.0	28.0	11.0	50.0
3	0.5	—	0.5	3.5	—	3.5	6.5	—	8.0	11.5	4.0	15.0	17.0	5.5	25.0	35.0	20.0	70.0
4	1.0	—	1.0	4.0	—	4.0	7.5	—	9.5	13.0	4.5	18.0	20.0	6.5	30.0	42.0	30.0	100
5	1.5	—	1.5	4.5	—	5.0	8.5	—	11.0	15.0	5.0	22.0	23.0	7.5	37.0	47.0	42.0	117
6	2.0	—	2.0	5.0	—	6.0	9.5	—	12.5	16.5	5.5	24.0	25.0	8.5	43.0	52.0	53.0	136
7	2.0	—	2.0	5.5	—	6.5	10.5	—	14.0	18.0	6.0	27.0	27.0	10.0	48.0	58.0	70.0	165
8	2.0	—	2.0	6.0	—	7.0	11.5	4.0	16.0	19.0	6.0	28.5	30.0	14.0	55.0	NP		
9	2.5	—	2.5	6.0	—	7.0	12.0	4.0	17.0	20.5	6.5	31.0	32.0	16.0	60.0	NP		
10	2.5	—	2.5	6.5	—	8.0	12.5	4.5	17.5	22.0	5.0	35.0	34.0	19.0	67.0	NP		
11	2.5	—	2.5	7.0	—	9.0	13.5	4.5	19.0	23.0	6.0	38.0	NP			NP		
12	3.0	—	3.0	7.0	—	9.5	14.0	4.5	20.0	24.0	7.0	40.0	NP			NP		
13	3.0	—	3.0	7.5	—	10.0	14.5	4.5	21.0	NP			NP			NP		
14	3.0	—	3.0	8.0	—	10.0	15.5	5.0	22.0	NP			NP			NP		
15	3.0	—	3.0	8.0	—	11.0	16.0	5.0	23.0	NP			NP			NP		
16	3.5	—	3.5	8.5	—	11.0	16.5	5.5	24.0	NP			NP			NP		
17	3.5	—	3.5	8.5	—	12.0	NP			NP			NP			NP		
18	3.5	—	3.5	9.0	—	12.0	NP			NP			NP			NP		
19	3.5	—	3.5	9.0	—	12.0	NP			NP			NP			NP		
20	4.0	—	4.0	9.5	—	12.5	NP			NP			NP			NP		
21	4.0	—	4.0	10.0	4.0	13.0	NP			NP			NP			NP		
22	4.0	—	4.0	NP			NP			NP			NP			NP		
23	4.0	—	4.0	NP			NP			NP			NP			NP		
24	4.0	—	4.0	NP			NP			NP			NP			NP		
25	4.0	—	4.0	NP			NP			NP			NP			NP		
26	4.0	—	4.0	NP			NP			NP			NP			NP		
27	4.5	—	5.0	NP			NP			NP			NP			NP		
28	4.5	—	5.0	NP			NP			NP			NP			NP		
29	4.5	—	5.0	NP			NP			NP			NP			NP		
30	5.0	—	6.0	NP			NP			NP			NP			NP		
31	5.0	—	6.0	NP			NP			NP			NP			NP		

Note: WSFU means water supply fixture units.
 GM means gallons per minute.
 FM means predominately flushometer type water closets or syphon jet urinals.
 FT means predominately flush tank type water closets or washdown urinals.
 NP means not permitted, velocities exceed 8 feet per second.

For using this table, round the calculated pressure loss due to friction to the next higher number shown.

Comm 82.40 (7) (f) and (g) specifies minimum sizes for water distribution piping.

Table 82.40-9
MAXIMUM ALLOWABLE LOAD FOR CROSSLINKED POLYETHYLENE (PEX) TUBING
ASTM F876 and F877

Pressure Loss Due to Friction (in lbs per 100 ft. of length)	Pipe Diameter (in inches)					
	1/2"		5/8"		3/4"	
	GPM	WSFU	GPM	WSFU	GPM	WSFU
FT		FT		FT		
0.5	0.5	0.5	1.0	1.0	1.5	1.5
1.0	0.5	0.5	1.5	1.5	2.0	2.0
2.0	1.0	1.0	2.0	2.0	3.0	3.0
3.0	1.5	1.5	2.5	2.5	3.5	3.5
4.0	1.5	1.5	2.5	2.5	4.0	4.0
5.0	2.0	2.0	3.0	3.0	4.5	5.0
6.0	2.0	2.0	3.5	3.5	5.0	6.0
7.0	2.0	2.0	4.0	4.0	5.5	6.0
8.0	2.5	2.5	4.0	4.0	6.0	7.0
9.0	2.5	2.5	4.5	5.0	6.5	8.0
10.0	2.5	2.5	4.5	5.0	7.0	9.0
11.0	3.0	3.0	5.0	6.0	7.5	9.5
12.0	3.0	3.0	5.0	6.0	7.5	9.5
13.0	3.0	3.0	5.5	6.5	8.0	10.0
14.0	3.0	3.0	5.5	6.5	8.5	11.0
15.0	3.5	3.5	5.5	6.5	8.5	11.0
16.0	3.5	3.5	6.0	7.0	9.0	12.0
17.0	3.5	3.5	6.0	7.0	NP	
18.0	3.5	3.5	6.5	8.0	NP	
19.0	4.0	4.0	6.5	8.0		
20.0	4.0	4.0	NP			
21.0	4.0	4.0	Note: WSFU means—water supply fixture units. GPM means—gallons per minute. FT means—predominately flush tank type water closets or washdown urinals. NP means—not permitted, velocities exceed eight feet per second. For using this table, round the calculated pressure loss due to friction to the next higher number shown. Comm 82.40 (7) (f) and (g) specifies minimum sizes for water distribution piping.			
22.0	4.0	4.0				
23.0	4.0	4.0				
24.0	4.5	5.0				
25.0	4.5	5.0				
26.0	NP					

History: 1-2-56; r. and recr. Register, November, 1972, No. 203, eff. 12-1-72; r. and recr. Register, February, 1979, No. 278, eff. 3-1-79; renum. from H 62.13, Register, July, 1983, No. 331, eff. 8-1-83; renum. from ILHR 82.13 and r. and recr. (2) (b) and (4) (d) 1., am. (4) (c) 3. and (6) (a) (intro.), cr. (6) (b), Register, February, 1985, No. 350, eff. 3-1-85; r. and recr. Register, May, 1988, No. 389, eff. 6-1-88; am. (5) (d) 5. a., r. and recr. (7) (h) 1. and (8) (c), renum. (8) (c) 2. to 6. to be (8) (b) 4. to 8. and am. (8) (b) 4. c., Register, August, 1991, No. 428, eff. 9-1-91; am. (8) (b) 1. and 2., Register, April, 1992, No. 436, eff. 5-1-92; renum. (3) (c) and (8) (a) to be (3) (c) 2. and (8) (a) 1. and am. (8) (a) 1., cr. (3) (c) 1., (c), (8) (a) 2. and Table 82.40-9, am. (7) (c), r. (3) (b) 1. b. and c., Register, February, 1994, No. 458, eff. 3-1-94; r. (5) (b) 3., renum. (5) (b) 4., 5. to be (5) (b) 3., 4., Register, December, 1996, No. 480, eff. 4-1-96; correction in (5) (b) 3., made under s. 13.93 (2m) (b) 7., Stats., Register, October, 1996, No. 490; r. and recr. (5) (b), Register, February, 1997, No. 494, eff. 4-1-97.