

Recommended Tap Drill Sizes

螺紋下孔徑對照表

Unit: mm

Metric 公制					Metric 公制					Metric 公制				
Nominal Size 稱呼尺寸	Drill Size 下孔徑	JIS 6H Class II 級			Nominal Size 稱呼尺寸	Drill Size 下孔徑	JIS 6H Class II 級			Nominal Size 稱呼尺寸	Drill Size 下孔徑	JIS 6H Class II 級		
		Min. 下限	Max. 上限				Min. 下限	Max. 上限				Min. 下限	Max. 上限	
M1 X0.25	0.75	(0.729)	(0.785)		M10 X1.5	8.5	8.376	8.676		M27 X1	26.0	25.917	26.153	
M1 X0.2	0.80	(0.783)	(0.821)		M10 X1.25	8.8	8.647	8.912		M28 X2	26.0	25.835	26.210	
M1.1 X0.25	0.85	(0.829)	(0.885)		M10 X1	9.0	8.917	9.153		M28 X1.5	26.5	26.376	26.676	
M1.1 X0.2	0.90	(0.883)	(0.921)		M10 X0.75	9.3	9.188	9.378		M28 X1	27.0	26.917	27.153	
M1.2 X0.25	0.95	(0.929)	(0.985)		M10 X0.5	9.5	9.459	9.599		M30 X3.5	26.5	26.211	26.771	
M1.2 X0.2	1.00	(0.983)	(1.021)		M11 X1.5	9.5	9.376	9.676		M30 X3	27.0	26.752	27.252	
M1.4 X0.3	1.10	(1.075)	(1.142)		M11 X1	10.0	9.917	10.153		M30 X2	28.0	27.835	28.210	
M1.4 X0.2	1.20	(1.183)	(1.221)		M11 X0.75	10.3	10.188	10.378		M30 X1.5	28.5	28.376	28.676	
M1.6 X0.35	1.25	1.221	1.321		M11 X0.5	10.5	10.459	10.599		M30 X1	29.0	28.917	29.153	
M1.6 X0.2	1.40	(1.383)	(1.421)		M12 X1.75	10.3	10.106	10.441		M32 X2	30.0	29.835	30.210	
M1.7 X0.35	1.35	1.321	1.421		M12 X1.5	10.5	10.376	10.676		M32 X1.5	30.5	30.376	30.676	
M1.7 X0.2	1.50	1.483	1.521		M12 X1.25	10.8	10.647	10.912		M33 X3.5	29.5	29.211	29.771	
M1.8 X0.35	1.45	1.421	1.521		M12 X1	11.0	10.917	11.153		M33 X3	30.0	29.752	30.252	
M1.8 X0.2	1.60	(1.583)	(1.621)		M12 X0.5	11.5	11.459	11.599		M33 X2	31.0	30.835	31.210	
M2 X0.4	1.60	1.567	1.679		M14 X2	12.0	11.835	12.210		M33 X1.5	31.5	31.376	31.676	
M2 X0.25	1.75	(1.729)	(1.785)		M14 X1.5	12.5	12.376	12.676		M35 X1.5	33.5	33.376	33.676	
M2.2 X0.45	1.75	1.713	1.838		M14 X1	13.0	12.917	13.153		M36 X4	32.0	31.670	32.270	
M2.2 X0.25	1.95	(1.929)	(1.985)		M15 X1.5	13.5	13.376	13.676		M36 X3	33.0	32.752	33.252	
M2.3 X0.4	1.90	1.867	1.979		M15 X1	14.0	13.917	14.153		M36 X2	34.0	33.835	34.210	
M2.3 X0.25	2.05	2.029	2.085		M16 X2	14.0	13.835	14.210		M36 X1.5	34.5	34.376	34.676	
M2.5 X0.45	2.1	2.013	2.138		M16 X1.5	14.5	14.376	14.676		M38 X1.5	36.5	36.376	36.676	
M2.5 X0.35	2.2	2.121	2.221		M16 X1	15.0	14.917	15.153		M39 X4	35.0	34.670	35.270	
M2.6 X0.45	2.2	2.113	2.238		M17 X1.5	15.5	15.376	15.676		M39 X3	36.0	35.752	36.252	
M2.6 X0.35	2.2	2.221	2.321		M17 X1	16.0	15.917	16.153		M39 X2	37.0	36.835	37.210	
M3 X0.5	2.5	2.459	2.599		M18 X2.5	15.5	15.294	15.744		M39 X1.5	37.5	37.376	37.676	
M3 X0.35	2.7	2.621	2.721		M18 X2	16.0	15.835	16.210		M40 X3	37.0	36.752	37.252	
M3.5 X0.6	2.9	2.850	3.010		M18 X1.5	16.5	16.376	16.676		M40 X2	38.0	37.835	38.210	
M3.5 X0.35	3.2	3.121	3.221		M18 X1	17.0	16.917	17.153		M40 X1.5	38.5	38.376	38.676	
M4 X0.7	3.3	3.242	3.422		M20 X2.5	17.5	17.294	17.744		M42 X4.5	37.5	37.129	37.799	
M4 X0.5	3.5	3.459	3.599		M20 X2	18.0	17.835	18.210		M42 X4	38.0	37.670	38.270	
M4.5 X0.75	3.8	3.688	3.878		M20 X1.5	18.5	18.376	18.676		M42 X3	39.0	38.752	39.252	
M4.5 X0.5	4.0	3.959	4.099		M20 X1	19.0	18.917	19.153		M42 X2	40.0	39.835	40.210	
M5 X0.8	4.2	4.134	4.334		M22 X2.5	19.5	19.294	19.744		M42 X1.5	40.5	40.376	40.676	
M5 X0.5	4.5	4.459	4.599		M22 X2	20.0	19.835	20.210		M45 X4.5	40.5	40.129	40.799	
M6 X1	5.0	4.917	5.153		M22 X1.5	20.5	20.376	20.676		M45 X4	41.0	40.670	41.270	
M6 X0.75	5.3	5.188	5.378		M22 X1	21.0	20.917	21.153		M45 X3	42.0	41.752	42.252	
M6 X0.5	5.5	5.459	5.599		M24 X3	21.0	20.752	21.252		M45 X2	43.0	42.835	43.210	
M7 X1	6.0	5.917	6.153		M24 X2	22.0	21.835	22.210		M45 X1.5	43.5	43.376	43.676	
M7 X0.75	6.3	6.188	6.378		M24 X1.5	22.5	22.376	22.676		M48 X5	43.0	42.587	43.297	
M7 X0.5	6.5	6.459	6.599		M24 X1	23.0	22.917	23.153		M48 X4	44.0	43.670	44.270	
M8 X1.25	6.8	6.647	6.912		M25 X2	23.0	22.835	23.210		M48 X3	45.0	44.752	45.252	
M8 X1	7.0	6.917	7.153		M25 X1.5	23.5	23.376	23.676		M48 X2	46.0	45.835	46.210	
M8 X0.75	7.3	7.188	7.378		M25 X1	24.0	23.917	24.153		M48 X1.5	46.5	46.376	46.676	
M8 X0.5	7.5	7.459	7.599		M26 X1.5	24.5	24.376	24.676		M50 X3	47.0	46.752	47.252	
M9 X1.25	7.8	7.647	7.912		M27 X3	24.0	23.752	24.252		M50 X2	48.0	47.835	48.210	
M9 X1	8.0	7.917	8.153		M27 X2	25.0	24.835	25.210		M50 X1.5	48.5	48.376	48.676	
M9 X0.75	8.3	8.188	8.378		M27 X1.5	25.5	25.376	25.676						

· The recommended tap drill sizes indicated above are for JIS 6H (Class 2) Metric Threads.

· D1: Minor diameter of JIS 6H (Class 2) internal thread. The Minor diameters D1 shown in () are of 5H (Class 2) for coarse threads and of 4H · 5H (Class 1) for fine threads.

Recommended Tap Drill Sizes

螺紋下孔徑對照表

Unit: mm

UNC 統一粗牙螺紋				UNF 統一細牙螺紋				UNEF, UN 統一極細牙螺紋			
Nominal Size 稱呼尺寸	Drill Size 下孔徑	Min. 下限	Max. 上限	Nominal Size 稱呼尺寸	Drill Size 下孔徑	Min. 下限	Max. 上限	Nominal Size 稱呼尺寸	Drill Size 下孔徑	Min. 下限	Max. 上限
No. 1 UNC64	1.55	1.425	1.582	No. 0 UNF80	1.25	1.182	1.305	No.12 UNEF32	4.7	4.623	4.826
No. 2 UNC56	1.80	1.695	1.871	No. 1 UNF72	1.55	1.474	1.612	1/4 UNEF32	5.6	5.487	5.689
No. 3 UNC48	2.1	1.941	2.146	No. 2 UNF64	1.85	1.756	1.912	5/16 UNEF32	7.1	7.087	7.264
No. 4 UNC40	2.3	2.157	2.385	No. 3 UNF56	2.1	2.025	2.197	3/8 UNEF32	8.7	8.662	8.864
No. 5 UNC40	2.6	2.487	2.697	No. 4 UNF48	2.4	2.271	2.458	7/16 UNEF28	10.2	10.135	10.337
No. 6 UNC32	2.8	2.642	2.895	No. 5 UNF44	2.7	2.551	2.740	1/2 UNEF28	11.8	11.710	11.938
No. 8 UNC32	3.4	3.302	3.53	No. 6 UNF40	2.9	2.820	3.022	9/16 UNEF24	13.2	13.132	13.385
No.10 UNC24	3.9	3.683	3.962	No. 8 UNF36	3.5	3.404	3.606	5/8 UNEF24	14.8	14.732	14.986
No.12 UNC24	4.5	4.344	4.597	No.10 UNF32	4.1	3.963	4.165	3/4 UNEF20	17.8	17.679	17.957
1/4 UNC20	5.1	4.979	5.257	No.12 UNF28	4.6	4.496	4.724	7/8 UNEF20	21.0	20.854	21.132
5/16 UNC18	6.6	6.401	6.731	1/4 UNF28	5.5	5.360	5.588	1 UNEF20	24.1	24.029	24.307
3/8 UNC16	8.0	7.798	8.153	5/16 UNF24	6.9	6.782	7.035	1 1/8 UNEF18	27.2	27.051	27.381
7/16 UNC14	9.4	9.144	9.550	3/8 UNF24	8.5	8.382	8.636	1 1/4 UNEF18	30.3	30.226	30.556
1/2 UNC13	10.9	10.592	11.023	7/16 UNF20	9.9	9.729	10.033	1 3/8 UNEF18	33.5	33.401	33.731
9/16 UNC12	12.2	11.989	12.446	1/2 UNF20	11.5	11.329	11.607	1 1/2 UNEF18	36.6	36.576	36.880
5/8 UNC11	13.6	13.386	13.868	9/16 UNF18	12.9	12.751	13.081				
3/4 UNC10	16.6	16.307	16.840	5/8 UNF18	14.5	14.351	14.681	1 1/8 UN 8	25.5	25.146	25.781
7/8 UNC 9	19.6	19.177	19.761	3/4 UNF16	17.5	17.323	17.678	1 1/4 UN 8	28.5	28.321	28.956
1 UNC 8	22.3	21.971	22.606	7/8 UNF14	20.5	20.270	20.675	1 3/8 UN 8	31.8	31.496	32.131
1 1/8 UNC 7	25.0	24.638	25.349	1 UNF12	23.3	23.114	23.571	1 1/2 UN 8	35.0	34.671	35.306
1 1/4 UNC 7	28.2	27.813	28.524	1 1/8 UNF12	26.5	26.289	26.746	1 5/8 UN 8	38.1	37.846	38.481
1 3/8 UNC 6	30.8	30.353	31.115	1 1/4 UNF12	29.6	29.464	29.921	1 5/8 UN12	39.1	38.989	39.446
1 1/2 UNC 6	34.0	33.528	34.290	1 3/8 UNF12	32.8	32.639	33.096	1 3/4 UN 8	41.3	41.021	41.656
1 3/4 UNC 5	39.5	38.964	39.827	1 1/2 UNF12	36.0	35.814	36.271	1 3/4 UN12	42.3	42.164	42.621
2 UNC 4½	45.2	44.679	45.593					2 UN 8	47.8	47.371	48.006
								2 UN12	48.6	48.514	48.971

Pipe Thread 管用螺紋 (PT) Rc				
Nominal Size 稱呼尺寸	Drill Size 下孔徑		Internal Thread Minor Dia. on [Min.] Length of Useful Thread 有效螺紋部的最小內徑	Internal Thread Minor Dia. on [Min.] Gauge Length 基準位置的最小內徑
	With Reamering Before Tapping 使用絞刀	Without Reamering Before Tapping 不使用絞刀		
1/16 PT 28	6.1	6.2	6.244	6.384
1/8 PT 28	8.1	8.2	8.249	8.388
1/4 PT 19	10.7	11.0	10.962	11.174
3/8 PT 19	14.2	14.5	14.448	14.658
1/2 PT 14	17.6	18.0	17.979	18.263
3/4 PT 14	23.0	23.5	23.378	23.663
1 PT 11	29.0	29.5	29.459	29.822
1-1/4 PT 11	37.5	38.0	37.976	38.339
1-1/2 PT 11	43.4	44.0	43.869	44.232
2 PT 11	54.9	55.5	55.412	55.844

• The recommended tap drill sizes indicated above are for JIS Class 2B UNC & UNF threads, and ANSI B1.1 Class 2B UNEF, UN & UNS threads.

• D1: Minor diameter of internal thread.

For UNC and UNF threads, according to JIS Class 2B;

For UNEF, UN and UNS threads, according to ANSI B1.1 Class 2B.

Recommended Tap Drill Sizes

螺紋下孔徑對照表

Unit: mm

Whitworth Coarse Threads 韋氏牙				Pipe Thread (PS) Rp 管用螺紋				Sewing Machine Threads 縫紉機牙			
Nominal Size 稱呼尺寸	Drill Size 下孔徑	Min. 下限	Max. 上限	Nominal Size 稱呼尺寸	Drill Size 下孔徑	Class II Thread		Nominal Size 稱呼尺寸	Drill Size 下孔徑	Min. 下限	Max. 上限
						Min. 下限	Max. 上限				
1/8 W 40	2.55	2.362	2.591	1/16 PS 28	6.5	6.49	6.632	1/16 SM 80	1.25	1.211	1.281
3/16 W 24	3.7	3.406	3.744	1/8 PS 28	8.5	8.495	8.637	5/64 SM 64	1.55	1.513	1.593
1/4 W 20	5.1	4.914	5.204	1/4 PS 19	11.4	11.341	11.549	3/32 SM 56	1.9	1.841	1.936
5/16 W 18	6.6	6.34	6.67	3/8 PS 19	14.9	14.846	15.054	3/32 SM100	2.1	2.081	2.156
3/8 W 16	8	7.733	8.113	1/2 PS 14	18.6	18.489	18.773	1/8 SM 32	2.3	2.233	2.393
7/16 W 14	9.4	9.048	9.508	3/4 PS 14	24	23.975	24.259	1/8 SM 40	2.5	2.421	2.551
1/2 W 12	10.7	10.31	10.83	1 PS 11	30.2	30.11	30.472	1/8 SM 44	2.5	2.485	2.605
9/16 W 12	12.3	11.898	12.418	1-1/4 PS 11	38.8	38.771	39.133	1/8 SM 48	2.6	2.547	2.657
5/8 W 11	13.7	13.257	13.817	1-1/2 PS 11	44.7	44.664	45.026	9/64 SM 32	2.7	2.63	2.79
3/4 W 10	16.6	16.178	16.778	2 PS 11	56.5	56.475	56.837	9/64 SM 40	2.9	2.818	2.948
7/8 W 9	19.5	19.031	19.691	Pipe Thread (PF) G 管用螺紋				11/64 SM 32	3.5	3.424	3.584
1 W 8	22.3	21.814	22.514	Nominal Size 稱呼尺寸	Drill Size 下孔徑	A, B Class Thread		11/64 SM 40	3.7	3.612	3.742
1-1/8 W 7	24.9	24.469	25.229			Min.	Max.	3/16 SM 24	3.6	3.498	3.658
1-1/4 W 7	28	27.644	28.404	1/16 PF 28	6.7	6.561	6.843	3/16 SM 28	3.7	3.684	3.844
1-3/8 W 6	30.5	30.123	30.923	1/8 PF 28	8.7	8.566	8.848	3/16 SM 32	3.9	3.82	3.98
1-1/2 W 6	33.6	33.298	34.098	1/4 PF 19	11.7	11.445	11.89	3/16 SM 40	4.05	4.008	4.138
1-5/8 W 5	36	35.529	36.409	3/8 PF 19	15.2	14.95	15.395	7/32 SM 32	4.7	4.614	4.774
1-3/4 W 5	39.1	38.704	39.584	1/2 PF 14	19	18.631	19.172	15/64 SM 28	4.9	4.875	5.055
1-7/8 W 4½	41.8	41.237	42.227	5/8 PF 14	21	20.587	21.128	1/4 SM 24	5.1	5.086	5.266
2 W 4½	45	44.412	45.402	3/4 PF 14	24.5	24.117	24.658	1/4 SM 28	5.3	5.272	5.452
2-1/4 W 4	50.5	49.958	51.068	7/8 PF 14	28.2	27.877	28.418	1/4 SM 40	5.6	5.596	5.726
2-1/2 W 4	56.5	56.308	57.418	1 PF 11	30.6	30.291	30.931	9/32 SM 20	5.7	5.634	5.824
2-3/4 W 3½	62	61.636	62.816	1-1/8 PF 11	35.2	34.939	35.579	9/32 SM 28	6.1	6.066	6.256
3 W 3½	68.5	67.986	69.166	1-1/4 PF 11	39.2	38.952	39.592	5/16 SM 18	6.3	6.254	6.444
				1-1/2 PF 11	45	44.845	45.485	5/16 SM 24	6.7	6.674	6.864
				1-3/4 PF 11	51	50.788	51.428	5/16 SM 28	6.9	6.86	7.05
				2 PF 11	57	56.656	57.296	11/32 SM 28	7.7	7.653	7.843
								3/8 SM 18	7.9	7.843	8.053
								3/8 SM 28	8.5	8.447	8.637

American Standard Pipe Thread 美製管用螺紋						Dryseal American Standard Pipe Thread					
Nominal Size 稱呼尺寸	NPT				NPS		NPTF				NPSF
	Drill Size 下孔徑				Drill Size 下孔徑	Drill Size 下孔徑					
	With Reamering Before Tapping 使用絞刀		Without Reamering Before Tapping 不使用絞刀			With Reamering Before Tapping 使用絞刀		Without Reamering Before Tapping 不使用絞刀			
1/16 - 27	5.94	0.234	6.15	0.242	6.35	0.25	5.94	0.234	6.15	0.242	6.25(0.246)
1/8 - 27	8.33	0.328	8.43	0.332	8.74	0.344	8.33	0.328	8.43	0.332	8.61(0.339)
1/4 - 18	10.72	0.422	11.13	0.438	11.13	0.438	10.72	0.422	11.13	0.438	11.13(0.438)
3/8 - 18	14.27	0.562	14.27	0.562	14.68	0.578	14.27	0.562	14.27	0.562	14.68(0.578)
1/2 - 14	17.48	0.688	17.86	0.703	18.26	0.719	17.48	0.688	17.86	0.703	17.86(0.703)
3/4 - 14	22.63	0.891	23.01	0.906	23.42	0.922	22.63	0.891	23.01	0.906	23.42(0.922)
1 - 11½	28.58	1.125	28.98	1.141	29.36	1.156	28.58	1.125	28.98	1.141	29.36(1.156)
1¼ - 11½	37.31	1.469	37.69	1.484	38.1	1.5	37.31	1.469	37.69	1.484	—
1½ - 11½	43.26	1.703	43.66	1.719	44.45	1.75	43.26	1.703	43.66	1.719	—
2 - 11½	55.17	2.172	55.58	2.188	56.36	2.219	55.17	2.172	55.58	2.188	—
2½ - 8	65.48	2.578	66.27	2.609	67.46	2.656	65.48	2.578	66.27	2.609	—

- The recommended tap drill sizes indicated above are for JIS Class 2 Whitworth Threads.
 - D1: Minor diameter of JIS Class 2 internal thread.
 - Whitworth Threads have been eliminated from JIS.
 - The drill sizes are according to ANSI/ASME B1.20.1-1983 PIPE THREADS, GENERAL PURPOSE (INCH) (partial listing).
 - The drill sizes are according to ANSI B1.20.3-1976 Dryseal Pipe Threads (Inch) (partial listing).
- ※Marked sizes are in accordance with BSW.

Recommended Tap Drill Sizes For Fluteless Taps

無屑絲攻(CRT) 螺紋下孔徑對照表

Metric Screw Threads 公制螺絲

Unit: mm

Nominal size 標稱	JIS Class 1 Drill Hole Dia 1級螺紋用下孔徑			JIS Class 2 Drill Hole Dia 2級螺紋用下孔徑		
	R limits 精度	Min~Max (thread overlap%) 最小~最大咬合率		R limits 精度	Min~Max (thread overlap%) 最小~最大咬合率	
M 2.5 x 0.45	R2	2.25~2.29	(100~80)	R4	2.28~2.33	(100~75)
M 2.6 x 0.45	2	2.35~2.39	(100~80)	4	2.38~2.43	(100~75)
M 3 x 0.5	R3	2.74~2.78	(100~80)	R5	2.76~2.81	(100~75)
M 3.5 x 0.6	3	3.18~3.21	(100~85)	5	3.20~3.26	(100~75)
M 4 x 0.7	R4	3.63~3.67	(100~85)	R6	3.65~3.70	(100~85)
M 5 x 0.8	4	4.57~4.62	(100~85)	6	4.59~4.66	(100~80)
M 6 x 1.0	4	5.45~5.51	(100~85)	R7	5.48~5.57	(100~80)
M 7 x 1.0	4	6.45~6.51	(100~85)	7	6.48~6.57	(100~80)
M 8 x 1.25	R5	7.31~7.38	(100~85)	7	7.34~7.41	(100~85)
M 8 x 1.0	R4	7.45~7.51	(100~85)	7	7.48~7.57	(100~80)
M 10 x 1.5	R5	9.16~9.22	(100~90)	7	9.18~9.28	(100~85)
M 10 x 1.25	5	9.31~9.38	(100~85)	7	9.34~9.41	(100~85)
M 10 x 1.0	5	9.46~9.52	(100~85)	7	9.48~9.57	(100~80)
M 12 x 1.75	5	11.01~11.08	(100~90)	R8	11.05~11.15	(100~85)
M 12 x 1.5	5	11.16~11.22	(100~90)	R7	11.18~11.28	(100~85)
M 12 x 1.25	5	11.31~11.38	(100~85)	7	11.34~11.41	(100~85)
M 12 x 1.0	5	11.46~11.52	(100~85)	7	11.48~11.57	(100~80)
M 14 x 2.0	R6	12.83~12.95	(100~90)	R10	12.92~13.04	(100~85)
M 14 x 1.5	R5	13.16~13.22	(100~90)	R9	13.21~13.30	(100~85)
M 16 x 2.0	R6	14.87~14.95	(100~90)	R10	14.92~15.04	(100~85)
M 16 x 1.5	R5	15.16~15.22	(100~90)	R9	15.21~15.30	(100~80)
M 18 x 2.5	R6	16.57~16.67	(100~90)	R11	16.63~16.78	(100~85)
M 18 x 1.5	6	17.17~17.23	(100~90)	R10	17.22~17.31	(100~85)
M 20 x 2.5	6	18.57~18.67	(100~90)	R11	18.63~18.78	(100~85)
M 20 x 1.5	6	19.17~19.23	(100~90)	R10	19.22~19.31	(100~85)

Unified Screw Threads 美制螺紋

Nominal size 標稱	JIS 3B Class Drill Hole Dia 3B級螺紋用下孔徑			JIS 2B Class Drill Hole Dia 2B級螺紋用下孔徑		
	R limits 精度	Min~Max (thread overlap%) 最小~最大咬合率		R limits 精度	Min~Max (thread overlap%) 最小~最大咬合率	
No.5-40UNC	R3	2.83~2.91	(100~70)	R5	2.86~2.93	(100~70)
No.5-44UNF	3	2.87~2.94	(100~70)	4	2.88~2.95	(100~70)
No.6-32UNC	R3	3.06~3.14	(100~75)	R5	3.09~3.17	(100~75)
No.6-40UNF	3	3.16~3.22	(100~75)	5	3.19~3.26	(100~70)
No.8-32UNC	R4	3.74~3.82	(100~75)	R6	3.76~3.84	(100~75)
No.8-36UNF	4	3.79~3.86	(100~75)	5	3.80~3.88	(100~75)
No.10-24UNC	R4	4.24~4.32	(100~80)	R6	4.26~4.35	(100~80)
No.10-32UNF	4	4.40~4.46	(100~80)	5	4.41~4.48	(100~80)
No.12-24UNC	R4	4.90~4.96	(100~85)	R6	4.92~5.01	(100~80)
No.12-28UNF	4	4.99~5.06	(100~80)	5	5.00~5.08	(100~80)
1/4-20UNC	R4	5.64~5.74	(100~80)	R6	5.66~5.76	(100~80)
1/4-28UNF	4	5.85~5.92	(100~80)	5	5.86~5.93	(100~80)
5/16-18UNC	R5	7.15~7.24	(100~85)	R7	7.18~7.29	(100~80)
5/16-24UNF	5	7.36~7.43	(100~85)	6	7.38~7.46	(100~80)
3/8-16UNC	R5	8.63~8.73	(100~85)	R7	8.66~8.78	(100~80)
3/8-24UNF	5	8.95~9.02	(100~85)	6	8.96~9.05	(100~80)
7/16-14UNC	R5	10.06~10.19	(100~85)	R7	10.11~10.25	(100~80)
7/16-20UNF	5	10.41~10.49	(100~85)	7	10.44~10.54	(100~80)
1/2-13UNC	R6	11.60~11.68	(100~90)	R8	11.62~11.78	(100~80)
1/2-20UNF	5	12.00~12.05	(100~90)	7	12.02~12.12	(100~80)
9/16-12UNC	R8	13.11~13.24	(100~85)	R10	13.14~13.27	(100~85)
9/16-18UNF	7	13.53~13.58	(100~90)	9	13.55~13.66	(100~80)
5/8-11UNC	R8	14.58~14.67	(100~90)	R11	14.62~14.76	(100~85)
5/8-18 UNF	7	15.11~15.17	(100~90)	9	15.14~15.25	(100~80)
3/4-10UNC	R9	17.63~17.74	(100~90)	R12	17.67~17.88	(100~80)
3/4-16UNF	7	18.18~18.25	(100~90)	10	18.22~18.32	(100~85)
7/8-9UNC	R9	20.64~20.75	(100~90)	R12	20.68~20.85	(100~85)
7/8-14UNF	8	21.23~21.27	(100~95)	11	21.27~21.38	(100~85)
1" -8UNC	R10	23.61~23.74	(100~90)	R13	23.65~23.84	(100~85)
1" -12UNF	9	24.24~24.32	(100~90)	12	24.28~24.41	(100~85)