

Dimensional & Grade Designators								TENSION													Ductile		
O D Size in.	Weight		P E	NOM	NOM	Drift	Product Grade	Collapse Resistance psi	Yield Pipe Body lb	Threaded and Coupled Joint Strength					Internal Yield Pressure						Rupture Capped End psi		
	T & C									Non-Upset	Body Wall	I D	Diameter	Improved Buttress Thd		Round Thread			Pipe Body psi	Improved Buttress Thd		Round Thread	
	Non-Upset lb/ft	Upset lb/ft	Non-Upset	Regular lb	Special Clr lb	NU E lb	Regular lb							Upset EUE lb	Special Clr lb	Non-Upset psi	Special Clr psi	NU E psi		Regular psi		Upset EUE psi	Open psi
1.050	1.14	1.20	1.13	0.113	0.824	0.730	H40	7,680	13,300	--	--	6,400	13,300	--	7,530	--	--	7,530	7,530	--	7,360	7,860	8,570
1.050	1.14	1.20	1.13	0.113	0.824	0.730	J55	10,560	18,300	--	--	8,700	18,300	--	10,360	--	--	10,360	10,360	--	10,130	10,810	10,790
1.050	1.14	1.20	1.13	0.113	0.824	0.730	L80	15,370	26,600	--	--	12,700	26,600	--	15,070	--	--	15,070	15,070	--	14,730	15,730	16,850
1.050	1.14	1.20	1.13	0.113	0.824	0.730	N80n	15,370	26,600	--	--	12,700	26,600	--	15,070	--	--	15,070	15,070	--	14,730	15,730	14,570
1.050	1.14	1.20	1.13	0.113	0.824	0.730	N80	15,370	26,600	--	--	12,700	26,600	--	15,070	--	--	15,070	15,070	--	14,730	15,730	17,740
1.050	1.14	1.20	1.13	0.113	0.824	0.730	C90	17,290	30,000	--	--	14,300	30,000	--	16,950	--	--	16,950	16,950	--	16,570	17,690	19,790
1.050	1.14	1.20	1.13	0.113	0.824	0.730	T95	18,250	31,600	--	--	15,100	31,600	--	17,890	--	--	17,890	17,890	--	17,490	18,680	20,850
1.050	--	1.54	1.48	0.154	0.742	0.648	H40	10,010	17,300	--	--	--	17,300	--	10,270	--	--	--	9,420	--	9,840	10,310	11,990
1.050	--	1.54	1.48	0.154	0.742	0.648	J55	13,770	23,800	--	--	--	23,800	--	14,120	--	--	--	12,950	--	13,540	14,180	15,100
1.050	--	1.54	1.48	0.154	0.742	0.648	L80	20,020	34,600	--	--	--	34,600	--	20,530	--	--	--	18,840	--	19,690	20,630	23,730
1.050	--	1.54	1.48	0.154	0.742	0.648	N80n	20,020	34,600	--	--	--	34,600	--	20,530	--	--	--	18,840	--	19,690	20,630	20,390
1.050	--	1.54	1.48	0.154	0.742	0.648	N80	20,020	34,600	--	--	--	34,600	--	20,530	--	--	--	18,840	--	19,690	20,630	24,970
1.050	--	1.54	1.48	0.154	0.742	0.648	C90	22,530	39,000	--	--	--	39,000	--	23,100	--	--	--	21,200	--	22,150	23,210	27,950
1.050	--	1.54	1.48	0.154	0.742	0.648	T95	23,780	41,100	--	--	--	41,100	--	24,380	--	--	--	22,380	--	23,380	24,500	29,450
1.050	--	1.54	1.48	0.154	0.742	0.648	P110 SR16	27,530	47,600	--	--	--	47,600	--	28,230	--	--	--	25,910	--	27,070	28,360	31,690
1.050	--	1.54	1.48	0.154	0.742	0.648	P110	27,530	47,600	--	--	--	47,600	--	28,230	--	--	--	25,910	--	27,070	28,360	35,290
1.315	1.70	1.80	1.68	0.133	1.049	0.955	H40	7,270	19,800	--	--	11,000	19,800	--	7,080	--	--	7,080	7,080	--	6,940	7,440	8,020
1.315	1.70	1.80	1.68	0.133	1.049	0.955	J55	10,000	27,200	--	--	15,100	27,200	--	9,730	--	--	9,730	9,730	--	9,540	10,220	10,100
1.315	1.70	1.80	1.68	0.133	1.049	0.955	L80	14,550	39,500	--	--	21,900	39,500	--	14,160	--	--	14,160	14,160	--	13,880	14,870	15,760
1.315	1.70	1.80	1.68	0.133	1.049	0.955	N80n	14,550	39,500	--	--	21,900	39,500	--	14,160	--	--	14,160	14,160	--	13,880	14,870	13,630
1.315	1.70	1.80	1.68	0.133	1.049	0.955	N80	14,550	39,500	--	--	21,900	39,500	--	14,160	--	--	14,160	14,160	--	13,880	14,870	16,590
1.315	1.70	1.80	1.68	0.133	1.049	0.955	C90	16,360	44,500	--	--	24,700	44,500	--	15,930	--	--	15,930	15,930	--	15,610	16,730	18,490
1.315	1.70	1.80	1.68	0.133	1.049	0.955	T95	17,270	46,900	--	--	26,000	46,900	--	16,810	--	--	16,810	16,810	--	16,480	17,660	19,480
1.315	--	2.24	2.17	0.179	0.957	0.863	H40	9,410	25,600	--	--	--	25,600	--	9,530	--	--	--	9,530	--	9,190	9,670	11,050
1.315	--	2.24	2.17	0.179	0.957	0.863	J55	12,940	35,100	--	--	--	35,100	--	13,100	--	--	--	13,100	--	12,640	13,300	13,920
1.315	--	2.24	2.17	0.179	0.957	0.863	L80	18,810	51,100	--	--	--	51,100	--	19,060	--	--	--	19,060	--	18,380	19,350	21,830
1.315	--	2.24	2.17	0.179	0.957	0.863	N80n	18,810	51,100	--	--	--	51,100	--	19,060	--	--	--	19,060	--	18,380	19,350	18,790
1.315	--	2.24	2.17	0.179	0.957	0.863	N80	18,810	51,100	--	--	--	51,100	--	19,060	--	--	--	19,060	--	18,380	19,350	22,970
1.315	--	2.24	2.17	0.179	0.957	0.863	C90	21,170	57,500	--	--	--	57,500	--	21,440	--	--	--	21,440	--	20,680	21,770	25,690
1.315	--	2.24	2.17	0.179	0.957	0.863	T95	22,340	60,700	--	--	--	60,700	--	22,630	--	--	--	22,630	--	21,830	22,970	27,070
1.315	--	2.24	2.17	0.179	0.957	0.863	P110 SR16	25,870	70,300	--	--	--	70,300	--	26,200	--	--	--	26,200	--	25,270	26,600	29,150
1.315	--	2.24	2.17	0.179	0.957	0.863	P110	25,870	70,300	--	--	--	70,300	--	26,200	--	--	--	26,200	--	25,270	26,600	32,440
1.660	--	--	2.05	0.125	1.410	1.316	H40	5,570	24,100	--	--	--	--	--	5,270	--	--	--	--	--	5,210	5,670	5,870
1.660	--	--	2.05	0.125	1.410	1.316	J55	7,660	33,200	--	--	--	--	--	7,250	--	--	--	--	--	7,170	7,800	7,390
1.660	2.30	2.40	2.27	0.140	1.380	1.286	H40	6,180	26,800	--	--	15,500	26,800	--	5,900	--	--	5,900	5,900	--	5,820	6,300	6,610
1.660	2.30	2.40	2.27	0.140	1.380	1.286	J55	8,490	36,800	--	--	21,300	36,800	--	8,120	--	--	8,120	8,120	--	8,010	8,660	8,330
1.660	2.30	2.40	2.27	0.140	1.380	1.286	L80	12,360	53,500	--	--	31,000	53,500	--	11,810	--	--	11,810	11,810	--	11,640	12,600	12,960
1.660	2.30	2.40	2.27	0.140	1.380	1.286	N80n	12,360	53,500	--	--	31,000	53,500	--	11,810	--	--	11,810	11,810	--	11,640	12,600	11,240
1.660	2.30	2.40	2.27	0.140	1.380	1.286	N80	12,360	53,500	--	--	31,000	53,500	--	11,810	--	--	11,810	11,810	--	11,640	12,600	13,640
1.660	2.30	2.40	2.27	0.140	1.380	1.286	C90	13,900	60,200	--	--	34,900	60,200	--	13,280	--	--	13,280	13,280	--	13,100	14,170	15,190
1.660	2.30	2.40	2.27	0.140	1.380	1.286	T95	14,670	63,600	--	--	36,900	63,600	--	14,020	--	--	14,020	14,020	--	13,830	14,960	16,000
1.660	--	3.07	3.00	0.191	1.278	1.184	H40	8,150	35,200	--	--	--	35,200	--	8,050	--	--	--	8,050	--	7,850	8,350	9,210
1.660	--	3.07	3.00	0.191	1.278	1.184	J55	11,200	48,500	--	--	--	48,500	--	11,070	--	--	--	11,070	--	10,790	11,480	11,600
1.660	--	3.07	3.00	0.191	1.278	1.184	L80	16,290	70,500	--	--	--	70,500	--	16,110	--	--	--	16,110	--	15,700	16,690	18,130
1.660	--	3.07	3.00	0.191	1.278	1.184	N80n	16,290	70,500	--	--	--	70,500	--	16,110	--	--	--	16,110	--	15,700	16,690	15,660
1.660	--	3.07	3.00	0.191	1.278	1.184	N80	16,290	70,500	--	--	--	70,500	--	16,110	--	--	--	16,110	--	15,700	16,690	19,080
1.660	--	3.07	3.00	0.191	1.278	1.184	C90	18,330	79,300	--	--	--	79,300	--	18,120	--	--	--	18,120	--	17,660	18,780	21,300
1.660	--	3.07	3.00	0.191	1.278	1.184	T95	19,350	83,700	--	--	--	83,700	--	19,130	--	--	--	19,130	--	18,640	19,820	22,440
1.660	--	3.07	3.00	0.191	1.278	1.184	P110 SR16	22,400	96,900	--	--	--	96,900	--	22,150	--	--	--	22,150	--	21,580	22,950	24,220
1.660	--	3.07	3.00	0.191	1.278	1.184	P110	22,400	96,900	--	--	--	96,900	--	22,150	--	--	--	22,150	--	21,580	22,950	26,890
1.900	--	--	2.37	0.125	1.650	1.556	H40	4,920	27,900	--	--	--	--	--	4,610	--	--	--	--	--	4,570	5,000	5,100
1.900	--	--	2.37	0.125	1.650	1.556	J55	6,640	38,300	--	--	--	--	--	6,330	--	--	--	--	--	6,280	6,880	6,420
1.900	2.75	2.90	2.72	0.145	1.610	1.516	H40	5,640	32,000	--	--	19,100	32,000	--	5,340	--	--	5,340	5,340	--	5,280	5,740	5,950
1.900	2.75	2.90	2.72	0.145	1.610	1.516	J55	7,750	43,900	--	--	26,200	43,900	--	7,350	--	--	7,350	7,350	--	7,260	7,900	7,500

Dimensional & Grade Designators								TENSION													Ductile		
O D Size in.	Weight		P E Non-Upset lb/ft	NOM Body Wall in.	NOM I D in.	Drift Diameter in.	Product Grade	Collapse Resistance psi	Yield Pipe Body lb	Threaded and Coupled Joint Strength						Internal Yield Pressure						Rupture Capped End psi	
	T & C									Improved Buttress Thd		Round Thread		Improved Buttress Thd		Round Thread		Lame' - Von Mises					
	Non-Upset lb/ft	Upset lb/ft	Non-Upset	Special Clr	Regular	Upset EUE	Non-Upset			Special Clr	Non-Upset	Upset EUE	Open	Capped									
1.900	2.75	2.90	2.72	0.145	1.610	1.516	L80	11,280	63,900	--	--	38,200	63,900	--	10,680	--	--	10,680	10,680	--	10,560	11,490	11,650
1.900	2.75	2.90	2.72	0.145	1.610	1.516	N80n	11,280	63,900	--	--	38,200	63,900	--	10,680	--	--	10,680	10,680	--	10,560	11,490	10,120
1.900	2.75	2.90	2.72	0.145	1.610	1.516	N80	11,280	63,900	--	--	38,200	63,900	--	10,680	--	--	10,680	10,680	--	10,560	11,490	12,270
1.900	2.75	2.90	2.72	0.145	1.610	1.516	C90	12,620	71,900	--	--	42,900	71,900	--	12,020	--	--	12,020	12,020	--	11,880	12,920	13,640
1.900	2.75	2.90	2.72	0.145	1.610	1.516	T95	13,190	75,900	--	--	45,300	75,900	--	12,690	--	--	12,690	12,690	--	12,540	13,640	14,380
1.900	--	3.73	3.63	0.200	1.500	1.406	H40	7,530	42,700	--	--	42,700	--	--	7,370	--	--	7,370	--	--	7,210	7,710	8,370
1.900	--	3.73	3.63	0.200	1.500	1.406	J55	10,360	58,700	--	--	--	58,700	--	10,130	--	--	--	10,130	--	9,910	10,600	10,540
1.900	--	3.73	3.63	0.200	1.500	1.406	L80	15,070	85,400	--	--	--	85,400	--	14,740	--	--	--	14,740	--	14,420	15,420	16,450
1.900	--	3.73	3.63	0.200	1.500	1.406	N80n	15,070	85,400	--	--	--	85,400	--	14,740	--	--	--	14,740	--	14,420	15,420	14,230
1.900	--	3.73	3.63	0.200	1.500	1.406	N80	15,070	85,400	--	--	--	85,400	--	14,740	--	--	--	14,740	--	14,420	15,420	17,320
1.900	--	3.73	3.63	0.200	1.500	1.406	C90	16,950	96,100	--	--	--	96,100	--	16,580	--	--	--	16,580	--	16,220	17,340	19,310
1.900	--	3.73	3.63	0.200	1.500	1.406	T95	17,890	101,500	--	--	--	101,500	--	17,500	--	--	--	17,500	--	17,130	18,310	20,350
1.900	--	3.73	3.63	0.200	1.500	1.406	P110 SR16	20,720	117,500	--	--	--	117,500	--	20,260	--	--	--	20,260	--	19,830	21,200	21,980
1.900	--	3.73	3.63	0.200	1.500	1.406	P110	20,720	117,500	--	--	--	117,500	--	20,260	--	--	--	20,260	--	19,830	21,200	24,380
1.900	4.42	--	4.41	0.250	1.400	1.306	L80	18,280	103,700	--	--	--	--	--	18,420	--	--	--	--	--	17,810	18,790	21,020
1.900	4.42	--	4.41	0.250	1.400	1.306	C90	20,570	116,600	--	--	--	--	--	20,720	--	--	--	--	--	20,030	21,130	24,730
1.900	4.42	--	4.41	0.250	1.400	1.306	T95	21,710	123,100	--	--	--	--	--	21,880	--	--	--	--	--	21,150	22,310	26,050
1.900	5.15	--	5.13	0.300	1.300	1.206	L80	21,270	120,600	--	--	--	--	--	22,110	--	--	--	--	--	21,060	21,960	25,790
1.900	5.15	--	5.13	0.300	1.300	1.206	C90	23,930	135,700	--	--	--	--	--	24,870	--	--	--	--	--	23,690	24,700	30,410
1.900	5.15	--	5.13	0.300	1.300	1.206	T95	25,260	143,300	--	--	--	--	--	26,250	--	--	--	--	--	25,010	26,080	32,050
2.063	--	--	3.18	0.156	1.751	1.657	H40	5,590	37,400	--	--	--	--	--	5,290	--	--	--	--	--	5,230	5,690	5,900
2.063	--	--	3.18	0.156	1.751	1.657	J55	7,690	51,400	--	--	--	--	--	7,280	--	--	--	--	--	7,200	7,830	7,420
2.063	--	--	3.18	0.156	1.751	1.657	L80	11,180	74,800	--	--	--	--	--	10,590	--	--	--	--	--	10,470	11,390	11,540
2.063	--	--	3.18	0.156	1.751	1.657	N80n	11,180	74,800	--	--	--	--	--	10,590	--	--	--	--	--	10,470	11,390	10,020
2.063	--	--	3.18	0.156	1.751	1.657	N80	11,180	74,800	--	--	--	--	--	10,590	--	--	--	--	--	10,470	11,390	12,150
2.063	--	--	3.18	0.156	1.751	1.657	C90	12,420	84,200	--	--	--	--	--	11,910	--	--	--	--	--	11,780	12,810	13,510
2.063	--	--	3.18	0.156	1.751	1.657	T95	12,980	88,800	--	--	--	--	--	12,570	--	--	--	--	--	12,430	13,530	14,240
2.063	4.50	--	4.42	0.225	1.613	1.519	H40	7,770	52,000	--	--	--	--	--	7,630	--	--	--	--	--	7,460	7,960	8,690
2.063	4.50	--	4.42	0.225	1.613	1.519	J55	10,690	71,400	--	--	--	--	--	10,500	--	--	--	--	--	10,260	10,940	10,950
2.063	4.50	--	4.42	0.225	1.613	1.519	L80	15,550	103,900	--	--	--	--	--	15,270	--	--	--	--	--	14,920	15,920	17,100
2.063	4.50	--	4.42	0.225	1.613	1.519	N80n	15,550	103,900	--	--	--	--	--	15,270	--	--	--	--	--	14,920	15,920	14,780
2.063	4.50	--	4.42	0.225	1.613	1.519	N80	15,550	103,900	--	--	--	--	--	15,270	--	--	--	--	--	14,920	15,920	18,000
2.063	4.50	--	4.42	0.225	1.613	1.519	C90	17,490	116,900	--	--	--	--	--	17,180	--	--	--	--	--	16,780	17,910	20,080
2.063	4.50	--	4.42	0.225	1.613	1.519	T95	18,460	123,400	--	--	--	--	--	18,130	--	--	--	--	--	17,720	18,900	21,160
2.063	4.50	--	4.42	0.225	1.613	1.519	P110 SR16	21,380	142,900	--	--	--	--	--	20,990	--	--	--	--	--	20,510	21,880	22,840
2.063	4.50	--	4.42	0.225	1.613	1.519	P110	21,380	142,900	--	--	--	--	--	20,990	--	--	--	--	--	20,510	21,880	25,350
2 3/8	4.00	--	3.94	0.167	2.041	1.947	H40	5,230	46,300	46,300	46,300	30,100	--	--	4,920	4920	4920	4,920	--	--	4,870	5,320	5,460
2 3/8	4.00	--	3.94	0.167	2.041	1.947	J55	7,190	63,700	63,700	63,700	41,400	--	--	6,770	6770	6770	6,770	--	--	6,700	7,320	6,880
2 3/8	4.00	--	3.94	0.167	2.041	1.947	L80	9,980	92,600	92,600	92,600	60,200	--	--	9,840	9840	9840	9,840	--	--	9,750	10,640	10,690
2 3/8	4.00	--	3.94	0.167	2.041	1.947	N80n	9,980	92,600	92,600	92,600	60,200	--	--	9,840	9840	9840	9,840	--	--	9,750	10,640	9,290
2 3/8	4.00	--	3.94	0.167	2.041	1.947	N80	9,980	92,600	92,600	92,600	60,200	--	--	9,840	9840	9840	9,840	--	--	9,750	10,640	11,250
2 3/8	4.00	--	3.94	0.167	2.041	1.947	C90	10,940	104,200	104,200	104,200	67,800	--	--	11,070	11070	11070	11,070	--	--	10,970	11,970	12,510
2 3/8	4.00	--	3.94	0.167	2.041	1.947	T95	11,410	110,000	110,000	110,000	71,500	--	--	11,690	11690	11690	11,690	--	--	11,580	12,640	13,180
2 3/8	4.60	4.70	4.44	0.190	1.995	1.901	H40	5,890	52,200	52,200	52,200	36,000	52,200	52,200	5,600	5600	5600	5,600	5,600	5,600	5,530	6,000	6,250
2 3/8	4.60	4.70	4.44	0.190	1.995	1.901	J55	8,100	71,700	71,700	71,700	49,400	71,700	71,700	7,700	7700	7700	7,700	7,700	7,700	7,600	8,250	7,880
2 3/8	4.60	4.70	4.44	0.190	1.995	1.901	L80	11,780	104,300	104,300	104,300	71,900	104,300	104,300	11,200	11200	11200	11,200	11,200	11,200	11,060	12,000	12,250
2 3/8	4.60	4.70	4.44	0.190	1.995	1.901	N80n	11,780	104,300	104,300	104,300	71,900	104,300	104,300	11,200	11200	11200	11,200	11,200	11,200	11,060	12,000	10,630
2 3/8	4.60	4.70	4.44	0.190	1.995	1.901	N80	11,780	104,300	104,300	104,300	71,900	104,300	104,300	11,200	11200	11200	11,200	11,200	11,200	11,060	12,000	12,900
2 3/8	4.60	4.70	4.44	0.190	1.995	1.901	C90	13,250	117,400	117,400	117,400	80,900	117,400	117,400	12,600	12600	12600	12,600	12,600	12,600	12,440	13,500	14,350
2 3/8	4.60	4.70	4.44	0.190	1.995	1.901	T95	13,980	123,900	123,900	123,900	85,400	123,900	123,900	13,300	13300	13300	13,300	13,300	13,300	13,140	14,250	15,120
2 3/8	4.60	4.70	4.44	0.190	1.995	1.901	P110 SR16	16,130	143,400	143,400	143,400	98,900	143,400	143,400	15,400	15400	15400	15,400	15,400	15,400	15,210	16,500	16,370
2 3/8	4.60	4.70	4.44	0.190	1.995	1.901	P110	16,130	143,400	143,400	143,400	98,900	143,400	143,400	15,400	15400	15400	15,400	15,400	15,400	15,210	16,500	18,120
2 3/8	5.80	5.95	5.76	0.254	1.867	1.773	J55	10,510	93,100	93,100	93,100	70,800	93,100	93,100	10,290	10290	9310	10,290	10,220	7,860	10,070	10,750	10,720
2 3/8	5.80	5.95	5.76	0.254	1.867	1.773	L80	15,280	135,400	135,400	135,400	103,000	135,400	135,400	14,970	14970	13550	14,970	14,860	11,440	14,640	15,640	16,740

Dimensional & Grade Designators								TENSION													Ductile		
O D Size in.	Weight		P E	NOM	NOM	Drift	Product Grade	Collapse Resistance psi	Yield Pipe Body lb	Threaded and Coupled Joint Strength						Internal Yield Pressure						Rupture Capped End psi	
	T & C									Non-Upset	Body Wall	I D	Diameter	Improved Buttress Thd		Round Thread		Pipe Body psi	Improved Buttress Thd		Round Thread		Lame' - Von Mises
	Non-Upset lb/ft	Upset lb/ft	Non-Upset	Regular lb	Special Clr lb	Regular lb	Upset EUE lb							Regular lb	Special Clr lb	Non-Upset psi	Upset EUE psi		Regular psi	Special Clr psi	Open psi		Capped psi
2 3/8	5.80	5.95	5.76	0.254	1.867	1.773	N80n	15,280	135,400	135,400	135,400	103,000	135,400	135,400	14,970	14970	13550	14,970	14,860	11,440	14,640	15,640	14,470
2 3/8	5.80	5.95	5.76	0.254	1.867	1.773	N80	15,280	135,400	135,400	135,400	103,000	135,400	135,400	14,970	14970	13550	14,970	14,860	11,440	14,640	15,640	17,620
2 3/8	5.80	5.95	5.76	0.254	1.867	1.773	C90	17,190	152,300	152,300	152,300	115,800	152,300	152,300	16,840	16840	15240	16,840	16,720	12,870	16,470	17,590	19,650
2 3/8	5.80	5.95	5.76	0.254	1.867	1.773	T95	18,150	160,700	160,700	160,700	122,300	160,700	160,700	17,780	17780	16090	17,780	17,650	13,580	17,390	18,570	20,710
2 3/8	5.80	5.95	5.76	0.254	1.867	1.773	P110 SR16	21,010	186,100	186,100	186,100	141,600	186,100	186,100	20,590	20590	18630	20,590	20,430	15,730	20,130	21,500	22,360
2 3/8	5.80	5.95	5.76	0.254	1.867	1.773	P110	21,010	186,100	186,100	186,100	141,600	186,100	186,100	20,590	20590	18630	20,590	20,430	15,730	20,130	21,500	24,810
2 3/8	6.60	--	6.56	0.295	1.785	1.691	L80	17,410	154,200	--	--	--	--	--	17,390	--	--	--	--	--	16,870	17,860	19,720
2 3/8	6.60	--	6.56	0.295	1.785	1.691	C90	19,580	173,500	--	--	--	--	--	19,560	--	--	--	--	--	18,980	20,090	23,190
2 3/8	6.60	--	6.56	0.295	1.785	1.691	T95	20,670	183,200	--	--	--	--	--	20,650	--	--	--	--	--	20,040	21,210	24,430
2 3/8	7.35	7.45	7.32	0.336	1.703	1.609	L80	19,430	172,200	--	--	--	172,200	141,300	19,810	--	--	--	14,860	11,440	19,050	20,000	22,790
2 3/8	7.35	7.45	7.32	0.336	1.703	1.609	C90	21,860	193,700	--	--	--	193,700	158,900	22,280	--	--	--	16,720	12,870	21,430	22,500	26,830
2 3/8	7.35	7.45	7.32	0.336	1.703	1.609	T95	23,080	204,400	--	--	--	204,400	167,800	23,520	--	--	--	17,650	13,580	22,620	23,750	28,270
2 7/8	6.40	6.50	6.17	0.217	2.441	2.347	H40	5,580	72,500	72,500	72,500	52,800	72,500	72,500	5,280	5280	5280	5,280	5,280	5,280	5,230	5,690	5,880
2 7/8	6.40	6.50	6.17	0.217	2.441	2.347	J55	7,680	99,700	99,700	99,700	72,600	99,700	99,700	7,260	7260	7260	7,260	7,260	7,260	7,180	7,820	7,410
2 7/8	6.40	6.50	6.17	0.217	2.441	2.347	L80	11,170	145,000	145,000	145,000	105,600	145,000	145,000	10,570	10570	10570	10,570	10,570	10,570	10,450	11,370	11,520
2 7/8	6.40	6.50	6.17	0.217	2.441	2.347	N80n	11,170	145,000	145,000	145,000	105,600	145,000	145,000	10,570	10570	10570	10,570	10,570	10,570	10,450	11,370	10,000
2 7/8	6.40	6.50	6.17	0.217	2.441	2.347	N80	11,170	145,000	145,000	145,000	105,600	145,000	145,000	10,570	10570	10570	10,570	10,570	10,570	10,450	11,370	12,120
2 7/8	6.40	6.50	6.17	0.217	2.441	2.347	C90	12,380	163,100	163,100	163,100	118,800	163,100	163,100	11,890	11890	11890	11,890	11,890	11,890	11,760	12,790	13,490
2 7/8	6.40	6.50	6.17	0.217	2.441	2.347	T95	12,940	172,100	172,100	172,100	125,400	172,100	172,100	12,550	12550	12550	12,550	12,550	12,550	12,410	13,500	14,210
2 7/8	6.40	6.50	6.17	0.217	2.441	2.347	P110 SR16	14,550	199,300	199,300	199,300	145,200	199,300	199,300	14,530	14530	14530	14,530	14,530	14,530	14,370	15,630	15,380
2.875	6.40	6.50	6.17	0.217	2.441	2.347	P110	14,550	199,300	199,300	199,300	145,200	199,300	199,300	14,530	14530	14530	14,530	14,530	14,530	14,370	15,630	17,030
2 7/8	7.80	7.90	7.67	0.276	2.323	2.229	J55	9,540	124,000	124,000	118,280	96,900	124,000	124,000	9,240	9240	8150	9,240	9,240	7,580	9,080	9,750	9,550
2 7/8	7.80	7.90	7.67	0.276	2.323	2.229	L80	13,890	180,300	180,300	172,050	140,900	180,300	180,300	13,440	13440	11860	13,440	13,440	11,030	13,200	14,190	14,890
2 7/8	7.80	7.90	7.67	0.276	2.323	2.229	N80n	13,890	180,300	180,300	172,050	140,900	180,300	180,300	13,440	13440	11860	13,440	13,440	11,030	13,200	14,190	12,900
2 7/8	7.80	7.90	7.67	0.276	2.323	2.229	N80	13,890	180,300	180,300	172,050	140,900	180,300	180,300	13,440	13440	11860	13,440	13,440	11,030	13,200	14,190	15,680
2 7/8	7.80	7.90	7.67	0.276	2.323	2.229	C90	15,620	202,900	202,900	193,550	158,500	202,900	202,900	15,120	15120	13340	15,120	15,120	12,410	14,850	15,960	17,470
2 7/8	7.80	7.90	7.67	0.276	2.323	2.229	T95	16,490	214,100	214,100	204,310	167,300	214,100	214,100	15,960	15960	14080	15,960	15,960	13,100	15,680	16,840	18,400
2 7/8	7.80	7.90	7.67	0.276	2.323	2.229	P110 SR16	19,090	247,900	247,900	236,560	193,700	247,900	247,900	18,480	18480	16300	18,480	18,480	15,160	18,150	19,500	19,890
2 7/8	7.80	7.90	7.67	0.276	2.323	2.229	P110	19,090	247,900	247,900	236,560	193,700	247,900	247,900	18,480	18480	16300	18,480	18,480	15,160	18,150	19,500	22,050
2 7/8	8.60	8.70	8.45	0.308	2.259	2.165	J55	10,530	136,600	136,600	118,280	109,500	136,600	132,800	10,310	10310	8150	10,310	10,270	7,580	10,080	10,770	10,740
2 7/8	8.60	8.70	8.45	0.308	2.259	2.165	L80	15,300	198,700	198,700	172,050	159,300	198,700	193,100	15,000	15000	11860	15,000	14,940	11,030	14,670	15,660	16,770
2 7/8	8.60	8.70	8.45	0.308	2.259	2.165	N80n	15,300	198,700	198,700	172,050	159,300	198,700	193,100	15,000	15000	11860	15,000	14,940	11,030	14,670	15,660	14,500
2 7/8	8.60	8.70	8.45	0.308	2.259	2.165	N80	15,300	198,700	198,700	172,050	159,300	198,700	193,100	15,000	15000	11860	15,000	14,940	11,030	14,670	15,660	17,650
2 7/8	8.60	8.70	8.45	0.308	2.259	2.165	C90	17,220	223,600	223,600	193,550	179,200	223,600	217,300	16,870	16870	13340	16,870	16,810	12,410	16,500	17,620	19,690
2 7/8	8.60	8.70	8.45	0.308	2.259	2.165	T95	18,170	236,000	236,000	204,310	189,100	236,000	229,300	17,810	17810	14080	17,810	17,740	13,100	17,420	18,600	20,740
2 7/8	8.60	8.50	8.45	0.308	2.259	2.165	P110 SR16	21,040	273,200	273,200	236,560	219,000	273,200	265,500	20,620	20620	16300	20,620	20,540	15,160	20,170	21,540	22,400
2 7/8	8.60	8.50	8.45	0.308	2.259	2.165	P110	21,040	273,200	273,200	236,560	219,000	273,200	265,500	20,620	20620	16300	20,620	20,540	15,160	20,170	21,540	24,860
2 7/8	9.35	9.45	9.21	0.340	2.195	2.101	L80	16,680	216,600	--	--	--	216,600	193,100	16,560	--	--	--	14,940	11,030	16,110	17,100	18,680
2 7/8	9.35	9.45	9.21	0.340	2.195	2.101	C90	18,770	243,700	--	--	--	243,700	217,300	18,630	--	--	--	16,810	12,410	18,120	19,240	21,950
2 7/8	9.35	9.45	9.21	0.340	2.195	2.101	T95	19,810	257,300	--	--	--	257,300	229,300	19,660	--	--	--	17,740	13,100	19,130	20,310	23,130
2 7/8	10.50	--	10.40	0.392	2.091	1.997	L80	18,840	244,600	--	--	--	--	--	19,090	--	--	--	--	--	18,410	19,370	21,870
2 7/8	10.50	--	10.40	0.392	2.091	1.997	C90	21,200	275,200	--	--	--	--	--	21,470	--	--	--	--	--	20,710	21,800	25,740
2 7/8	10.50	--	10.40	0.392	2.091	1.997	T95	22,370	290,500	--	--	--	--	--	22,670	--	--	--	--	--	21,860	23,010	27,120
2 7/8	11.50	--	11.45	0.440	1.995	1.901	L80	20,740	269,300	--	--	--	--	--	21,430	--	--	--	--	--	20,470	21,390	24,890
2 7/8	11.50	--	11.45	0.440	1.995	1.901	C90	23,330	302,900	--	--	--	--	--	24,100	--	--	--	--	--	23,030	24,060	29,350
2 7/8	11.50	--	11.45	0.440	1.995	1.901	T95	24,630	319,800	--	--	--	--	--	25,440	--	--	--	--	--	24,310	25,400	30,920
3 1/2	7.70	--	7.58	0.216	3.068	2.943	H40	4,630	89,100	89,100	89,100	65,100	--	--	4,320	4320	4320	4,320	--	--	4,290	4,710	4,770
3 1/2	7.70	--	7.58	0.216	3.068	2.943	J55	5,970	122,500	122,500	122,500	89,500	--	--	5,940	5940	5940	5,940	--	--	5,900	6,470	6,000
3 1/2	7.70	--	7.58	0.216	3.068	2.943	L80	7,870	178,200	178,200	178,200	130,200	--	--	8,640	8640	8640	8,640	--	--	8,580	9,420	9,320
3 1/2	7.70	--	7.58	0.216	3.0																		

Dimensional & Grade Designators								TENSION										Ductile					
O D Size in.	Weight		P E	NOM	NOM	Drift	Product Grade	Collapse Resistance psi	Yield Pipe Body lb	Threaded and Coupled Joint Strength						Internal Yield Pressure						Rupture Capped End psi	
	T & C									Non-Upset	Body Wall in.	I D in.	Diameter in.	Improved Buttress Thd		Round Thread		Pipe Body psi	Improved Buttress Thd		Round Thread		Lame' - Von Mises
	Non-Upset lb/ft	Upset lb/ft	Non-Upset	Regular lb	Special Clr lb	NU E lb	Regular lb							Upset EUE lb	Regular psi	Special Clr psi	Non-Upset psi		Regular psi	Upset EUE psi	Open psi		Capped psi
3 1/2	9.20	9.30	8.81	0.254	2.992	2.867	J55	7,400	142,500	142,500	142,500	109,400	142,500	142,500	6,990	6990	6990	6,990	6,990	6,990	6,910	7,540	7,110
3 1/2	9.20	9.30	8.81	0.254	2.992	2.867	L80	10,540	207,200	207,200	207,200	159,100	207,200	207,200	10,160	10160	10160	10,160	10,160	10,160	10,060	10,960	11,050
3 1/2	9.20	9.30	8.81	0.254	2.992	2.867	N80n	10,540	207,200	207,200	207,200	159,100	207,200	207,200	10,160	10160	10160	10,160	10,160	10,160	10,060	10,960	9,600
3 1/2	9.20	9.30	8.81	0.254	2.992	2.867	N80	10,540	207,200	207,200	207,200	159,100	207,200	207,200	10,160	10160	10160	10,160	10,160	10,160	10,060	10,960	11,630
3 1/2	9.20	9.30	8.81	0.254	2.992	2.867	C90	11,570	233,100	233,100	233,100	179,000	233,100	233,100	11,430	11430	11430	11,430	11,430	11,430	11,310	12,330	12,930
3 1/2	9.20	9.30	8.81	0.254	2.992	2.867	T95	12,080	246,100	246,100	246,100	189,000	246,100	246,100	12,070	12070	12070	12,070	12,070	12,070	11,940	13,020	13,630
3 1/2	9.20	9.30	8.81	0.254	2.992	2.867	P110 SR16	13,530	284,900	284,900	284,900	218,800	284,900	284,900	13,970	13970	13970	13,970	13,970	13,970	13,830	15,070	14,760
3 1/2	9.20	9.30	8.81	0.254	2.992	2.867	P110	13,530	284,900	284,900	284,900	218,800	284,900	284,900	13,970	13970	13970	13,970	13,970	13,970	13,830	15,070	16,330
3 1/2	10.20	--	9.92	0.289	2.922	2.797	H40	6,060	116,600	116,600	108,840	92,600	--	--	5,780	5780	5150	5,780	--	--	5,700	6,180	6,470
3 1/2	10.20	--	9.92	0.289	2.922	2.797	J55	8,330	160,300	160,300	149,660	127,300	--	--	7,950	7950	7080	7,950	--	--	7,840	8,500	8,140
3 1/2	10.20	--	9.92	0.289	2.922	2.797	L80	12,120	233,200	233,200	217,690	185,100	--	--	11,560	11560	10290	11,560	--	--	11,410	12,360	12,670
3 1/2	10.20	--	9.92	0.289	2.922	2.797	N80n	12,120	233,200	233,200	217,690	185,100	--	--	11,560	11560	10290	11,560	--	--	11,410	12,360	11,000
3 1/2	10.20	--	9.92	0.289	2.922	2.797	N80	12,120	233,200	233,200	217,690	185,100	--	--	11,560	11560	10290	11,560	--	--	11,410	12,360	13,340
3 1/2	10.20	--	9.92	0.289	2.922	2.797	C90	13,640	262,400	262,400	244,900	208,300	--	--	13,010	13010	11580	13,010	--	--	12,830	13,900	14,840
3 1/2	10.20	--	9.92	0.289	2.922	2.797	T95	14,390	276,900	276,900	258,500	219,800	--	--	13,730	13730	12220	13,730	--	--	13,550	14,670	15,640
3 1/2	10.20	--	9.92	0.289	2.922	2.797	P110 SR16	16,670	320,700	320,700	299,320	254,500	--	--	15,900	15900	14150	15,900	--	--	15,690	16,990	16,930
3 1/2	10.20	--	9.92	0.289	2.922	2.797	P110	16,670	320,700	320,700	299,320	254,500	--	--	15,900	15900	14150	15,900	--	--	15,690	16,990	18,740
3 1/2	12.70	12.95	12.53	0.375	2.750	2.625	L80	15,310	294,600	294,600	217,690	246,400	294,600	273,100	15,000	15000	10290	15,000	15,000	10,660	14,670	15,660	16,770
3 1/2	12.70	12.95	12.53	0.375	2.750	2.625	N80n	15,310	294,600	294,600	217,690	246,400	294,600	273,100	15,000	15000	10290	15,000	15,000	10,660	14,670	15,660	14,500
3 1/2	12.70	12.95	12.53	0.375	2.750	2.625	N80	15,310	294,600	294,600	217,690	246,400	294,600	273,100	15,000	15000	10290	15,000	15,000	10,660	14,670	15,660	17,660
3 1/2	12.70	12.95	12.53	0.375	2.750	2.625	C90	17,220	331,400	331,400	244,900	277,200	331,400	307,300	16,880	16880	11580	16,880	16,880	11,990	16,500	17,620	19,690
3 1/2	12.70	12.95	12.53	0.375	2.750	2.625	T95	18,180	349,800	349,800	258,500	292,600	349,800	324,300	17,810	17810	12220	17,810	17,810	12,660	17,420	18,600	20,750
3 1/2	12.70	12.95	12.53	0.375	2.750	2.625	P110 SR16	21,050	405,000	405,000	299,320	338,800	405,000	375,500	20,630	20630	14150	20,630	20,630	14,660	20,170	21,540	22,400
3 1/2	12.70	12.95	12.53	0.375	2.750	2.625	P110	21,050	405,000	405,000	299,320	338,800	405,000	375,500	20,630	20630	14150	20,630	20,630	14,660	20,170	21,540	24,860
3 1/2	14.30	--	14.11	0.430	2.640	2.515	L80	17,280	331,800	--	--	--	--	--	17,200	--	--	--	--	--	16,700	17,690	19,480
3 1/2	14.30	--	14.11	0.430	2.640	2.515	C90	19,400	373,200	--	--	--	--	--	19,350	--	--	--	--	--	18,790	19,900	22,900
3 1/2	14.30	--	14.11	0.430	2.640	2.515	T95	20,480	394,000	--	--	--	--	--	20,430	--	--	--	--	--	19,830	21,010	24,130
3 1/2	14.90	--	14.64	0.449	2.602	2.477	J55	12,290	236,700	236,700	--	203,600	--	--	12,350	11420	--	11,260	--	--	11,960	12,630	13,050
3 1/2	14.90	--	14.64	0.449	2.602	2.477	L80	17,880	344,300	344,300	--	296,200	--	--	17,960	16610	--	16,380	--	--	17,390	18,370	20,440
3 1/2	14.90	--	14.64	0.449	2.602	2.477	N80n	17,880	344,300	344,300	--	296,200	--	--	17,960	16610	--	16,380	--	--	17,390	18,370	17,610
3 1/2	14.90	--	14.64	0.449	2.602	2.477	N80	17,880	344,300	344,300	--	296,200	--	--	17,960	16610	--	16,380	--	--	17,390	18,370	21,510
3 1/2	14.90	--	14.64	0.449	2.602	2.477	C90	20,120	387,400	387,400	--	333,200	--	--	20,210	18680	--	18,420	--	--	19,570	20,670	24,040
3 1/2	14.90	--	14.64	0.449	2.602	2.477	T95	21,240	408,900	408,900	--	351,700	--	--	21,330	19720	--	19,450	--	--	20,650	21,820	25,330
3 1/2	14.90	--	14.64	0.449	2.602	2.477	P110 SR16	24,590	473,400	473,400	--	407,200	--	--	24,700	22830	--	22,520	--	--	23,910	25,260	27,290
3 1/2	14.90	--	14.64	0.449	2.602	2.477	P110	24,590	473,400	473,400	--	407,200	--	--	24,700	22830	--	22,520	--	--	23,910	25,260	30,350
3 1/2	15.50	--	15.39	0.476	2.548	2.423	L80	18,800	361,800	--	--	--	--	--	19,040	--	--	--	--	--	18,360	19,330	21,800
3 1/2	15.50	--	15.39	0.476	2.548	2.423	C90	21,150	407,000	--	--	--	--	--	21,420	--	--	--	--	--	20,660	21,750	25,660
3 1/2	15.50	--	15.39	0.476	2.548	2.423	T95	22,330	429,600	--	--	--	--	--	22,610	--	--	--	--	--	21,810	22,960	27,040
3 1/2	17.00	--	16.83	0.530	2.440	2.315	L80	20,560	395,600	--	--	--	--	--	21,200	--	--	--	--	--	20,270	21,200	24,590
3 1/2	17.00	--	16.83	0.530	2.440	2.315	C90	23,130	445,100	--	--	--	--	--	23,850	--	--	--	--	--	22,810	23,850	28,990
3 1/2	17.00	--	16.83	0.530	2.440	2.315	T95	24,410	469,800	--	--	--	--	--	25,180	--	--	--	--	--	24,070	25,170	30,550
4	9.50	--	9.12	0.226	3.548	3.423	H40	4,050	107,200	107,200	107,200	72,000	--	--	3,960	3960	3960	3,960	--	--	3,930	4,330	4,350
4	9.50	--	9.12	0.226	3.548	3.423	J55	5,110	147,400	147,400	147,400	99,000	--	--	5,440	5440	5440	5,440	--	--	5,400	5,960	5,480
4	9.50	--	9.12	0.226	3.548	3.423	L80	6,590	214,400	214,400	214,400	144,000	--	--	7,910	7910	7910	7,910	--	--	7,860	8,660	8,490
4	9.50	--	9.12	0.226	3.548	3.423	N80n	6,590	214,400	214,400	214,400	144,000	--	--	7,910	7910	7910	7,910	--	--	7,860	8,660	7,400
4	9.50	--	9.12	0.226	3.548	3.423	N80	6,590	214,400	214,400	214,400	144,000	--	--	7,910	7910	7910	7,910	--	--	7,860	8,660	8,940
4	9.50	--	9.12	0.226	3.548	3.423	C90	7,080	241,200	241,200	241,200	162,000	--	--	8,900	8900	8900	8,900	--	--	8,840	9,740	9,930
4	9.50	--	9.12	0.226	3.548	3.423	T95	7,310	254,600	254,600	254,600	171,000	--	--	9,390	9390	9390	9,390	--	--	9,340	10,290	10,460
4	--	11.00	10.47	0.262	3.476	3.351	H40	4,900	123,100	123,100	123,100	--	123,100	--	4,580	4580	4580	--	4,580	--	4,550	4,980	5,070
4	--	11.00	10.47	0.262	3.476	3.351	J55	6,590	169,200	169,200	169,200	--	169,200	--	6,300	6300	6300	--	6,300	--	6,250	6,850	6,390
4	--	11.00	10.47	0.262	3.476	3.351	L80	8,800	246,200	246,200	246,200	--	246,200	--	9,170	9170	9170	--	9,170	--	9,090	9,960	9,920
4	--	11.00	10.47	0.262	3.476	3.351	N80n	8,800	246,200	246,200	246,200	--	246,200										

Dimensional & Grade Designators								TENSION													Ductile		
O D Size in.	Weight		P E	NOM Body Wall in.	NOM I D in.	Drift Diameter in.	Product Grade	Collapse Resistance psi	Yield Pipe Body lb	Threaded and Coupled Joint Strength					Internal Yield Pressure						Rupture Capped End psi		
	T & C									Non-Upset	Improved Buttress Thd		Round Thread			Improved Buttress Thd		Round Thread		Lame' - Von Mises			
	Non-Upset lb/ft	Upset lb/ft	Regular lb	Special Clr lb	NUe lb	Regular lb	Upset EUE lb				Special Clr lb	Non-Upset psi	Special Clr psi	NUe psi	Regular psi	Upset EUE psi	Open psi	Capped psi					
4	--	11.00	10.47	0.262	3.476	3.351	T95	9,980	292,300	292,300	292,300	--	292,300	--	10,890	10890	10890	--	10,890	--	10,800	11,830	12,220
4	--	11.00	10.47	0.262	3.476	3.351	P110	11,050	338,500	338,500	338,500	--	338,500	--	12,610	12610	12610	--	12,610	--	12,500	13,690	14,650
4	13.20	--	12.95	0.330	3.340	3.215	L80	12,110	304,400	--	--	--	--	11,550	--	--	--	--	--	--	11,400	12,350	12,660
4	13.20	--	12.95	0.330	3.340	3.215	C90	13,620	342,500	--	--	--	--	12,990	--	--	--	--	--	--	12,820	13,890	14,830
4	13.20	--	12.95	0.330	3.340	3.215	T95	14,380	361,500	--	--	--	--	13,720	--	--	--	--	--	--	13,530	14,660	15,630
4	16.10	--	15.90	0.415	3.170	3.045	L80	14,880	373,900	--	--	--	--	14,520	--	--	--	--	--	--	14,220	15,220	16,200
4	16.10	--	15.90	0.415	3.170	3.045	C90	16,740	420,700	--	--	--	--	16,340	--	--	--	--	--	--	16,000	17,120	19,010
4	16.10	--	15.90	0.415	3.170	3.045	T95	17,670	444,000	--	--	--	--	17,250	--	--	--	--	--	--	16,890	18,070	20,030
4	18.90	--	18.71	0.500	3.000	2.875	L80	17,500	439,800	--	--	--	--	17,500	--	--	--	--	--	--	16,970	17,960	19,860
4	18.90	--	18.71	0.500	3.000	2.875	C90	19,690	494,800	--	--	--	--	19,690	--	--	--	--	--	--	19,100	20,210	23,350
4	18.90	--	18.71	0.500	3.000	2.875	T95	20,780	522,300	--	--	--	--	20,780	--	--	--	--	--	--	20,160	21,330	24,600
4	22.20	--	22.11	0.610	2.780	2.655	L80	20,680	519,800	--	--	--	--	21,350	--	--	--	--	--	--	20,400	21,320	24,790
4	22.20	--	22.11	0.610	2.780	2.655	C90	23,260	584,700	--	--	--	--	24,020	--	--	--	--	--	--	22,950	23,990	29,230
4	22.20	--	22.11	0.610	2.780	2.655	T95	24,560	617,200	--	--	--	--	25,350	--	--	--	--	--	--	24,230	25,320	30,790
4 1/2	12.60	12.75	12.25	0.271	3.958	3.833	H40	4,490	144,000	144,000	144,000	104,400	144,000	--	4,220	4220	4220	4,220	4,220	--	4,190	4,600	4,650
4 1/2	12.60	12.75	12.25	0.271	3.958	3.833	J55	5,730	198,000	198,000	198,000	143,500	198,000	--	5,800	5800	5800	5,800	5,800	--	5,760	6,330	5,850
4 1/2	12.60	12.75	12.25	0.271	3.958	3.833	L80	7,500	288,000	288,000	288,000	208,700	288,000	--	8,430	8430	8430	8,430	8,430	--	8,370	9,200	9,080
4 1/2	12.60	12.75	12.25	0.271	3.958	3.833	N80n	7,500	288,000	288,000	288,000	208,700	288,000	--	8,430	8430	8430	8,430	8,430	--	8,370	9,200	7,900
4 1/2	12.60	12.75	12.25	0.271	3.958	3.833	N80	7,500	288,000	288,000	288,000	208,700	288,000	--	8,430	8430	8430	8,430	8,430	--	8,370	9,200	9,560
4 1/2	12.60	12.75	12.25	0.271	3.958	3.833	C90	8,120	324,000	324,000	324,000	234,800	324,000	--	9,480	9480	9480	9,480	9,480	--	9,420	10,350	10,620
4 1/2	12.60	12.75	12.25	0.271	3.958	3.833	T95	8,410	342,000	342,000	342,000	247,900	342,000	--	10,010	10010	10010	10,010	10,010	--	9,940	10,930	11,190
4 1/2	12.60	12.75	12.25	0.271	3.958	3.833	P110	9,200	396,000	396,000	396,000	287,000	396,000	--	11,590	11590	11590	11,590	11,590	--	11,510	12,650	13,400
4 1/2	15.20	--	15.00	0.337	3.826	3.701	L80	11,080	352,600	--	--	--	--	10,480	--	--	--	--	--	--	10,370	11,290	11,420
4 1/2	15.20	--	15.00	0.337	3.826	3.701	C90	12,220	396,600	--	--	--	--	11,800	--	--	--	--	--	--	11,670	12,700	13,370
4 1/2	15.20	--	15.00	0.337	3.826	3.701	T95	12,760	418,700	--	--	--	--	12,450	--	--	--	--	--	--	12,310	13,400	14,090
4 1/2	17.00	--	16.74	0.380	3.740	3.615	L80	12,370	393,400	--	--	--	--	11,820	--	--	--	--	--	--	11,660	12,610	12,980
4 1/2	17.00	--	16.74	0.380	3.740	3.615	C90	13,920	442,600	--	--	--	--	13,300	--	--	--	--	--	--	13,120	14,190	15,210
4 1/2	17.00	--	16.74	0.380	3.740	3.615	T95	14,690	467,200	--	--	--	--	14,040	--	--	--	--	--	--	13,850	14,980	16,020
4 1/2	18.90	--	18.71	0.430	3.640	3.515	L80	13,830	439,800	--	--	--	--	13,380	--	--	--	--	--	--	13,140	14,130	14,820
4 1/2	18.90	--	18.71	0.430	3.640	3.515	C90	15,560	494,800	--	--	--	--	15,050	--	--	--	--	--	--	14,780	15,890	17,380
4 1/2	18.90	--	18.71	0.430	3.640	3.515	T95	16,420	522,300	--	--	--	--	15,890	--	--	--	--	--	--	15,610	16,770	18,310
4 1/2	21.50	--	21.38	0.500	3.500	3.375	L80	15,800	502,600	--	--	--	--	15,560	--	--	--	--	--	--	15,180	16,180	17,450
4 1/2	21.50	--	21.38	0.500	3.500	3.375	C90	17,780	565,500	--	--	--	--	17,500	--	--	--	--	--	--	17,080	18,210	20,490
4 1/2	21.50	--	21.38	0.500	3.500	3.375	T95	18,770	596,900	--	--	--	--	18,470	--	--	--	--	--	--	18,030	19,220	21,590
4 1/2	23.70	--	23.59	0.560	3.380	3.255	L80	17,430	554,600	--	--	--	--	17,420	--	--	--	--	--	--	16,900	17,890	19,760
4 1/2	23.70	--	23.59	0.560	3.380	3.255	C90	19,610	623,900	--	--	--	--	19,600	--	--	--	--	--	--	19,020	20,130	23,230
4 1/2	23.70	--	23.59	0.560	3.380	3.255	T95	20,700	658,500	--	--	--	--	20,690	--	--	--	--	--	--	20,070	21,250	24,480
4 1/2	26.00	--	26.06	0.630	3.240	3.115	L80	19,260	612,800	--	--	--	--	19,600	--	--	--	--	--	--	18,860	19,820	22,520
4 1/2	26.00	--	26.06	0.630	3.240	3.115	C90	21,670	689,400	--	--	--	--	22,050	--	--	--	--	--	--	21,220	22,300	26,520
4 1/2	26.00	--	26.06	0.630	3.240	3.115	T95	22,880	727,700	--	--	--	--	23,280	--	--	--	--	--	--	22,400	23,540	27,940
5 1/2	--	--	16.89	0.304	4.892	4.767	J55	4,910	272,900	272,900	--	0	0	0	5,320	5320	--	--	--	--	5,290	5,830	5,360
5 1/2	--	--	16.89	0.304	4.892	4.767	L80	6,290	397,000	397,000	--	0	0	0	7,740	7740	--	--	--	--	7,690	8,480	8,300
5 1/2	--	--	16.89	0.304	4.892	4.767	N80n	6,290	397,000	397,000	--	0	0	0	7,740	7740	--	--	--	--	7,690	8,480	7,230
5 1/2	--	--	16.89	0.304	4.892	4.767	N80	6,290	397,000	397,000	--	0	0	0	7,740	7740	--	--	--	--	7,690	8,480	8,740
5 1/2	--	--	16.89	0.304	4.892	4.767	C90	6,740	446,600	446,600	--	0	0	0	8,710	8710	--	--	--	--	8,650	9,540	9,700
5 1/2	--	--	16.89	0.304	4.892	4.767	T95	6,940	471,400	471,400	--	0	0	0	9,190	9190	--	--	--	--	9,130	10,070	10,220
5 1/2	--	--	16.89	0.304	4.892	4.767	P110 SR16	7,480	545,800	545,800	--	0	0	0	10,640	10640	--	--	--	--	10,580	11,660	11,090
5 1/2	--	--	16.89	0.304	4.892	4.767	P110	7,480	545,800	545,800	--	0	0	0	10,640	10640	--	--	--	--	10,580	11,660	12,250