

API Drill Pipe and Tool Joint Combinations

DRILL PIPE						TOOL JOINT											
Outside Dia. Of Pipe (OD)	Wall Thickness of Pipe (WT)		Inside Dia. Of Pipe (ID)	UPSET END	Grade	Connection Number or Size	Outside Dia. Of Pin and Box (D)		Inside Dia. Of PIN (d)		Total Length ToolJoint Pin (Lp)						
	in	Weight Designation					in	in	in	mm		in	mm	in			
2 3/8	6.65	0.280	1.815	EU	E75	NC26 2-3/8IF	3 3/8	85.7	1 3/4	44.5	10						
					X95		3 3/8	85.7	1 3/4	44.5	10						
					G105		3 3/8	85.7	1 3/4	44.5	10						
					S135		3 3/8	85.7	1 3/4	44.5	10						
2 7/8	10.40	0.362	2.151	EU	E75	NC31 2-7/8IF	4 1/8	104.8	2 1/8	54.0	10 1/2						
					X95		4 1/8	104.8	2	50.8	10 1/2						
					G105		4 1/8	104.8	2	50.8	10 1/2						
					S135		4 3/8	111.1	1 5/8	41.3	10 1/2						
3 1/2	9.50	0.254	2.992	EU	E75	NC38	4 3/4	120.7	2 11/16	68.3	11 1/2						
3 1/2	13.30	0.368	2.764	EU	E75	NC38 3-1/2IF	4 3/4	120.7	2 11/16	68.3	12						
					X95		5	127.0	2 9/16	65.1	12						
					G105		5	127.0	2 7/16	61.9	12						
					S135		5	127.0	2 1/8	54.0	12						
3 1/2	15.50	0.449	2.602	EU	E75	NC38 3-1/2IF	5	127.0	2 9/16	65.1	12						
					X95		5	127.0	2 7/16	61.9	12						
					G105		5	127.0	2 1/8	54.0	12						
3 1/2	15.50	0.449	2.602	EU	S135	NC40	5 1/2	139.7	2 1/4	57.2	11 1/2						
4	14.00	0.330	3.340	IU	E75	NC40	5 1/4	133.4	2 13/16	71.4	11 1/2						
					X95		5 1/4	133.4	2 11/16	68.3	11 1/2						
					G105		5 1/2	139.7	2 7/16	61.9	11 1/2						
					S135		5 1/2	139.7	2	50.8	11 1/2						
4	14.00	0.330	3.340	EU	E75	NC46	6	152.4	3 1/4	82.6	11 1/2						
					X95		6	152.4	3 1/4	82.6	11 1/2						
					G105		6	152.4	3 1/4	82.6	11 1/2						
					S135		6	152.4	3	76.2	11 1/2						
4 1/2	13.75	0.271	3.958	IU	E75	NC46	6	152.4	3 3/8	85.7	11 1/2						
4 1/2	13.75	0.271	3.958	EU	E75	NC50	6 5/8	168.3	3 3/4	95.3	11 1/2						
					4 1/2		16.60	0.337	3.826	IEU	E75	NC46	6 1/4	158.8	3 1/4	82.6	11 1/2
											X95		6 1/4	158.8	3	76.2	11 1/2
											G105		6 1/4	158.8	3	76.2	11 1/2
S135	6 1/4	158.8	2 3/4	69.9		11 1/2											
4 1/2	16.60	0.337	3.826	EU	E75	NC50	6 5/8	168.3	3 3/4	95.3	11 1/2						
					X95		6 5/8	168.3	3 3/4	95.3	11 1/2						
					G105		6 5/8	168.3	3 3/4	95.3	11 1/2						
					S135		6 5/8	168.3	3 1/2	88.9	11 1/2						
4 1/2	20.00	0.430	3.640	IEU	E75	NC46	6 1/4	158.8	3	76.2	11 1/2						
					X95		6 1/4	158.8	2 3/4	69.9	11 1/2						
					G105		6 1/4	158.8	2 1/2	63.5	11 1/2						
					S135		6 1/4	158.8	2 1/4	57.2	11 1/2						
4 1/2	20.00	0.430	3.640	EU	E75	NC50	6 5/8	168.3	3 5/8	92.1	11 1/2						
					X95		6 5/8	168.3	3 1/2	88.9	11 1/2						
					G105		6 5/8	168.3	3 1/2	88.9	11 1/2						
					S135		6 5/8	168.3	3	76.2	11 1/2						

				MECHANICAL PROPERTIES						
Pin Tong space (Lpb)	Box Tong Space (Lb)	Combined Length of Pin and Box (L)	Dia. Of Elevator Upset (DPE/DTE)	Pipe Tensile Strength	Pipe Internal Pressure	Pipe Collapse Pressure	Pipe Torsional Strength	Torsional Yield Strength of Tool Joint	Torsional Ratio TJ to Drill Pipe	Recommnd Make-up Torque
in	in	in	in	lbs	psi (Min WT-12.5%)	psi	ft-lbs	ft-lbs	ft-lbs	ft-lbs
7	8	15	2 9/16	138,000	15,470	15,600	6,250	6,875	1.10	4,130
7	8	15	2 9/16	175,000	19,600	19,760	7,920	6,875	0.87	4,130
7	8	15	2 9/16	194,000	21,660	21,840	8,750	6,875	0.79	4,130
7	8	15	2 9/16	249,000	27,850	28,080	11,250	6,875	0.61	4,130
7	9	16	3 3/16	214,000	16,530	16,510	11,550	11,871	1.03	7,120
7	9	16	3 3/16	272,000	20,930	20,910	14,640	13,196	0.90	7,920
7	9	16	3 3/16	300,000	23,140	23,110	16,180	13,196	0.82	7,920
7	9	16	3 3/16	386,000	29,750	29,720	20,800	16,946	0.81	10,170
8	10 1/2	18 1/2	3 7/8	194,000	9,530	10,000	14,150	18,107	0.91	10,860
8	10 1/2	18 1/2	3 7/8	272,000	13,800	14,110	18,550	18,107	0.98	10,860
8	10 1/2	18 1/2	3 7/8	344,000	17,480	17,880	23,500	20,327	0.86	12,200
8	10 1/2	18 1/2	3 7/8	380,000	19,320	19,760	25,970	22,213	0.86	13,330
8	10 1/2	18 1/2	3 7/8	489,000	24,840	25,400	33,390	26,516	0.79	15,910
8	10 1/2	18 1/2	3 7/8	323,000	16,840	16,770	21,090	20,327	0.96	12,200
8	10 1/2	18 1/2	3 7/8	409,000	21,330	21,250	26,710	22,213	0.83	13,330
8	10 1/2	18 1/2	3 7/8	452,000	23,570	23,480	29,520	26,516	0.90	15,910
7	10	17	3 7/8	581,000	30,310	30,190	37,950	32,944	0.87	19,770
7	10	17	4 3/16	285,000	10,830	11,350	23,290	23,487	1.01	14,090
7	10	17	4 3/16	361,000	13,720	14,380	29,500	25,673	0.87	15,400
7	10	17	4 3/16	400,000	15,160	15,900	32,600	30,114	0.92	18,070
7	10	17	4 3/16	514,000	19,490	20,140	41,920	36,363	0.87	21,820
7	10	17	4 1/2	285,000	10,830	11,350	23,290	33,626	1.44	20,180
7	10	17	4 1/2	361,000	13,720	14,380	29,500	33,626	1.14	20,180
7	10	17	4 1/2	400,000	15,160	15,900	32,600	33,626	1.03	20,180
7	10	17	4 1/2	514,000	19,490	20,140	41,920	39,230	0.94	23,540
7	10	17	4 11/16	270,000	7,900	7,170	25,910	30,656	1.18	18,390
7	10	17	5	270,000	7,900	7,170	25,910	38,060	1.47	22,840
7	10	17	4 11/16	331,000	9,830	10,390	30,810	33,994	1.10	20,400
7	10	17	4 11/16	419,000	12,450	12,760	39,020	39,659	1.02	23,800
7	10	17	4 11/16	463,000	13,760	13,820	43,130	39,659	0.92	23,800
7	10	17	4 11/16	595,000	17,690	16,770	55,450	44,872	0.81	26,920
7	10	17	5	331,000	9,830	10,390	30,810	38,060	1.24	22,840
7	10	17	5	419,000	12,450	12,760	39,020	38,060	0.98	22,840
7	10	17	5	463,000	13,760	13,820	43,130	38,060	0.88	22,840
7	10	17	5	595,000	17,690	16,770	55,450	45,128	0.81	27,080
7	10	17	4 11/16	412,000	12,540	12,960	36,900	39,659	1.07	23,800
7	10	17	4 11/16	522,000	15,890	16,420	46,740	44,872	0.96	26,920
7	10	17	4 11/16	577,000	17,560	18,150	51,660	49,631	0.96	29,780
7	10	17	4 11/16	742,000	22,580	23,330	66,420	53,937	0.81	32,360
7	10	17	5	412,000	12,540	12,960	36,900	41,655	1.13	24,990
7	10	17	5	522,000	15,890	16,420	46,740	45,128	0.97	27,080
7	10	17	5	577,000	17,560	18,150	51,660	45,128	0.87	27,080
7	10	17	5	742,000	22,580	23,330	66,420	57,801	0.87	34,680

API Drill Pipe and Tool Joint Combinations

DRILL PIPE					TOOL JOINT						
Outside Dia. Of Pipe (OD)	Wall Thickness of Pipe (WT)		Inside Dia. Of Pipe (ID)	UPSET END	Grade	Connection Number or Size	Outside Dia. Of Pin and Box (D)		Inside Dia. Of PIN (d)		Total Length Tool Joint Pin (Lp)
	in	Weight Designation					in	in	in	mm	
5	19.50	0.326	4.276	IEU	E75	NC50	6 5/8	168.3	3 3/4	95.3	11 1/2
					X95		6 5/8	168.3	3 1/2	88.9	11 1/2
					G105		6 5/8	168.3	3 1/4	82.6	11 1/2
					S135		6 5/8	168.3	2 3/4	69.9	11 1/2
5	25.60	0.500	4.000	IEU	E75	NC50	6 5/8	168.3	3 1/2	88.9	11 1/2
					X95		6 5/8	168.3	3	76.2	11 1/2
					G105		6 5/8	168.3	2 3/4	69.9	11 1/2
5	19.50	0.362	4.276	IEU	E75	5 1/2FH	7	177.8	3 3/4	95.3	13
					X95		7	177.8	3 3/4	95.3	13
					G105		7	177.8	3 3/4	95.3	13
					S135		7 1/4	184.2	3 1/2	88.9	13
5	25.60	0.500	4.000	IEU	E75	5 1/2FH	7	177.8	3 1/2	88.9	13
					X95		7	177.8	3 1/2	88.9	13
					G105		7 1/4	184.2	3 1/2	88.9	13
					S135		7 1/4	184.2	3 1/4	82.6	13
5 1/2	21.90	0.361	4.778	IEU	E75	5 1/2FH	7	177.8	4	101.6	13
					X95		7	177.8	3 3/4	95.3	13
					G105		7 1/4	184.2	3 1/2	88.9	13
					S135		7 1/2	190.5	3	76.2	13
5 1/2	24.70	0.415	4.670	IEU	E75	5 1/2FH	7	177.8	4	101.6	13
					X95		7 1/4	184.2	3 1/2	88.9	13
					G105		7 1/4	184.2	3 1/2	88.9	13
					S135		7 1/2	190.5	3	76.2	13
6 5/8	25.20	0.330	5.965	IEU	E75	6 5/8FH	8	203.2	5	127.0	13
					X95		8	203.2	5	127.0	13
					G105		8 1/4	209.6	4 3/4	120.7	13
					S135		8 1/2	215.9	4 1/4	108.0	13
6 5/8	27.70	0.362	5.901	IEU	E75	6 5/8FH	8	203.2	5	127.0	13
					X95		8 1/4	209.6	4 3/4	120.7	13
					G105		8 1/4	209.6	4 3/4	120.7	13
					S135		8 1/2	215.9	4 1/4	108.0	13

				MECHANICAL PROPERTIES						
Pin Tong Spase (Lpb)	Box Tong Space (Lb)	Combined Length of Pin and Box (L)	Dia. Of Elevator Upset (DPE/DTE)	Pipe Tensile Strength	Pipe Internal Pressure	Pipe Collapse Pressure	Pipe Torsional Strength	Torsional Yield Strength of Tool Joint	Torsional Ratio TJ to Drill Pipe	Recommend Make-up Torque
in	in	in	in	lbs	psi (Min WT-12.5%)	psi	ft-lbs	ft-lbs	ft-lbs	ft-lbs
7	10	17	5 1/8	396,000	9,500	10,070	41,170	38,060	0.92	22,840
7	10	17	5 1/8	501,000	12,040	12,020	52,140	45,128	0.87	27,080
7	10	17	5 1/8	554,000	13,300	13,000	57,630	51,708	0.90	31,020
7	10	17	5 1/8	712,000	17,100	15,670	74,100	63,407	0.86	38,040
7	10	17	5 1/8	530,000	13,130	13,500	52,260	45,128	0.86	27,080
7	10	17	5 1/8	672,000	16,630	17,100	66,190	57,801	0.87	34,680
7	10	17	5 1/8	742,000	18,380	18,900	73,160	63,407	0.87	38,040
8	10	18	5 1/8	396,000	9,500	10,070	41,170	62,903	1.53	37,740
8	10	18	5 1/8	501,000	12,040	12,020	52,140	62,903	1.21	37,740
8	10	18	5 1/8	554,000	13,300	13,000	57,630	62,903	1.09	37,740
8	10	18	5 1/8	712,000	17,100	15,670	74,100	72,484	0.98	43,490
8	10	18	5 1/8	530,000	13,130	13,500	52,260	62,903	1.20	37,740
8	10	18	5 1/8	672,000	16,630	17,100	66,190	62,903	0.95	37,740
8	10	18	5 1/8	742,000	18,380	18,900	73,160	72,484	0.99	43,490
8	10	18	5 1/8	954,000	23,630	24,300	94,060	78,716	0.84	47,230
8	10	18	5 11/16	437,000	8,610	5,440	50,710	55,934	1.10	33,560
8	10	18	5 11/16	554,000	10,910	7,850	64,230	62,903	0.98	37,740
8	10	18	5 11/16	612,000	12,060	9,060	70,990	72,484	1.02	43,490
8	10	18	5 11/16	787,000	15,510	12,670	91,280	87,171	0.95	52,300
8	10	18	5 11/16	497,000	9,900	10,460	56,570	55,934	0.99	33,560
8	10	18	5 11/16	630,000	12,540	10,910	71,660	72,484	1.01	43,490
8	10	18	5 11/16	696,000	13,860	12,440	79,200	72,484	0.92	43,490
8	10	18	5 11/16	895,000	17,830	17,020	101,830	87,171	0.86	52,300
8	11	19	6 15/16	489,000	6,540	1,550	70,580	73,662	1.04	44,200
8	11	19	6 15/16	620,000	8,280	2,920	89,400	73,662	0.82	44,200
8	11	19	6 15/16	685,000	9,150	3,610	98,810	86,238	0.87	51,740
8	11	19	6 15/16	881,000	11,770	6,040	127,050	109,227	0.86	65,540
8	11	19	6 15/16	534,000	7,170	2,740	76,300	73,662	0.97	44,200
8	11	19	6 15/16	677,000	9,080	4,430	96,640	86,238	0.89	51,740
8	11	19	6 15/16	748,000	10,040	5,270	106,810	86,238	0.81	51,740
8	11	19	6 15/16	962,000	12,910	7,810	137,330	109,227	0.80	65,540