

Tubing																									
Dimensional & Grade Designators										Internal Yield Pressure (psi)							Tension		Tension - Threaded & Coupled Joint Strength (lb)					Ductile Ruptured Capped End (psi)	
OD Size (in)		Weight (lb/ft)			NOM Body Wall (in)	NOM ID (in)	Drift Diameter (in)	Grade	Collapse Resistance (psi)	Pipe Body	Buttress Non-Upset		Round Thread			Lamé - Von Mises		Yield Pipe Body (lb)	Buttress Non-Upset		NUE	EUE Reg	EUE Spec Clr		
Fractional	Decimal	NUE	EUE	PE Non-Upset							Regular	Spec Clr	NUE	EUE Reg	EUE Spec Clr	Open End	Capped End		Regular	Spec Clr					
3/4	1.050	1.14	1.20	1.13	0.113	0.824	0.730	H40	7,680	7,530			7,530	7,530		7,360	7,860	13,300			6,400	13,300			8,570
3/4	1.050	1.14	1.20	1.13	0.113	0.824	0.730	J55	10,560	10,360			10,360	10,360		10,130	10,810	18,300			8,700	18,300			10,790
3/4	1.050	1.14	1.20	1.13	0.113	0.824	0.730	L80	15,370	15,070			15,070	15,070		14,730	15,730	26,600			12,700	26,600			16,850
3/4	1.050	1.14	1.20	1.13	0.113	0.824	0.730	N80 Type 1	15,370	15,070			15,070	15,070		14,730	15,730	26,600			12,700	26,600			14,570
3/4	1.050	1.14	1.20	1.13	0.113	0.824	0.730	N80	15,370	15,070			15,070	15,070		14,730	15,730	26,600			12,700	26,600			17,740
3/4	1.050	1.14	1.20	1.13	0.113	0.824	0.730	C90	17,290	16,950			16,950	16,950		16,570	17,690	30,000			14,300	30,000			19,790
3/4	1.050	1.14	1.20	1.13	0.113	0.824	0.730	T95	18,250	17,890			17,890	17,890		17,490	18,680	31,600			15,100	31,600			20,850
3/4	1.050		1.54	1.48	0.154	0.742	0.648	H40	10,010	10,270				9,420		9,840	10,310	17,300				17,300			11,990
3/4	1.050		1.54	1.48	0.154	0.742	0.648	J55	13,770	14,120				12,950		13,540	14,180	23,800				23,800			15,100
3/4	1.050		1.54	1.48	0.154	0.742	0.648	L80	20,020	20,530				18,840		19,690	20,630	34,600				34,600			23,730
3/4	1.050		1.54	1.48	0.154	0.742	0.648	N80 Type 1	20,020	20,530				18,840		19,690	20,630	34,600				34,600			20,390
3/4	1.050		1.54	1.48	0.154	0.742	0.648	N80	20,020	20,530				18,840		19,690	20,630	34,600				34,600			24,970
3/4	1.050		1.54	1.48	0.154	0.742	0.648	C90	22,530	23,100				21,200		22,150	23,210	39,000				39,000			27,950
3/4	1.050		1.54	1.48	0.154	0.742	0.648	T95	23,780	24,380				22,380		23,380	24,500	41,100				41,100			29,450
3/4	1.050		1.54	1.48	0.154	0.742	0.648	P110	27,530	28,230				25,910		27,070	28,360	47,600				47,600			35,290
1	1.315	1.70	1.80	1.68	0.133	1.049	0.955	H40	7,270	7,080			7,080	7,080		6,940	7,440	19,800			11,000	19,800			8,020
1	1.315	1.70	1.80	1.68	0.133	1.049	0.955	J55	10,000	9,730			9,730	9,730		9,540	10,220	27,200			15,100	27,200			10,100
1	1.315	1.70	1.80	1.68	0.133	1.049	0.955	L80	14,550	14,160			14,160	14,160		13,880	14,870	39,500			21,900	39,500			15,760
1	1.315	1.70	1.80	1.68	0.133	1.049	0.955	N80 Type 1	14,550	14,160			14,160	14,160		13,880	14,870	39,500			21,900	39,500			13,630
1	1.315	1.70	1.80	1.68	0.133	1.049	0.955	N80	14,550	14,160			14,160	14,160		13,880	14,870	39,500			21,900	39,500			16,590
1	1.315	1.70	1.80	1.68	0.133	1.049	0.955	C90	16,360	15,930			15,930	15,930		15,610	16,730	44,500			24,700	44,500			18,490
1	1.315	1.70	1.80	1.68	0.133	1.049	0.955	T95	17,270	16,810			16,810	16,810		16,480	17,660	46,900			26,000	46,900			19,480
1	1.315		2.24	2.17	0.179	0.957	0.863	H40	9,410	9,530				9,530		9,190	9,670	25,600				25,600			11,050
1	1.315		2.24	2.17	0.179	0.957	0.863	J55	12,940	13,100				13,100		12,640	13,300	35,100				35,100			13,920
1	1.315		2.24	2.17	0.179	0.957	0.863	L80	18,810	19,060				19,060		18,380	19,350	51,100				51,100			21,830
1	1.315		2.24	2.17	0.179	0.957	0.863	N80	18,810	19,060				19,060		18,380	19,350	51,100				51,100			18,790
1	1.315		2.24	2.17	0.179	0.957	0.863	N80 Type 1	18,810	19,060				19,060		18,380	19,350	51,100				51,100			22,970
1	1.315		2.24	2.17	0.179	0.957	0.863	C90	21,170	21,440				21,440		20,680	21,770	57,500				57,500			25,690
1	1.315		2.24	2.17	0.179	0.957	0.863	T95	22,340	22,630				22,630		21,830	22,970	60,700				60,700			27,070
1	1.315		2.24	2.17	0.179	0.957	0.863	P110	25,870	26,200				26,200		25,270	26,600	70,300				70,300			32,440
1 1/4	1.660			2.05	0.125	1.410	1.316	H40	5,570	5,270						5,210	5,670	24,100							5,870
1 1/4	1.660			2.05	0.125	1.410	1.316	J55	7,660	7,250						7,170	7,800	33,200							7,390
1 1/4	1.660	2.30	2.40	2.27	0.140	1.380	1.286	H40	6,180	5,900			5,900	5,900		5,820	6,300	26,800			15,500	26,800			6,610
1 1/4	1.660	2.30	2.40	2.27	0.140	1.380	1.286	J55	8,490	8,120			8,120	8,120		8,010	8,660	36,800			21,300	36,800			8,330
1 1/4	1.660	2.30	2.40	2.27	0.140	1.380	1.286	L80	12,360	11,810			11,810	11,810		11,640	12,600	53,500			31,000	53,500			12,960
1 1/4	1.660	2.30	2.40	2.27	0.140	1.380	1.286	N80 Type 1	12,360	11,810			11,810	11,810		11,640	12,600	53,500			31,000	53,500			11,240
1 1/4	1.660	2.30	2.40	2.27	0.140	1.380	1.286	N80	12,360	11,810			11,810	11,810		11,640	12,600	53,500			31,000	53,500			13,640
1 1/4	1.660	2.30	2.40	2.27	0.140	1.380	1.286	C90	13,900	13,280			13,280	13,280		13,100	14,170	60,200			34,900	60,200			15,190
1 1/4	1.660	2.30	2.40	2.27	0.140	1.380	1.286	T95	14,670	14,020			14,020	14,020		13,830	14,960	63,600			36,900	63,600			16,000
1 1/4	1.660		3.07	3.00	0.191	1.278	1.184	H40	8,150	8,050				8,050		7,850	8,350	35,200				35,200			9,210
1 1/4	1.660		3.07	3.00	0.191	1.278	1.184	J55	11,200	11,070				11,070		10,790	11,480	48,500				48,500			11,600
1 1/4	1.660		3.07	3.00	0.191	1.278	1.184	L80	16,290	16,110				16,110		15,700	16,690	70,500				70,500			18,130
1 1/4	1.660		3.07	3.00	0.191	1.278	1.184	N80 Type 1	16,290	16,110				16,110		15,700	16,690	70,500				70,500			15,660
1 1/4	1.660		3.07	3.00	0.191	1.278	1.184	N80	16,290	16,110				16,110		15,700	16,690	70,500				70,500			19,080
1 1/4	1.660		3.07	3.00	0.191	1.278	1.184	C90	18,330	18,120				18,120		17,660	18,780	79,300				79,300			21,300
1 1/4	1.660		3.07	3.00	0.191	1.278	1.184	T95	19,350	19,130				19,130		18,640	19,820	83,700				83,700			22,440
1 1/4	1.660		3.07	3.00	0.191	1.278	1.184	P110	22,400	22,150				22,150		21,580	22,950	96,900				96,900			26,890
1 1/2	1.900			2.37	0.125	1.650	1.556	H40	4,920	4,610						4,570	5,000	27,900							5,100
1 1/2	1.900			2.37	0.125	1.650	1.556	J55	6,640	6,330						6,280	6,880	38,300							6,420

1 1/2	1.900	2.75	2.90	2.72	0.145	1.610	1.516	H40	5,640	5,340				5,340	5,340			5,280	5,740	32,000					19,100	32,000			5,950
1 1/2	1.900	2.75	2.90	2.72	0.145	1.610	1.516	J55	7,750	7,350				7,350	7,350			7,260	7,900	43,900					26,200	43,900			7,500
1 1/2	1.900	2.75	2.90	2.72	0.145	1.610	1.516	L80	11,280	10,680				10,680	10,680			10,560	11,490	63,900					38,200	63,900			11,650
1 1/2	1.900	2.75	2.90	2.72	0.145	1.610	1.516	N80 Type 1	11,280	10,680				10,680	10,680			10,560	11,490	63,900					38,200	63,900			10,120
1 1/2	1.900	2.75	2.90	2.72	0.145	1.610	1.516	N80	11,280	10,680				10,680	10,680			10,560	11,490	63,900					38,200	63,900			12,270
1 1/2	1.900	2.75	2.90	2.72	0.145	1.610	1.516	C90	12,620	12,020				12,020	12,020			11,880	12,920	71,900					42,900	71,900			13,640
1 1/2	1.900	2.75	2.90	2.72	0.145	1.610	1.516	T95	13,190	12,690				12,690	12,690			12,540	13,640	75,900					45,300	75,900			14,380
1 1/2	1.900		3.73	3.63	0.200	1.500	1.406	H40	7,530	7,370					7,370			7,210	7,710	42,700						42,700			8,370
1 1/2	1.900		3.73	3.63	0.200	1.500	1.406	J55	10,360	10,130					10,130			9,910	10,600	58,700						58,700			10,540
1 1/2	1.900		3.73	3.63	0.200	1.500	1.406	L80	15,070	14,740					14,740			14,420	15,420	85,400						85,400			16,450
1 1/2	1.900		3.73	3.63	0.200	1.500	1.406	N80 Type 1	15,070	14,740					14,740			14,420	15,420	85,400						85,400			14,230
1 1/2	1.900		3.73	3.63	0.200	1.500	1.406	N80	15,070	14,740					14,740			14,420	15,420	85,400						85,400			17,320
1 1/2	1.900		3.73	3.63	0.200	1.500	1.406	C90	16,950	16,580					16,580			16,220	17,340	96,100						96,100			19,310
1 1/2	1.900		3.73	3.63	0.200	1.500	1.406	T95	17,890	17,500					17,500			17,130	18,310	101,500						101,500			20,350
1 1/2	1.900		3.73	3.63	0.200	1.500	1.406	P110	20,720	20,260					20,260			19,830	21,200	117,500						117,500			24,380
1 1/2	1.900	4.42		4.41	0.250	1.400	1.306	L80	18,280	18,420								17,810	18,790	103,700									21,020
1 1/2	1.900	4.42		4.41	0.250	1.400	1.306	C90	20,570	20,720								20,030	21,130	116,600									24,730
1 1/2	1.900	4.42		4.41	0.250	1.400	1.306	T95	21,710	21,880								21,150	22,310	123,100									26,050
1 1/2	1.900	5.15		5.13	0.300	1.300	1.206	L80	21,270	22,110								21,060	21,960	120,600									25,790
1 1/2	1.900	5.15		5.13	0.300	1.300	1.206	C90	23,930	24,870								23,690	24,700	135,700									30,410
1 1/2	1.900	5.15		5.13	0.300	1.300	1.206	T95	25,260	26,250								25,010	26,080	143,300									32,050
2 1/16	2.063		3.25	3.18	0.156	1.751	1.657	H40	5,590	5,290				5,290	5,290			5,230	5,690	37,400						35,700			5,900
2 6/95	2.063		3.25	3.18	0.156	1.751	1.657	J55	7,690	7,280				7,280	7,280			7,200	7,830	51,400						49,100			7,420
2 6/95	2.063		3.25	3.18	0.156	1.751	1.657	L80	11,180	10,590				10,590	10,590			10,470	11,390	74,800						57,900			11,540
2 6/95	2.063		3.25	3.18	0.156	1.751	1.657	N80 Type 1	11,180	10,590				10,590	10,590			10,470	11,390	74,800						71,400			10,020
2 6/95	2.063		3.25	3.18	0.156	1.751	1.657	N80	11,180	10,590				10,590	10,590			10,470	11,390	74,800						71,400			12,150
2 6/95	2.063		3.25	3.18	0.156	1.751	1.657	C90	12,420	11,910				11,910	11,910			11,780	12,810	84,200						80,240			13,510
2 6/95	2.063		3.25	3.18	0.156	1.751	1.657	T95	12,980	12,570				12,570	12,570			12,430	13,530	88,800						84,700			14,240
2 6/95	2.063		3.25	3.18	0.156	1.751	1.657	P110	15,680	14,560				14,560	14,560					102,800						98,100			
2 6/95	2.063	4.50		4.42	0.225	1.613	1.519	H40	7,770	7,630								7,460	7,960	52,000									8,690
2 6/95	2.063	4.50		4.42	0.225	1.613	1.519	J55	10,690	10,500								10,260	10,940	71,400									10,950
2 6/95	2.063	4.50		4.42	0.225	1.613	1.519	L80	15,550	15,270								14,920	15,920	103,900									17,100
2 6/95	2.063	4.50		4.42	0.225	1.613	1.519	N80 Type 1	15,550	15,270								14,920	15,920	103,900									14,780
2 6/95	2.063	4.50		4.42	0.225	1.613	1.519	N80	15,550	15,270								14,920	15,920	103,900									18,000
2 6/95	2.063	4.50		4.42	0.225	1.613	1.519	C90	17,490	17,180								16,780	17,910	116,900									20,080
2 6/95	2.063	4.50		4.42	0.225	1.613	1.519	T95	18,460	18,130								17,720	18,900	123,400									21,160
2 6/95	2.063	4.50		4.42	0.225	1.613	1.519	P110	21,380	20,990								20,510	21,880	142,900									25,350
2 3/8	2.375	4.00		3.94	0.167	2.041	1.947	H40	5,230	4,920	4,920	4,920	4,920					4,870	5,320	46,300	46,300	46,300	30,100					5,460	
2 3/8	2.375	4.00		3.94	0.167	2.041	1.947	J55	7,190	6,770	6,770	6,770	6,770					6,700	7,320	63,700	63,700	63,700	41,400					6,880	
2 3/8	2.375	4.00		3.94	0.167	2.041	1.947	L80	9,980	9,840	9,840	9,840	9,840					9,750	10,640	92,600	92,600	92,600	60,200					10,690	
2 3/8	2.375	4.00		3.94	0.167	2.041	1.947	N80 Type 1	9,980	9,840	9,840	9,840	9,840					9,750	10,640	92,600	92,600	92,600	60,200					9,290	
2 3/8	2.375	4.00		3.94	0.167	2.041	1.947	N80	9,980	9,840	9,840	9,840	9,840					9,750	10,640	92,600	92,600	92,600	60,200					11,250	
2 3/8	2.375	4.00		3.94	0.167	2.041	1.947	C90	10,940	11,070	11,070	11,070	11,070					10,970	11,970	104,200	104,200	104,200	67,800					12,510	
2 3/8	2.375	4.00		3.94	0.167	2.041	1.947	T95	11,410	11,690	11,690	11,690	11,690					11,580	12,640	110,000	110,000	110,000	71,500					13,180	
2 3/8	2.375	4.60	4.70	4.44	0.190	1.995	1.901	H40	5,890	5,600	5,600	5,600	5,600	5,600	5,600	5,600	5,530	6,000	52,200	52,200	52,200	36,000	52,200	52,200	52,200	36,000	52,200	52,200	6,250
2 3/8	2.375	4.60	4.70	4.44	0.190	1.995	1.901	J55	8,100	7,700	7,700	7,700	7,700	7,700	7,700	7,700	7,600	8,250	71,700	71,700	71,700	49,400	71,700	71,700	71,700	49,400	71,700	71,700	7,880
2 3/8	2.375	4.60	4.70	4.44	0.190	1.995	1.901	L80	11,780	11,200	11,200	11,200	11,200	11,200	11,200	11,200	11,060	12,000	104,300	104,300	104,300	71,900	104,300	104,300	104,300	71,900	104,300	104,300	12,250
2 3/8	2.375	4.60	4.70	4.44	0.190	1.995	1.901	N80 Type 1	11,780	11,200	11,200	11,200	11,200	11,200	11,200	11,200	11,060	12,000	104,300	104,300	104,300	71,900	104,300	104,300	104,300	71,900	104,300	104,300	10,630
2 3/8	2.375	4.60	4.70	4.44	0.190	1.995	1.901	N80	11,780	11,200	11,200	11,200	11,200	11,200	11,200	11,200	11,060	12,000	104,300	104,300	104,300	71,900	104,300	104,300	104,300	71,900	104,300	104,300	12,900
2 3/8	2.375	4.60	4.70	4.44	0.190	1.995	1.901	C90	13,250	12,600	12,600	12,600	12,600	12,600	12,600	12,600	12,440	13,500	117,400	117,400	117,400	80,900	117,400	117,400	117,400	80,900	117,400	117,400	14,350
2 3/8	2.375	4.60	4.70	4.44	0.190	1.995	1.901	T95	13,980	13,300	13,300	13,300	13,300	13,300	13,300	13,300	13,140	14,250	123,900	123,900	123,900	85,400	123,900	123,900	123,900	85,400	123,900	123,900	15,120
2 3/8	2.375	4.60	4.70	4.44	0.190	1.995	1.901	P110	16,130	15,400</																			

2 3/8	2.375	5.80	5.95	5.76	0.254	1.867	1.773	N80 Type 1	15,280	14,970	14,970	13,550	14,970	14,860	11,440	14,640	15,640	135,400	135,400	135,400	103,000	135,400	135,400	14,470
2 3/8	2.375	5.80	5.95	5.76	0.254	1.867	1.773	N80	15,280	14,970	14,970	13,550	14,970	14,860	11,440	14,640	15,640	135,400	135,400	135,400	103,000	135,400	135,400	17,620
2 3/8	2.375	5.80	5.95	5.76	0.254	1.867	1.773	C90	17,190	16,840	16,840	15,240	16,840	16,720	12,870	16,470	17,590	152,300	152,300	152,300	115,800	152,300	152,300	19,650
2 3/8	2.375	5.80	5.95	5.76	0.254	1.867	1.773	T95	18,150	17,780	17,780	16,090	17,780	17,650	13,580	17,390	18,570	160,700	160,700	160,700	122,300	160,700	160,700	20,710
2 3/8	2.375	5.80	5.95	5.76	0.254	1.867	1.773	P110	21,010	20,590	20,590	18,630	20,590	20,430	15,730	20,130	21,500	186,100	186,100	186,100	141,600	186,100	186,100	24,810
2 3/8	2.375	6.60		6.56	0.295	1.785	1.691	L80	17,410	17,390						16,870	17,860	154,200						19,720
2 3/8	2.375	6.60		6.56	0.295	1.785	1.691	C90	19,580	19,560						18,980	20,090	173,500						23,190
2 3/8	2.375	6.60		6.56	0.295	1.785	1.691	T95	20,670	20,650						20,040	21,210	183,200						24,430
2 3/8	2.375	7.35	7.45	7.32	0.336	1.703	1.609	L80	19,430	19,810				14,860	11,440	19,050	20,000	172,200				172,200	141,300	22,790
2 3/8	2.375	7.35	7.45	7.32	0.336	1.703	1.609	C90	21,860	22,280				16,720	12,870	21,430	22,500	193,700				193,700	158,900	26,830
2 3/8	2.375	7.35	7.45	7.32	0.336	1.703	1.609	T95	23,080	23,520				17,650	13,580	22,620	23,750	204,400				204,400	167,800	28,270
2 7/8	2.875	6.40	6.50	6.17	0.217	2.441	2.347	J55	7,680	7,260	7,260	7,260	7,260	7,260	7,180	7,820	99,700	99,700	99,700	72,600	99,700	99,700	7,410	
2 7/8	2.875	6.40	6.50	6.17	0.217	2.441	2.347	L80	11,170	10,570	10,570	10,570	10,570	10,570	10,570	10,450	11,370	145,000	145,000	145,000	105,600	145,000	145,000	11,520
2 7/8	2.875	6.40	6.50	6.17	0.217	2.441	2.347	N80 Type 1	11,170	10,570	10,570	10,570	10,570	10,570	10,570	10,450	11,370	145,000	145,000	145,000	105,600	145,000	145,000	10,000
2 7/8	2.875	6.40	6.50	6.17	0.217	2.441	2.347	N80	11,170	10,570	10,570	10,570	10,570	10,570	10,570	10,450	11,370	145,000	145,000	145,000	105,600	145,000	145,000	12,120
2 7/8	2.875	6.40	6.50	6.17	0.217	2.441	2.347	C90	12,380	11,890	11,890	11,890	11,890	11,890	11,890	11,760	12,790	163,100	163,100	163,100	118,800	163,100	163,100	13,490
2 7/8	2.875	6.40	6.50	6.17	0.217	2.441	2.347	T95	12,940	12,550	12,550	12,550	12,550	12,550	12,550	12,410	13,500	172,100	172,100	172,100	125,400	172,100	172,100	14,210
2 7/8	2.875	6.40	6.50	6.17	0.217	2.441	2.347	P110	14,550	14,530	14,530	14,530	14,530	14,530	14,370	15,630	199,300	199,300	199,300	145,200	199,300	199,300	17,030	
2 7/8	2.875	7.80	7.90	7.67	0.276	2.323	2.229	J55	9,540	9,240	9,240	8,150	9,240	9,240	7,580	9,080	9,750	124,000	124,000	118,280	96,900	124,000	124,000	9,550
2 7/8	2.875	7.80	7.90	7.67	0.276	2.323	2.229	L80	13,890	13,440	13,440	11,860	13,440	13,440	11,030	13,200	14,190	180,300	180,300	172,050	140,900	180,300	180,300	14,890
2 7/8	2.875	7.80	7.90	7.67	0.276	2.323	2.229	N80 Type 1	13,890	13,440	13,440	11,860	13,440	13,440	11,030	13,200	14,190	180,300	180,300	172,050	140,900	180,300	180,300	12,900
2 7/8	2.875	7.80	7.90	7.67	0.276	2.323	2.229	N80	13,890	13,440	13,440	11,860	13,440	13,440	11,030	13,200	14,190	180,300	180,300	172,050	140,900	180,300	180,300	15,680
2 7/8	2.875	7.80	7.90	7.67	0.276	2.323	2.229	C90	15,620	15,120	15,120	13,340	15,120	15,120	12,410	14,850	15,960	202,900	202,900	193,550	158,500	202,900	202,900	17,470
2 7/8	2.875	7.80	7.90	7.67	0.276	2.323	2.229	T95	16,490	15,960	15,960	14,080	15,960	15,960	13,100	15,680	16,840	214,100	214,100	204,310	167,300	214,100	214,100	18,400
2 7/8	2.875	7.80	7.90	7.67	0.276	2.323	2.229	P110	19,090	18,480	18,480	16,300	18,480	18,480	15,160	18,150	19,500	247,900	247,900	236,560	193,700	247,900	247,900	22,050
2 7/8	2.875	8.60	8.70	8.45	0.308	2.259	2.165	J55	10,530	10,310	10,310	8,150	10,310	10,270	7,580	10,080	10,770	136,600	136,600	118,280	109,500	136,600	132,800	10,740
2 7/8	2.875	8.60	8.70	8.45	0.308	2.259	2.165	N80 Type 1	15,300	15,000	15,000	11,860	15,000	14,940	11,030	14,670	15,660	198,700	198,700	172,050	159,300	198,700	193,100	14,500
2 7/8	2.875	8.60	8.70	8.45	0.308	2.259	2.165	N80	15,300	15,000	15,000	11,860	15,000	14,940	11,030	14,670	15,660	198,700	198,700	172,050	159,300	198,700	193,100	17,650
2 7/8	2.875	8.60	8.70	8.45	0.308	2.259	2.165	C90	17,220	16,870	16,870	13,340	16,870	16,810	12,410	16,500	17,620	223,600	223,600	193,550	179,200	223,600	217,300	19,690
2 7/8	2.875	8.60	8.70	8.45	0.308	2.259	2.165	T95	18,170	17,810	17,810	14,080	17,810	17,740	13,100	17,420	18,600	236,000	236,000	204,310	189,100	236,000	229,300	20,740
2 7/8	2.875	8.60	8.50	8.45	0.308	2.259	2.165	P110	21,040	20,620	20,620	16,300	20,620	20,540	15,160	20,170	21,540	273,200	273,200	236,560	219,000	273,200	265,500	24,860
2 7/8	2.875	9.35	9.45	9.21	0.340	2.195	2.101	L80	16,680	16,560				14,940	11,030	16,110	17,100	216,600				216,600	193,100	18,680
2 7/8	2.875	9.35	9.45	9.21	0.340	2.195	2.101	C90	18,770	18,630				16,810	12,410	18,120	19,240	243,700				243,700	217,300	21,950
2 7/8	2.875	9.35	9.45	9.21	0.340	2.195	2.101	T95	19,810	19,660				17,740	13,100	19,130	20,310	257,300				257,300	229,300	23,130
2 7/8	2.875	10.50		10.40	0.392	2.091	1.997	L80	18,840	19,090						18,410	19,370	244,600						21,870
2 7/8	2.875	10.50		10.40	0.392	2.091	1.997	C90	21,200	21,470						20,710	21,800	275,200						25,740
2 7/8	2.875	10.50		10.40	0.392	2.091	1.997	T95	22,370	22,670						21,860	23,010	290,500						27,120
2 7/8	2.875	11.50		11.45	0.440	1.995	1.901	L80	20,740	21,430						20,470	21,390	269,300						24,890
2 7/8	2.875	11.50		11.45	0.440	1.995	1.901	C90	23,330	24,100						23,030	24,060	302,900						29,350
2 7/8	2.875	11.50		11.45	0.440	1.995	1.901	T95	24,630	25,440						24,310	25,400	319,800						30,920
3 1/2	3.500	7.70		7.58	0.216	3.068	2.943	H40	4,630	4,320	4,320	4,320	4,320			4,290	4,710	89,100	89,100	89,100	65,100			4,770
3 1/2	3.500	7.70		7.58	0.216	3.068	2.943	L80	7,870	8,640	8,640	8,640	8,640			8,580	9,420	178,200	178,200	178,200	130,200			9,320
3 1/2	3.500	7.70		7.58	0.216	3.068	2.943	N80 Type 1	7,870	8,640	8,640	8,640	8,640			8,580	9,420	178,200	178,200	178,200	130,200			8,110
3 1/2	3.500	7.70		7.58	0.216	3.068	2.943	N80	7,870	8,640	8,640	8,640	8,640			8,580	9,420	178,200	178,200	178,200	130,200			9,810
3 1/2	3.500	7.70		7.58	0.216	3.068	2.943	C90	8,540	9,720	9,720	9,720	9,720			9,650	10,590	200,500	200,500	200,500	146,400			10,890
3 1/2	3.500	7.70		7.58	0.216	3.068	2.943	T95	8,850	10,260	10,260	10,260	10,260			10,180	11,180	211,700	211,700	211,700	154,600			11,480
3 1/2	3.500	9.20	9.30	8.81	0.254	2.992	2.867	H40	5,380	5,080	5,080	5,080	5,080	5,080	5,080	5,030	5,480	103,600	103,600	103,600	79,600	103,600	103,600	5,650
3 1/2	3.500	9.20	9.30	8.81	0.254	2.992	2.867	J55	7,400	6,990	6,990	6,990	6,990	6,990	6,910	7,540	142,500	142,500	142,500	109,400	142,500	142,500	7,110	
3 1/2	3.500	9.20	9.30	8.81	0.254	2.992	2.867	L80	10,540	10,160	10,160	10,160	10,160	10,160	10,060	10,960	207,200	207,200	207,200	159,100	207,200	207,200	11,050	
3 1/2	3.500	9.20	9.30	8.81	0.254	2.992	2.867	N80 Type 1	10,540	10,160	10,160	10,160	10,160	10,160	10,060	10,960	207,200	207,200	207,200	159,100	207,200	207,200	9,600	
3 1/2	3.500	9.20	9.30	8.81	0.254	2.992	2.867	N80	10,540	10,160														

3 1/2	3.500	9.20	9.30	8.81	0.254	2.992	2.867	P110	13,530	13,970	13,970	13,970	13,970	13,970	13,970	13,830	15,070	284,900	284,900	284,900	218,800	284,900	284,900	16,330
3 1/2	3.500	10.20		9.92	0.289	2.922	2.797	H40	6,060	5,780	5,780	5,150	5,780			5,700	6,180	116,600	116,600	108,840	92,600			6,470
3 1/2	3.500	10.20		9.92	0.289	2.922	2.797	J55	8,330	7,950	7,950	7,080	7,950			7,840	8,500	160,300	160,300	149,660	127,300			8,140
3 1/2	3.500	10.20		9.92	0.289	2.922	2.797	N80 Type 1	12,120	11,560	11,560	10,290	11,560			11,410	12,360	233,200	233,200	217,690	185,100			11,000
3 1/2	3.500	10.20		9.92	0.289	2.922	2.797	N80	12,120	11,560	11,560	10,290	11,560			11,410	12,360	233,200	233,200	217,690	185,100			13,340
3 1/2	3.500	10.20		9.92	0.289	2.922	2.797	C90	13,640	13,010	13,010	11,580	13,010			12,830	13,900	262,400	262,400	244,900	208,300			14,840
3 1/2	3.500	10.20		9.92	0.289	2.922	2.797	T95	14,390	13,730	13,730	12,220	13,730			13,550	14,670	276,900	276,900	258,500	219,800			15,640
3 1/2	3.500	10.20		9.92	0.289	2.922	2.797	P110	16,670	15,900	15,900	14,150	15,900			15,690	16,990	320,700	320,700	299,320	254,500			18,740
3 1/2	3.500	12.70	12.95	12.53	0.375	2.750	2.625	L80	15,310	15,000	15,000	10,290	15,000	15,000	10,660	14,670	15,660	294,600	294,600	217,690	246,400	294,600	273,100	16,770
3 1/2	3.500	12.70	12.95	12.53	0.375	2.750	2.625	N80 Type 1	15,310	15,000	15,000	10,290	15,000	15,000	10,660	14,670	15,660	294,600	294,600	217,690	246,400	294,600	273,100	14,500
3 1/2	3.500	12.70	12.95	12.53	0.375	2.750	2.625	N80	15,310	15,000	15,000	10,290	15,000	15,000	10,660	14,670	15,660	294,600	294,600	217,690	246,400	294,600	273,100	17,660
3 1/2	3.500	12.70	12.95	12.53	0.375	2.750	2.625	C90	17,220	16,880	16,880	11,580	16,880	16,880	11,990	16,500	17,620	331,400	331,400	244,900	277,200	331,400	307,300	19,690
3 1/2	3.500	12.70	12.95	12.53	0.375	2.750	2.625	T95	18,180	17,810	17,810	12,220	17,810	17,810	12,660	17,420	18,600	349,800	349,800	258,500	292,600	349,800	324,300	20,750
3 1/2	3.500	12.70	12.95	12.53	0.375	2.750	2.625	P110	21,050	20,630	20,630	14,150	20,630	20,630	14,660	20,170	21,540	405,000	405,000	299,320	338,800	405,000	375,500	24,860
3 1/2	3.500	14.30		14.11	0.430	2.640	2.515	L80	17,280	17,200						16,700	17,690	331,800						19,480
3 1/2	3.500	14.30		14.11	0.430	2.640	2.515	C90	19,400	19,350						18,790	19,900	373,200						22,900
3 1/2	3.500	14.30		14.11	0.430	2.640	2.515	T95	20,480	20,430						19,830	21,010	394,000						24,130
3 1/2	3.500	14.90		14.64	0.449	2.602	2.477	J55	12,290	12,350	11,420		11,260			11,960	12,630	236,700	236,700		203,600			13,050
3 1/2	3.500	14.90		14.64	0.449	2.602	2.477	N80 Type 1	17,880	17,960	16,610		16,380			17,390	18,370	344,300	344,300		296,200			17,610
3 1/2	3.500	14.90		14.64	0.449	2.602	2.477	N80	17,880	17,960	16,610		16,380			17,390	18,370	344,300	344,300		296,200			21,510
3 1/2	3.500	14.90		14.64	0.449	2.602	2.477	C90	20,120	20,210	18,680		18,420			19,570	20,670	387,400	387,400		333,200			24,040
3 1/2	3.500	14.90		14.64	0.449	2.602	2.477	T95	21,240	21,330	19,720		19,450			20,650	21,820	408,900	408,900		351,700			25,330
3 1/2	3.500	14.90		14.64	0.449	2.602	2.477	P110	24,590	24,700	22,830		22,520			23,910	25,260	473,400	473,400		407,200			30,350
3 1/2	3.500	15.50		15.39	0.476	2.548	2.423	L80	18,800	19,040						18,360	19,330	361,800						21,800
3 1/2	3.500	15.50		15.39	0.476	2.548	2.423	C90	21,150	21,420						20,660	21,750	407,000						25,660
3 1/2	3.500	15.50		15.39	0.476	2.548	2.423	T95	22,330	22,610						21,810	22,960	429,600						27,040
3 1/2	3.500	17.00		16.83	0.530	2.440	2.315	L80	20,560	21,200						20,270	21,200	395,600						24,590
3 1/2	3.500	17.00		16.83	0.530	2.440	2.315	C90	23,130	23,850						22,810	23,850	445,100						28,990
3 1/2	3.500	17.00		16.83	0.530	2.440	2.315	T95	24,410	25,180						24,070	25,170	469,800						30,550
4	4.000	9.50		9.12	0.226	3.548	3.423	H40	4,050	3,960	3,960	3,960	3,960			3,930	4,330	107,200	107,200	107,200	72,000			4,350
4	4.000	9.50		9.12	0.226	3.548	3.423	J55	5,110	5,440	5,440	5,440	5,440			5,400	5,960	147,400	147,400	147,400	99,000			5,480
4	4.000	9.50		9.12	0.226	3.548	3.423	L80	6,590	7,910	7,910	7,910	7,910			7,860	8,660	214,400	214,400	214,400	144,000			8,490
4	4.000	9.50		9.12	0.226	3.548	3.423	N80 Type 1	6,590	7,910	7,910	7,910	7,910			7,860	8,660	214,400	214,400	214,400	144,000			7,400
4	4.000	9.50		9.12	0.226	3.548	3.423	C90	7,080	8,900	8,900	8,900	8,900			8,840	9,740	241,200	241,200	241,200	162,000			9,930
4	4.000	9.50		9.12	0.226	3.548	3.423	T95	7,310	9,390	9,390	9,390	9,390			9,340	10,290	254,600	254,600	254,600	171,000			10,460
4	4.000		11.00	10.47	0.262	3.476	3.351	H40	4,900	4,580	4,580	4,580		4,580		4,550	4,980	123,100	123,100	123,100		123,100		5,070
4	4.000		11.00	10.47	0.262	3.476	3.351	J55	6,590	6,300	6,300	6,300		6,300		6,250	6,850	169,200	169,200	169,200		169,200		6,390
4	4.000		11.00	10.47	0.262	3.476	3.351	L80	8,800	9,170	9,170	9,170		9,170		9,090	9,960	246,200	246,200	246,200		246,200		9,920
4	4.000		11.00	10.47	0.262	3.476	3.351	N80 Type 1	8,800	9,170	9,170	9,170		9,170		9,090	9,960	246,200	246,200	246,200		246,200		8,620
4	4.000		11.00	10.47	0.262	3.476	3.351	N80	8,800	9,170	9,170	9,170		9,170		9,090	9,960	246,200	246,200	246,200		246,200		10,440
4	4.000		11.00	10.47	0.262	3.476	3.351	C90	9,590	10,320	10,320	10,320		10,320		10,230	11,200	276,900	276,900	276,900		276,900		11,600
4	4.000		11.00	10.47	0.262	3.476	3.351	T95	9,980	10,890	10,890	10,890		10,890		10,800	11,830	292,300	292,300	292,300		292,300		12,220
4	4.000		11.00	10.47	0.262	3.476	3.351	P110	11,050	12,610	12,610	12,610		12,610		12,500	13,690	338,500	338,500	338,500		338,500		14,650
4	4.000	13.20		12.95	0.330	3.340	3.215	L80	12,110	11,550						11,400	12,350	304,400						12,660
4	4.000	13.20		12.95	0.330	3.340	3.215	C90	13,620	12,990						12,820	13,890	242,500						14,830
4	4.000	13.20		12.95	0.330	3.340	3.215	T95	14,380	13,720						13,530	14,660	361,500						15,630
4	4.000	16.10		15.90	0.415	3.170	3.045	L80	14,880	14,520						14,220	15,220	373,900						16,200
4	4.000	16.10		15.90	0.415	3.170	3.045	C90	16,740	16,340						16,000	17,120	420,700						19,010
4	4.000	18.90		18.71	0.500	3.000	2.875	L80	17,500	17,500						16,970	17,960	439,800						19,860
4	4.000	18.90		18.71	0.500	3.000	2.875	C90	19,690	19,690						19,100	20,210	494,800						23,350
4	4.000	18.90		18.71	0.500	3.000	2.875	T95	20,780	20,780						20,160	21,330	522,300						24,600
4	4.000	22.20		22.11	0.610	2.780	2.655	L80	20,680	21,350						20,400	21,320	519,800						24,790
4	4.000	22.20		22.11	0.610	2.780	2.655	C90	23,260	24,020						22,950	23,990	584,700						29,230

4	4.000	22.20		22.11	0.610	2.780	2.655	T95	24,560	25,350						24,230	25,320	617,200										30,790	
4 1/2	4.500	12.60	12.75	12.25	0.271	3.958	3.833	H40	4,490	4,220	4,220	4,220	4,220	4,220		4,190	4,600	144,000	144,000	144,000	144,000	104,400	144,000					4,650	
4 1/2	4.500	12.60	12.75	12.25	0.271	3.958	3.833	J55	5,730	5,800	5,800	5,800	5,800	5,800		5,760	6,330	198,000	198,000	198,000	198,000	143,500	198,000					5,850	
4 1/2	4.500	12.60	12.75	12.25	0.271	3.958	3.833	L80	7,500	8,430	8,430	8,430	8,430	8,430		8,370	9,200	288,000	288,000	288,000	288,000	208,700	288,000					9,080	
4 1/2	4.500	12.60	12.75	12.25	0.271	3.958	3.833	N80 Type 1	7,500	8,430	8,430	8,430	8,430	8,430		8,370	9,200	288,000	288,000	288,000	288,000	208,700	288,000					7,900	
4 1/2	4.500	12.60	12.75	12.25	0.271	3.958	3.833	N80	7,500	8,430	8,430	8,430	8,430	8,430		8,370	9,200	288,000	288,000	288,000	288,000	208,700	288,000					9,560	
4 1/2	4.500	12.60	12.75	12.25	0.271	3.958	3.833	C90	8,120	9,480	9,480	9,480	9,480	9,480		9,420	10,350	324,000	324,000	324,000	324,000	234,800	324,000					10,620	
4 1/2	4.500	12.60	12.75	12.25	0.271	3.958	3.833	T95	8,410	J	10,010	10,010	10,010	10,010		9,940	10,930	342,000	342,000	342,000	342,000	247,900	342,000					11,190	
4 1/2	4.500	12.60	12.75	12.25	0.271	3.958	3.833	P110	9,200	11,590	11,590	11,590	11,590	11,590		11,510	12,650	396,000	396,000	396,000	396,000	287,000	396,000					13,400	
4 1/2	4.500	15.20		15.00	0.337	3.826	3.701	L80	11,080	10,480						10,370	11,290	352,600											11,420
4 1/2	4.500	15.20		15.00	0.337	3.826	3.701	T95	12,760	12,450						12,310	13,400	418,700											14,090
4 1/2	4.500	17.00		16.74	0.380	3.740	3.615	L80	12,370	11,820						11,660	12,610	393,400											12,980
4 1/2	4.500	17.00		16.74	0.380	3.740	3.615	C90	13,920	13,300						13,120	14,190	442,600											15,210
4 1/2	4.500	17.00		16.74	0.380	3.740	3.615	T95	14,690	14,040						13,850	14,980	467,200											16,020
4 1/2	4.500	18.90		18.71	0.430	3.640	3.515	L80	13,830	13,380						13,140	14,130	439,800											14,820
4 1/2	4.500	18.90		18.71	0.430	3.640	3.515	C90	15,560	15,050						14,780	15,890	494,800											17,380
4 1/2	4.500	18.90		18.71	0.430	3.640	3.515	T95	16,420	15,890						15,610	16,770	522,300											18,310
4 1/2	4.500	21.50		21.38	0.500	3.500	3.375	L80	15,800	15,560						15,180	16,180	502,600											17,450
4 1/2	4.500	21.50		21.38	0.500	3.500	3.375	C90	17,780	17,500						17,080	18,210	565,500											20,490
4 1/2	4.500	21.50		21.38	0.500	3.500	3.375	T95	18,770	18,470						18,030	19,220	596,900											21,590
4 1/2	4.500	23.70		23.59	0.560	3.380	3.255	L80	17,430	17,420						16,900	17,890	554,600											19,760
4 1/2	4.500	23.70		23.59	0.560	3.380	3.255	C90	19,610	19,600						19,020	20,130	623,900											23,230
4 1/2	4.500	23.70		23.59	0.560	3.380	3.255	T95	20,700	20,690						20,070	21,250	658,500											24,480
4 1/2	4.500	26.00		26.06	0.630	3.240	3.115	L80	19,260	19,600						18,860	19,820	612,800											22,520
4 1/2	4.500	26.00		26.06	0.630	3.240	3.115	C90	21,670	22,050						21,220	22,300	689,400											26,520
4 1/2	4.500	26.00		26.06	0.630	3.240	3.115	T95	22,880	23,280						22,400	23,540	727,700											27,940
5 1/2	5.500			16.89	0.304	4.892	4.767	J55	4,910	5,320						5,290	5,830	272,900	272,900										5,360
5 1/2	5.500			16.89	0.304	4.892	4.767	L80	6,290	7,740						7,740													8,300
5 1/2	5.500			16.89	0.304	4.892	4.767	N80 Type 1	6,290	7,740						7,740													7,230
5 1/2	5.500			16.89	0.304	4.892	4.767	N80	6,290	7,740						7,740													8,740
5 1/2	5.500			16.89	0.304	4.892	4.767	C90	6,740	8,710						8,710													9,700
5 1/2	5.500			16.89	0.304	4.892	4.767	T95	6,940	9,190						9,190													10,220
5 1/2	5.500			16.89	0.304	4.892	4.767	P110	7,480	10,640						10,640													12,250