

MACII™ Torque table

MACII™ Torque Table | 5 1/2" TO 7"

SIZE (OD)	NOMINAL WEIGHT	WALL THICKNESS	SMYS OF STEEL GRADE	MAKE UP TORQUE		
				Minimum	Optimum	Maximum
in	lb/ft	in	ksi	ft.lb	ft.lb	ft.lb
5 1/2	28.40	0.530	80	5200	5700	6200
			90	5700	6300	6800
			95	5900	6500	7100
			110	6600	7300	7900
			125	7300	8000	8800
			29.70	0.562	80	6100
	90	6600	7300		7900	
	95	6900	7600		8300	
	110	7700	8500		9200	
	125	8500	9400		10200	
	32.60	0.625	80		7100	7800
	90		7800	8600	9400	
	95		8100	8900	9700	
	110		9100	10000	10900	
	125		10000	11000	12000	
	35.30		0.687	80	7600	8400
	90	8300		9100	10000	
	95	8600		9500	10300	
	110	9600		10600	11500	
	125	10700		11800	12800	
	36.40	0.705		80	7700	8500
	90		8400	9200	10100	
	95		8700	9600	10400	
	110		9700	10700	11600	
125	10800		11900	13000		
38.00	0.750		80	8000	8800	9600
90		8700	9600	10400		
95		9100	10000	10900		
110		10100	11100	12100		
125		11200	12300	13400		
40.50		0.812	80	8300	9100	10000
90	9100		10000	10900		
95	9400		10300	11300		
110	10500		11600	12600		
125	11600		12800	13900		
6 5/8	36.70		0.562	80	7900	8700
		90		8400	9200	10100
		95		8700	9600	10400
		110		9500	10500	11400
		125		10300	11300	12400
		40.20		0.625	80	9500
	90	10300	11300		12400	
	95	10700	11800		12800	
	110	11900	13100		14300	
	125	13100	14400		15700	
	43.70	0.687	80		11500	12700
	90		12400	13600	14900	
	95		12900	14200	15500	
	110		14200	15600	17000	
	125		16000	17600	19200	
	47.10		0.750	80	12700	14000
	90	13900		15300	16700	
	95	14400		15800	17300	
	110	16000		17600	19200	
	125	18000		19800	22000	
	50.40	0.812		80	13400	14700
	90		14600	16100	17500	
	95		15000	16500	18000	
	110		17000	18700	20000	
125	19000		21000	23000		
53.70	0.875		80	14000	15400	16800
90		15000	16500	18000		

SIZE (OD)	NOMINAL WEIGHT	WALL THICKNESS	SMYS OF STEEL GRADE	MAKE UP TORQUE				
				Minimum	Optimum	Maximum		
in	lb/ft	in	ksi	ft.lb	ft.lb	ft.lb		
6 5/8	53.70	0.875	95	16000	17600	19200		
			110	18000	19800	22000		
			125	20000	22000	24000		
			65.80	1.125	80	16000	17600	19200
					90	18000	19800	22000
					95	19000	21000	23000
	7	41.00	0.590	80	8900	9800	10700	
				90	9700	10700	11600	
				95	10000	11000	12000	
				110	11200	12300	13400	
				125	12300	13500	14800	
				42.70	0.625	80	10100	11100
90	10900	12000	13100					
95	11400	12500	13700					
110	12600	13900	15100					
125	13900	15300	16700					
44.00	0.640	80	9700			10700	11600	
		90	10600	11700	12700			
		95	11000	12100	13200			
		110	12300	13500	14800			
		125	13600	15000	16300			
		45.40	0.670	80	10800	11900	13000	
90	11800			13000	14200			
95	12300			13500	14800			
110	13800			15200	16600			
125	15000			16500	18000			
46.40	0.687			80	11300	12400	13600	
		90	12400	13600	14900			
		95	12900	14200	15500			
		110	14400	15800	17300			
		125	16000	17600	19200			
		49.50	0.730	80	12500	13800	15000	
90	13600			15000	16300			
95	14200			15600	17000			
110	16000			17600	19200			
125	18000			19800	22000			
50.10	0.750			80	12700	14000	15200	
		90	13900	15300	16700			
		95	14400	15800	17300			
		110	16000	17600	19200			
		125	18000	19800	22000			
		53.60	0.812	80	14300	15700	17200	
90	16000			17600	19200			
95	16000			17600	19200			
110	18000			19800	22000			
125	20000			22000	24000			
57.10	0.875			80	14900	16400	17900	
		90	16000	17600	19200			
		95	17000	18700	20000			
		110	19000	21000	23000			
		125	21000	23000	25000			
		60.50	0.937	80	16000	17600	19200	
90	17000			18700	20000			
95	18000			19800	22000			
110	20000			22000	24000			
125	22000			24000	26000			
63.90	1.000			80	16000	17600	19200	
		90	18000	19800	22000			
		95	19000	21000	23000			
		110	21000	23000	25000			

7" TO 9 5/8"

SIZE (OD)	NOMINAL WEIGHT	WALL THICKNESS	SMYS OF STEEL GRADE	MAKE UP TORQUE		
				Minimum	Optimum	Maximum
in	lb/ft	in	ksi	ft.lb	ft.lb	ft.lb
7	63.90	1.000	125	23000	25000	28000
7 5/8	45.30	0.595	80	10300	11300	12400
			90	11100	12200	13300
			95	11500	12700	13800
			110	12800	14100	15400
			125	14100	15500	16900
	47.10	0.625	80	11400	12500	13700
			90	12300	13500	14800
			95	12800	14100	15400
			110	14200	15600	17000
			125	16000	17600	19200
	51.20	0.687	80	13000	14300	15600
			90	14100	15500	16900
			95	14700	16200	17600
			110	16000	17600	19200
			125	18000	19800	22000
	52.80	0.712	80	13500	14900	16200
			90	14600	16100	17500
			95	15000	16500	18000
			110	17000	18700	20000
			125	19000	21000	23000
	55.30	0.750	80	14900	16400	17900
			90	16000	17600	19200
			95	17000	18700	20000
			110	19000	21000	23000
			125	21000	23000	25000
	59.20	0.812	80	17000	18700	20000
			90	18000	19800	22000
			95	19000	21000	23000
			110	21000	23000	25000
			125	24000	26000	29000
	63.20	0.875	80	19000	21000	23000
			90	20000	22000	24000
			95	21000	23000	25000
			110	24000	26000	29000
			125	26000	29000	31000
	66.90	0.937	80	19000	21000	23000
			90	21000	23000	25000
			95	22000	24000	26000
			110	25000	28000	30000
			125	27000	30000	32000
	70.70	1.000	80	20000	22000	24000
			90	22000	24000	26000
			95	23000	25000	28000
			110	26000	29000	31000
			125	28000	31000	34000
7 3/4	46.10	0.595	80	10100	11100	12100
			90	11000	12100	13200
			95	11400	12500	13700
			110	12700	14000	15200
			125	14000	15400	16800
	48.60	0.640	80	12100	13300	14500
			90	13100	14400	15700
			95	13600	15000	16300
			110	15000	16500	18000
			125	17000	18700	20000
8	70.80	0.937	80	21000	23000	25000
			90	23000	25000	28000
			95	24000	26000	29000
			110	26000	29000	31000
			125	29000	32000	35000
	74.20	0.980	80	23000	25000	28000

SIZE (OD)	NOMINAL WEIGHT	WALL THICKNESS	SMYS OF STEEL GRADE	MAKE UP TORQUE		
				Minimum	Optimum	Maximum
in	lb/ft	in	ksi	ft.lb	ft.lb	ft.lb
8	74.20	0.980	90	25000	28000	30000
			95	26000	29000	31000
			110	29000	32000	35000
			125	32000	35000	38000
8 5/8	54.00	0.625	80	13000	14300	15600
			90	14100	15500	16900
			95	14600	16100	17500
			110	16000	17600	19200
			125	18000	19800	22000
			125	18000	19800	22000
	58.70	0.687	80	16000	17600	19200
			90	17000	18700	20000
			95	18000	19800	22000
			110	20000	22000	24000
			125	22000	24000	26000
			125	22000	24000	26000
63.50	0.750	80	18000	19800	22000	
		90	20000	22000	24000	
		95	21000	23000	25000	
		110	23000	25000	28000	
		125	25000	28000	30000	
		125	25000	28000	30000	
	68.10	0.812	80	20000	22000	24000
			90	22000	24000	26000
			95	23000	25000	28000
			110	26000	29000	31000
			125	29000	32000	35000
			125	29000	32000	35000
72.70	0.875	80	23000	25000	28000	
		90	25000	28000	30000	
		95	26000	29000	31000	
		110	29000	32000	35000	
		125	32000	35000	38000	
		125	32000	35000	38000	
	77.10	0.937	80	25000	28000	30000
			90	28000	31000	34000
			95	29000	32000	35000
			110	32000	35000	38000
			125	36000	40000	43000
			125	36000	40000	43000
81.50	1.000	80	28000	31000	34000	
		90	30000	33000	36000	
		95	31000	34000	37000	
		110	35000	39000	42000	
		125	39000	43000	47000	
		125	39000	43000	47000	
	83.20	1.025	80	29000	32000	35000
			90	32000	35000	38000
			95	33000	36000	40000
			110	37000	41000	44000
			125	41000	45000	49000
			125	41000	45000	49000
9 5/8	58.40	0.595	80	10900	12000	13100
			90	11900	13100	14300
			95	12300	13500	14800
			110	13700	15100	16400
			125	15000	16500	18000
			125	15000	16500	18000
	59.40	0.609	80	13500	14900	16200
			90	14700	16200	17600
			95	15000	16500	18000
			110	17000	18700	20000
			125	19000	21000	23000
			125	19000	21000	23000
61.10	0.625	80	14300	15700	17200	
		90	15000	16500	18000	
		95	16000	17600	19200	
		110	18000	19800	22000	
		125	20000	22000	24000	
		125	20000	22000	24000	
64.90	0.672	80	17000	18700	20000	
		90	18000	19800	22000	
		95	19000	21000	23000	
		110	21000	23000	25000	
		125	23000	25000	27000	
		125	23000	25000	27000	

9 5/8" TO 12 3/4"

SIZE (OD)	NOMINAL WEIGHT	WALL THICKNESS	SMYS OF STEEL GRADE	MAKE UP TORQUE				
				Minimum	Optimum	Maximum		
in	lb/ft	in	ksi	ft.lb	ft.lb	ft.lb		
9 5/8	64.90	0.672	110	21000	23000	25000		
			125	23000	25000	28000		
			70.30	0.734	80	19000	21000	23000
					90	21000	23000	25000
					95	22000	24000	26000
	110	24000			26000	29000		
	125	27000			30000	32000		
	71.60	0.750	80	20000	22000	24000		
			90	22000	24000	26000		
			95	23000	25000	28000		
			110	25000	28000	30000		
			125	28000	31000	34000		
	75.60	0.797	80	22000	24000	26000		
			90	24000	26000	29000		
			95	25000	28000	30000		
			110	28000	31000	34000		
			125	31000	34000	37000		
	80.80	0.859	80	25000	28000	30000		
			90	27000	30000	32000		
			95	28000	31000	34000		
110			32000	35000	38000			
125			35000	39000	42000			
86.00	0.922	80	28000	31000	34000			
		90	31000	34000	37000			
		95	32000	35000	38000			
		110	36000	40000	43000			
		125	40000	44000	48000			
91.00	0.984	80	31000	34000	37000			
		90	34000	37000	41000			
		95	35000	39000	42000			
		110	39000	43000	47000			
		125	44000	48000	53000			
9 7/8	62.80	0.625	80	14500	16000	17400		
			90	16000	17600	19200		
			95	16000	17600	19200		
			110	18000	19800	22000		
			125	20000	22000	24000		
10 3/4	73.20	0.672	80	19000	21000	23000		
			90	20000	22000	24000		
			95	21000	23000	25000		
			110	24000	26000	29000		
			125	26000	29000	31000		
	75.90	0.700	80	21000	23000	25000		
			90	22000	24000	26000		
			95	23000	25000	28000		
			110	26000	29000	31000		
			125	28000	31000	34000		
	79.20	0.734	80	23000	25000	28000		
			90	25000	28000	30000		
			95	26000	29000	31000		
			110	29000	32000	35000		
			125	32000	35000	38000		
	80.80	0.750	80	24000	26000	29000		
			90	26000	29000	31000		
			95	27000	30000	32000		
			110	30000	33000	36000		
			125	33000	36000	40000		
85.30	0.797	80	26000	29000	31000			
		90	28000	31000	34000			
		95	29000	32000	35000			
		110	32000	35000	38000			
		125	36000	40000	43000			

SIZE (OD)	NOMINAL WEIGHT	WALL THICKNESS	SMYS OF STEEL GRADE	MAKE UP TORQUE		
				Minimum	Optimum	Maximum
in	lb/ft	in	ksi	ft.lb	ft.lb	ft.lb
10 3/4	91.20	0.859	80	30000	33000	36000
			90	33000	36000	40000
			95	34000	37000	41000
			110	38000	42000	46000
			125	42000	46000	50000
	97.10	0.922	80	34000	37000	41000
			90	37000	41000	44000
			95	38000	42000	46000
			110	42000	46000	50000
			125	47000	52000	56000
	102.90	0.984	80	37000	41000	44000
			90	40000	44000	48000
			95	42000	46000	50000
			110	47000	52000	56000
			125	52000	57000	62000
	104.30	1.000	80	36000	40000	43000
			90	39000	43000	47000
			95	41000	45000	49000
			110	46000	51000	55000
			125	51000	56000	61000
108.70	1.047	80	39000	43000	47000	
		90	43000	47000	52000	
		95	44000	48000	53000	
		110	50000	55000	60000	
		125	55000	61000	66000	
11 3/4	87.50	0.734	80	25000	28000	30000
			90	27000	30000	32000
			95	28000	31000	34000
			110	31000	34000	37000
			125	35000	39000	42000
	94.00	0.797	80	30000	33000	36000
			90	33000	36000	40000
			95	34000	37000	41000
			110	38000	42000	46000
			125	41000	45000	49000
	100.50	0.859	80	34000	37000	41000
			90	37000	41000	44000
			95	38000	42000	46000
			110	43000	47000	52000
			125	47000	52000	56000
	107.10	0.922	80	38000	42000	46000
			90	42000	46000	50000
			95	43000	47000	52000
			110	48000	53000	58000
			125	53000	58000	64000
111.50	0.945	80	43000	47000	52000	
		90	46000	51000	55000	
		95	48000	53000	58000	
		110	53000	58000	64000	
		125	59000	65000	71000	
113.50	0.984	80	42000	46000	50000	
		90	46000	51000	55000	
		95	47000	52000	56000	
		110	53000	58000	64000	
		125	59000	65000	71000	
119.90	1.047	80	46000	51000	55000	
		90	51000	56000	61000	
		95	53000	58000	64000	
		110	59000	65000	71000	
		125	66000	73000	79000	
12 3/4	94.20	0.734	80	28000	31000	34000
			90	30000	33000	36000

12 3/4" TO 16"

SIZE (OD)	NOMINAL WEIGHT	WALL THICKNESS	SMYS OF STEEL GRADE	MAKE UP TORQUE				
				Minimum	Optimum	Maximum		
in	lb/ft	in	ksi	ft.lb	ft.lb	ft.lb		
12 3/4	94.20	0.734	95	31000	34000	37000		
			110	35000	39000	42000		
			125	38000	42000	46000		
			101.70	0.797	80	34000	37000	41000
					90	37000	41000	44000
					95	38000	42000	46000
	109.10	0.859	110	42000	46000	50000		
			125	46000	51000	55000		
			80	0.859	80	40000	44000	48000
					90	43000	47000	52000
					95	45000	50000	54000
			116.50	0.922	110	50000	55000	60000
	125	54000			59000	65000		
	90	0.922			80	43000	47000	52000
					90	47000	52000	56000
					95	48000	53000	58000
	123.70	0.984			110	54000	59000	65000
			125	59000	65000	71000		
			80	0.984	80	49000	54000	59000
					90	53000	58000	64000
					95	55000	61000	66000
			130.90	1.047	110	61000	67000	73000
	125	67000			74000	80000		
	90	1.047			80	51000	56000	61000
90					55000	61000	66000	
95					57000	63000	68000	
137.90	1.109	110			63000	69000	76000	
		125	69000	76000	83000			
		80	1.109	80	57000	63000	68000	
				90	62000	68000	74000	
				95	65000	72000	78000	
		13 3/8	92.50	0.672	110	73000	80000	88000
125	81000				89000	97000		
80	0.672				80	25000	28000	30000
					90	27000	30000	32000
					95	28000	31000	34000
100.30	0.734				110	31000	34000	37000
			125	34000	37000	41000		
			90	0.734	80	31000	34000	37000
					90	34000	37000	41000
					95	35000	39000	42000
			108.10	0.797	110	38000	42000	46000
125	42000				46000	50000		
80	0.797				80	34000	37000	41000
					90	37000	41000	44000
					95	39000	43000	47000
115.70	0.859				110	43000	47000	52000
			125	47000	52000	56000		
			90	0.859	80	41000	45000	49000
					90	44000	48000	53000
					95	46000	51000	55000
			123.40	0.922	110	51000	56000	61000
125	56000				62000	67000		
90	0.922				80	46000	51000	55000
					90	49000	54000	59000
		95			51000	56000	61000	
130.80	0.984	110			57000	63000	68000	
		125	63000	69000	76000			
		80	0.984	80	51000	56000	61000	
				90	55000	61000	66000	
				95	57000	63000	68000	

SIZE (OD)	NOMINAL WEIGHT	WALL THICKNESS	SMYS OF STEEL GRADE	MAKE UP TORQUE			
				Minimum	Optimum	Maximum	
in	lb/ft	in	ksi	ft.lb	ft.lb	ft.lb	
13 3/8	130.80	0.984	95	57000	63000	68000	
			110	64000	70000	77000	
			125	70000	77000	84000	
	138.30	1.047	80	57000	63000	68000	
			90	62000	68000	74000	
			95	64000	70000	77000	
				110	72000	79000	86000
				125	79000	87000	95000
				145.60	1.109	80	60000
	90	65000	72000	78000			
	95	68000	75000	82000			
				110	75000	83000	90000
125				83000	91000	100000	
14				99.60	0.700	80	29000
	90	31000	34000			37000	
	95	32000	35000			38000	
				110	35000	39000	42000
				125	39000	43000	47000
				104.20	0.734	80	32000
	90	35000	39000	42000			
	95	36000	40000	43000			
				110	40000	44000	48000
				125	43000	47000	52000
				112.60	0.797	80	39000
	90	42000	46000	50000			
95	43000	47000	52000				
			110	48000	53000	58000	
			125	52000	57000	62000	
			16	109.00	0.656	80	28000
90	30000	33000				36000	
95	30000	33000				36000	
				110	33000	36000	40000
				125	36000	40000	43000
				118.00	0.715	80	33000
90	35000	39000		42000			
95	37000	41000		44000			
				110	40000	44000	48000
				125	43000	47000	52000
				128.60	0.781	80	39000
90	42000	46000		50000			
95	43000	47000	52000				
			110	47000	52000	56000	
			125	51000	56000	61000	
			137.90	0.843	80	44000	48000
90	47000	52000	56000				
95	48000	53000	58000				
			110	53000	58000	64000	
			125	57000	63000	68000	
			147.30	0.906	80	46000	51000
90	49000	54000	59000				
95	51000	56000	61000				
			110	55000	61000	66000	
			125	60000	66000	72000	

- SMYS: Specified Minimum Yield Strength.
- Many factors influence torque application. To ensure that minimum torque is attained, a field target torque (optimum torque) 10 % over minimum is recommended.
- Maximum recommended make-up torque is 20% over minimum make-up torque.
- For other unlisted combinations of dimension and SMYS please contact premiumconnections@tenaris.com



For contact information, please visit
our website: www.tenaris.com