

1. ねじ下穴ドリル径表／Recommended Tap Drill Sizes

■メートルねじ用／For Metric Threads

単位／Unit:mm

呼び Nominal size	ドリル径 Drill Size	D ₁	
		Max.	Min.
M1 ×0.25	0.75	(0.785)	(0.729)
M1 ×0.2	0.80	(0.821)	(0.783)
M1.1×0.25	0.85	(0.885)	(0.829)
M1.1×0.2	0.90	(0.921)	(0.883)
M1.2×0.25	0.95	(0.985)	(0.929)
M1.2×0.2	1.00	(1.021)	(0.983)
M1.4×0.3	1.10	(1.142)	(1.075)
M1.4×0.2	1.20	(1.221)	(1.183)
M1.6×0.35	1.25	1.321	1.221
M1.6×0.2	1.40	(1.421)	(1.383)
※ M1.7×0.35	1.35	1.421	1.321
※ M1.7×0.2	1.50	1.521	1.483
M1.8×0.35	1.45	1.521	1.421
M1.8×0.2	1.60	(1.621)	(1.583)
M2 ×0.4	1.60	1.679	1.567
M2 ×0.25	1.75	(1.785)	(1.729)
M2.2×0.45	1.75	1.838	1.713
M2.2×0.25	1.95	(1.985)	(1.929)
※ M2.3×0.4	1.90	1.979	1.867
※ M2.3×0.25	2.05	2.085	2.029
M2.5×0.45	2.1	2.138	2.013
M2.5×0.35	2.2	2.221	2.121
※ M2.6×0.45	2.2	2.238	2.113
※ M2.6×0.35	2.2	2.321	2.221
M3 ×0.5	2.5	2.599	2.459
M3 ×0.35	2.7	2.721	2.621
M3.5×0.6	2.9	3.010	2.850
M3.5×0.35	3.2	3.221	3.121
M4 ×0.7	3.3	3.422	3.242
M4 ×0.5	3.5	3.599	3.459
M4.5×0.75	3.8	3.878	3.688
M4.5×0.5	4.0	4.099	3.959
M5 ×0.8	4.2	4.334	4.134
M5 ×0.5	4.5	4.599	4.459
M6 ×1	5.0	5.153	4.917
M6 ×0.75	5.3	5.378	5.188
※ M6 ×0.5	5.5	5.599	5.459
M7 ×1	6.0	6.153	5.917
M7 ×0.75	6.3	6.378	6.188
※ M7 ×0.5	6.5	6.599	6.459
M8 ×1.25	6.8	6.912	6.647
M8 ×1	7.0	7.153	6.917

呼び Nominal size	ドリル径 Drill Size	D ₁	
		Max.	Min.
M 8×0.75	7.3	7.378	7.188
※ M 8×0.5	7.5	7.599	7.459
M 9×1.25	7.8	7.912	7.647
M 9×1	8.0	8.153	7.917
M 9×0.75	8.3	8.378	8.188
M10×1.5	8.5	8.676	8.376
M10×1.25	8.8	8.912	8.647
M10×1	9.0	9.153	8.917
M10×0.75	9.3	9.378	9.188
※ M10×0.5	9.5	9.599	9.459
M11×1.5	9.5	9.676	9.376
M11×1	10.0	10.153	9.917
M11×0.75	10.3	10.378	10.188
※ M11×0.5	10.5	10.599	10.459
M12×1.75	10.3	10.441	10.106
M12×1.5	10.5	10.676	10.376
M12×1.25	10.8	10.912	10.647
M12×1	11.0	11.153	10.917
※ M12×0.5	11.5	11.599	11.459
M14×2	12.0	12.210	11.835
M14×1.5	12.5	12.676	12.376
M14×1	13.0	13.153	12.917
M15×1.5	13.5	13.676	13.376
M15×1	14.0	14.153	13.917
M16×2	14.0	14.210	13.835
M16×1.5	14.5	14.676	14.376
M16×1	15.0	15.153	14.917
M17×1.5	15.5	15.676	15.376
M17×1	16.0	16.153	15.917
M18×2.5	15.5	15.744	15.294
M18×2	16.0	16.210	15.835
M18×1.5	16.5	16.676	16.376
M18×1	17.0	17.153	16.917
M20×2.5	17.5	17.744	17.294
M20×2	18.0	18.210	17.835
M20×1.5	18.5	18.676	18.376
M20×1	19.0	19.153	18.917
M22×2.5	19.5	19.744	19.294
M22×2	20.0	20.210	19.835
M22×1.5	20.5	20.676	20.376
M22×1	21.0	21.153	20.917
M24×3	21.0	21.252	20.752

呼び Nominal size	ドリル径 Drill Size	D ₁	
		Max.	Min.
M24×2	22.0	22.210	21.835
M24×1.5	22.5	22.676	22.376
M24×1	23.0	23.153	22.917
M25×2	23.0	23.210	22.835
M25×1.5	23.5	23.676	23.376
M25×1	24.0	24.153	23.917
M26×1.5	24.5	24.676	24.376
M27×3	24.0	24.252	23.752
M27×2	25.0	25.210	24.835
M27×1.5	25.5	25.676	25.376
M27×1	26.0	26.153	25.917
M28×2	26.0	26.210	25.835
M28×1.5	26.5	26.676	26.376
M28×1	27.0	27.153	26.917
M30×3.5	26.5	26.771	26.211
M30×3	27.0	27.252	26.752
M30×2	28.0	28.210	27.835
M30×1.5	28.5	28.676	28.376
M30×1	29.0	29.153	28.917
M32×2	30.0	30.210	29.835
M32×1.5	30.5	30.676	30.376
M33×3.5	29.5	29.771	29.211
M33×3	30.0	30.252	29.752
M33×2	31.0	31.210	30.835
M33×1.5	31.5	31.676	31.376
M35×1.5	33.5	33.676	33.376
M36×4	32.0	32.270	31.670
M36×3	33.0	33.252	32.752
M36×2	34.0	34.210	33.835
M36×1.5	34.5	34.676	34.376
M38×1.5	36.5	36.676	36.376
M39×4	35.0	35.270	34.670
M39×3	36.0	36.252	35.752
M39×2	37.0	37.210	36.835
M39×1.5	37.5	37.676	37.376
M40×3	37.0	37.252	36.752
M40×2	38.0	38.210	37.835
M40×1.5	38.5	38.676	38.376
M42×4.5	37.5	37.799	37.129
M42×4	38.0	38.270	37.670
M42×3	39.0	39.252	38.752
M42×2	40.0	40.210	39.835

・ D₁: JIS 6H (2級)めねじ内径を表します。()内の数値は、並目ねじは5H (2級)、細目ねじは4H・5H (1級)を記載してあります。

・ 呼び※印のものはJISより削除されています。

・ 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.

・ ※Marked sizes have been eliminated from JIS.

単位／Unit: mm

呼び Nominal size	ドリル径 Drill Size	D ₁	
		Max.	Min.
M42×1.5	40.5	40.676	40.376
M45×4.5	40.5	40.799	40.129
M45×4	41.0	41.270	40.670
M45×3	42.0	42.252	41.752
M45×2	43.0	43.210	42.835
M45×1.5	43.5	43.676	43.376
M48×5	43.0	43.297	42.587
M48×4	44.0	44.270	43.670
M48×3	45.0	45.252	44.752
M48×2	46.0	46.210	45.835
M48×1.5	46.5	46.676	46.376
M50×3	47.0	47.252	46.752
M50×2	48.0	48.210	47.835
M50×1.5	48.5	48.676	48.376
M52×5	47.0	47.297	46.587
M52×4	48.0	48.270	47.670
M52×3	49.0	49.252	48.752
M52×2	50.0	50.210	49.835
M52×1.5	50.5	50.676	50.376
M55×4	51.0	51.270	50.670
M55×3	52.0	52.252	51.752
M55×2	53.0	53.210	52.835
M55×1.5	53.5	53.676	53.376
M56×5.5	50.5	50.796	50.046
M56×4	52.0	52.270	51.670
M56×3	53.0	53.252	52.752
M56×2	54.0	54.210	53.835
M56×1.5	54.5	54.676	54.376
M58×4	54.0	54.270	53.670
M58×3	55.0	55.252	54.752
M58×2	56.0	56.210	55.835
M58×1.5	56.5	56.676	56.376
M60×5.5	54.5	54.796	54.046
M60×4	56.0	56.270	55.670
M60×3	57.0	57.252	56.752
M60×2	58.0	58.210	57.835
M60×1.5	58.5	58.676	58.376
M62×4	58.0	58.270	57.670
M62×3	59.0	59.252	58.752
M62×2	60.0	60.210	59.835
M62×1.5	60.5	60.676	60.376
M64×6	58.0	58.305	57.505

呼び Nominal size	ドリル径 Drill Size	D ₁	
		Max.	Min.
M64×4	60.0	60.270	59.670
M64×3	61.0	61.252	60.752
M64×2	62.0	62.210	61.835
M64×1.5	62.5	62.676	62.376
M65×4	61.0	61.270	60.670
M65×3	62.0	62.252	61.752
M65×2	63.0	63.210	62.835
M65×1.5	63.5	63.676	63.376
M68×6	62.0	62.305	61.505
M68×4	64.0	64.270	63.670
M68×3	65.0	65.252	64.752
M68×2	66.0	66.210	65.835
M68×1.5	66.5	66.676	66.376
M70×6	64.0	64.305	63.505
M70×4	66.0	66.270	65.670
M70×3	67.0	67.252	66.752
M70×2	68.0	68.210	67.835
M70×1.5	68.5	68.676	68.376
M72×6	66.0	66.305	65.505
M72×4	68.0	68.270	67.670
M72×3	69.0	69.252	68.752
M72×2	70.0	70.210	69.835
M72×1.5	70.5	70.676	70.376
M75×4	71.0	71.270	70.670
M75×3	72.0	72.252	71.752
M75×2	73.0	73.210	72.835
M75×1.5	73.5	73.676	73.376
M76×6	70.0	70.305	69.505
M76×4	72.0	72.270	71.670
M76×3	73.0	73.252	72.752
M76×2	74.0	74.210	73.835
M76×1.5	74.5	74.676	74.376
M78×2	76.0	76.210	75.835
M80×6	74.0	74.305	73.505
M80×4	76.0	76.270	75.670
M80×3	77.0	77.252	76.752
M80×2	78.0	78.210	77.835
M80×1.5	78.5	78.676	78.376
M82×2	80.0	80.210	79.835
M85×6	79.0	79.305	78.505
M85×4	81.0	81.270	80.670
M85×3	82.0	82.252	81.752

呼び Nominal size	ドリル径 Drill Size	D ₁	
		Max.	Min.
M 85×2	83.0	83.210	82.835
M 90×6	84.0	84.305	83.505
M 90×4	86.0	86.270	85.670
M 90×3	87.0	87.252	86.752
M 90×2	88.0	88.210	87.835
M 95×6	89.0	89.305	88.505
M 95×4	91.0	91.270	90.670
M 95×3	92.0	92.252	91.752
M 95×2	93.0	93.210	92.835
M100×6	94.0	94.305	93.505
M100×4	96.0	96.270	95.670
M100×3	97.0	97.252	96.752
M100×2	98.0	98.210	97.835

- D₁: JIS 6H (2級) めねじ内径を表します。
- 呼び※印のものはJISより削除されています。
- 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.
- ※Marked sizes have been eliminated from JIS.

1. ねじ下穴ドリル径表／Recommended Tap Drill Sizes

■ユニファイねじ用／For Unified Threads

単位／Unit:mm

呼び Nominal size	ドリル径 Drill Size	D _i	
		Max.	Min.
No. 0-80UNF	1.25	1.305	1.182
No. 1-64UNC	1.55	1.582	1.425
No. 1-72UNF	1.55	1.612	1.474
No. 2-56UNC	1.80	1.871	1.695
No. 2-64UNF	1.85	1.912	1.756
No. 3-48UNC	2.1	2.146	1.941
No. 3-56UNF	2.1	2.197	2.025
No. 4-40UNC	2.3	2.385	2.157
No. 4-48UNF	2.4	2.458	2.271
No. 5-40UNC	2.6	2.697	2.487
No. 5-44UNF	2.7	2.740	2.551
No. 6-32UNC	2.8	2.895	2.642
No. 6-40UNF	2.9	3.022	2.820
No. 8-32UNC	3.4	3.530	3.302
No. 8-36UNF	3.5	3.606	3.404
No.10-24UNC	3.9	3.962	3.683
No.10-32UNF	4.1	4.165	3.963
No.12-24UNC	4.5	4.597	4.344
No.12-28UNF	4.6	4.724	4.496
No.12-32UNEF	4.7	4.826	4.623
1/ 4-20UNC	5.1	5.257	4.979
1/ 4-28UNF	5.5	5.588	5.360
1/ 4-32UNEF	5.6	5.689	5.487
5/16-18UNC	6.6	6.731	6.401
5/16-24UNF	6.9	7.035	6.782
5/16-32UNEF	7.1	7.264	7.087
3/ 8-16UNC	8.0	8.153	7.798
3/ 8-24UNF	8.5	8.636	8.382
3/ 8-32UNEF	8.7	8.864	8.662
7/16-14UNC	9.4	9.550	9.144

呼び Nominal size	ドリル径 Drill Size	D _i	
		Max.	Min.
7/16-20UNF	9.9	10.033	9.729
7/16-28UNEF	10.2	10.337	10.135
1/ 2-13UNC	10.9	11.023	10.592
1/ 2-20UNF	11.5	11.607	11.329
1/ 2-28UNEF	11.8	11.938	11.710
9/16-12UNC	12.2	12.446	11.989
9/16-18UNF	12.9	13.081	12.751
9/16-24UNEF	13.2	13.385	13.132
5/ 8-11UNC	13.6	13.868	13.386
5/ 8-18UNF	14.5	14.681	14.351
5/ 8-24UNEF	14.8	14.986	14.732
3/ 4-10UNC	16.6	16.840	16.307
3/ 4-16UNF	17.5	17.678	17.323
3/ 4-20UNEF	17.8	17.957	17.679
7/ 8- 9UNC	19.6	19.761	19.177
7/ 8-14UNF	20.5	20.675	20.270
7/ 8-20UNEF	21.0	21.132	20.854
1 - 8UNC	22.3	22.606	21.971
1 -12UNF	23.3	23.571	23.114
1 -20UNEF	24.1	24.307	24.029
1 1/ 8- 7UNC	25.0	25.349	24.638
1 1/ 8- 8UN	25.5	25.781	25.146
1 1/ 8-12UNF	26.5	26.746	26.289
1 1/ 8-18UNEF	27.2	27.381	27.051
1 1/ 4- 7UNC	28.2	28.524	27.813
1 1/ 4- 8UN	28.5	28.956	28.321
1 1/ 4-12UNF	29.6	29.921	29.464
1 1/ 4-18UNEF	30.3	30.556	30.226
1 3/ 8- 6UNC	30.8	31.115	30.353
1 3/ 8- 8UN	31.8	32.131	31.496

呼び Nominal size	ドリル径 Drill Size	D _i	
		Max.	Min.
1 3/ 8-12UNF	32.8	33.096	32.639
1 3/ 8-18UNEF	33.5	33.731	33.401
1 1/ 2- 6UNC	34.0	34.290	33.528
1 1/ 2- 8UN	35.0	35.306	34.671
1 1/ 2-12UNF	36.0	36.271	35.814
1 1/ 2-18UNEF	36.6	36.880	36.576
1 5/ 8- 8UN	38.1	38.481	37.846
1 5/ 8-12UN	39.1	39.446	38.989
1 5/ 8-18UNEF	39.8	40.081	39.751
1 3/ 4- 5UNC	39.5	39.827	38.964
1 3/ 4- 8UN	41.3	41.656	41.021
1 3/ 4-12UN	42.3	42.621	42.164
2 - 4 1/2 UNC	45.2	45.593	44.679
2 - 8UN	47.8	48.006	47.371
2 -12UN	48.6	48.971	48.514
2 1/ 4- 8UN	54.0	54.356	53.721
2 1/ 2- 8UN	60.3	60.706	60.071
2 3/ 4- 8UN	66.6	67.056	66.421
3 - 8UN	73.0	73.406	72.771

- ・ D_i: 2Bめねじ内径を表します。UNC, UNFはJIS, UNEF, UN, UNSの2Bめねじ内径D_iはANSI B1.1によっています。
- ・ 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.
- ・ D_i: 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.

■ワイト並目ねじ用／For Whitworth Coarse Threads

単位／Unit:mm

呼び Nominal size	ドリル径 Drill Size	D _i	
		Max.	Min.
※ W1/ 8-40	2.55	(2.591)	(2.362)
※ W3/16-24	3.70	(3.744)	(3.406)
W1/ 4-20	5.1	5.204	4.914
W5/16-18	6.6	6.670	6.340
W3/ 8-16	8.0	8.113	7.733
W7/16-14	9.4	9.508	9.048
W1/ 2-12	10.7	10.830	10.310

呼び Nominal size	ドリル径 Drill Size	D _i	
		Max.	Min.
W 9/16-12	12.3	12.418	11.898
W 5/ 8-11	13.7	13.817	13.257
W 3/ 4-10	16.6	16.778	16.178
W 7/ 8- 9	19.5	19.691	19.031
W1 - 8	22.3	22.514	21.814
W1 1/ 8- 7	24.9	25.229	24.469
W1 1/ 4- 7	28.0	28.404	27.644

呼び Nominal size	ドリル径 Drill Size	D _i	
		Max.	Min.
W1 3/8-6	30.5	30.923	30.123
W1 1/2-6	33.6	34.098	33.298
W1 5/8-5	36.0	36.409	35.529
W1 3/4-5	39.1	39.584	38.704
W1 7/8-4 1/2	41.8	42.227	41.237
W2 -4 1/2	45.0	45.402	44.412

- ・ D_i: JIS 2級めねじ内径を表します。
- ・ ワイトねじはJISより削除されています。
- ・ 呼び※印のものはBSWに準じています。
- ・ The recommended tap drill sizes indicated above are for JIS Class 2 Whitworth Threads.
- ・ D_i: Minor diameter of JIS Class 2 internal thread.
- ・ Whitworth Threads have been eliminated from JIS.
- ・ ※Marked sizes are in accordance with BSW.

■ インサートコイルメートルねじ用／For Metric Threads Using with Helical Coil Wire Inserts

単位／Unit:mm

呼び Nominal size	ドリル径 Drill Size	下穴径／Recommended Hole Size	
		Max.	Min.
M 2.5×0.45	2.6	2.65	2.60
M 2.6×0.45	2.7	2.85	2.77
M 3 ×0.5	3.1	3.20	3.12
M 4 ×0.7	4.2	4.30	4.17
M 5 ×0.8	5.2	5.33	5.16
M 6 ×1	6.3	6.42	6.25
M 8 ×1.25	8.4	8.52	8.31
M10 ×1.5	10.5	10.62	10.37
M10 ×1.25	10.4	10.52	10.31

呼び Nominal size	ドリル径 Drill Size	下穴径／Recommended Hole Size	
		Max.	Min.
M10×1	10.3	10.42	10.25
M12×1.75	12.6	12.73	12.43
M12×1.5	12.5	12.62	12.37
M12×1.25	12.4	12.52	12.31
M14×2	14.7	14.83	14.49
M14×1.5	14.5	14.62	14.37
M14×1.25	14.4	14.52	14.31
M16×2	16.7	16.83	16.49
M16×1.5	16.5	16.62	16.37

呼び Nominal size	ドリル径 Drill Size	下穴径／Recommended Hole Size	
		Max.	Min.
M18×2.5	18.9	19.04	18.58
M18×1.5	18.5	18.62	18.37
M20×2.5	20.9	21.04	20.58
M20×1.5	20.5	20.62	20.37
M22×2.5	22.9	23.04	22.58
M22×1.5	22.5	22.62	22.37
M24×3	25.1	25.25	24.70

- この表はインサートコイルメーカーの資料によっています。
- The figures listed above are according to the data provided by helical coil wire insert manufacturers.

■ インサートコイルユニファインねじ用／For Unified Threads Using with Helical Coil Wire Inserts

単位／Unit:mm

呼び Nominal size	ドリル径 Drill Size	下穴径／Recommended Hole Size	
		Max.	Min.
No. 4-40UNC	3.0	3.07	2.95
No. 4-48UNF	3.0	3.05	2.97
No. 5-40UNC	3.3	3.38	3.25
No. 6-32UNC	3.7	3.81	3.66
No. 6-40UNF	3.7	3.78	3.66
No. 8-32UNC	4.4	4.47	4.32
No. 8-36UNF	4.4	4.44	4.32
No.10-24UNC	5.1	5.21	5.05
No.10-32UNF	5.0	5.13	4.98

呼び Nominal size	ドリル径 Drill Size	下穴径／Recommended Hole Size	
		Max.	Min.
No.12-24UNC	5.7	5.77	5.61
No.12-28UNF	5.7	5.86	5.70
1/ 4-20UNC	6.7	6.78	6.63
1/ 4-28UNF	6.6	6.71	6.53
5/16-18UNC	8.4	8.48	8.33
5/16-24UNF	8.3	8.38	8.20
3/ 8-16UNC	10.0	10.11	9.91
3/ 8-24UNF	9.8	9.96	9.78
7/16-14UNC	11.6	11.76	11.51

呼び Nominal size	ドリル径 Drill Size	下穴径／Recommended Hole Size	
		Max.	Min.
7/16-20UNF	11.5	11.63	11.43
1/ 2-13UNC	13.1	13.34	13.08
1/ 2-20UNF	13.1	13.26	13.03
5/ 8-11UNC	16.7	16.84	16.59
5/ 8-18UNF	16.3	16.48	16.26
3/ 4-10UNC	19.9	20.09	19.84
3/ 4-16UNF	19.5	19.68	19.43

- この表はインサートコイルメーカーの資料によっています。
- The figures listed above are according to the data provided by helical coil wire insert manufacturers.

■ ミシン用ねじ用／For Sewing Machine Threads

単位／Unit:mm

呼び Nominal size	ドリル径 Drill Size	D ₁	
		Max.	Min.
SM 1/16- 80	1.25	1.281	1.211
SM 5/64- 64	1.55	1.593	1.513
SM 3/32- 56	1.9	1.936	1.841
SM 3/32-100	2.1	2.156	2.081
※ SM 1/ 8- 32	2.3	(2.393)	(2.233)
SM 1/ 8- 40	2.5	2.551	2.421
SM 1/ 8- 44	2.5	2.605	2.485
SM 1/ 8- 48	2.6	2.657	2.547
※ SM 9/64- 32	2.7	(2.790)	(2.630)
SM 9/64- 40	2.9	2.948	2.818
SM 11/64- 32	3.5	3.584	3.424
SM 11/64- 40	3.7	3.742	3.612

呼び Nominal size	ドリル径 Drill Size	D ₁	
		Max.	Min.
SM 3/16-24	3.6	3.658	3.498
SM 3/16-28	3.8	3.844	3.684
SM 3/16-32	3.9	3.980	3.820
SM 3/16-40	4.05	4.138	4.008
SM 7/32-32	4.7	4.774	4.614
SM 15/64-28	5.0	5.055	4.875
SM 1/ 4-24	5.2	5.266	5.086
SM 1/ 4-28	5.4	5.452	5.272
SM 1/ 4-40	5.6	5.726	5.596
SM 9/32-20	5.7	5.824	5.634
SM 9/32-28	6.2	6.256	6.066
SM 5/16-18	6.3	6.444	6.254

呼び Nominal size	ドリル径 Drill Size	D ₁	
		Max.	Min.
SM 5/16-24	6.8	6.864	6.674
SM 5/16-28	6.9	7.050	6.860
SM 11/32-28	7.7	7.843	7.653
SM 3/ 8-18	7.9	8.053	7.843
SM 3/ 8-28	8.5	8.637	8.447
SM 7/16-16	9.3	9.440	9.220
SM 7/16-28	10.1	10.224	10.034
SM 1/ 2-12	10.3	10.420	10.180
SM 1/ 2-20	11.3	11.410	11.190
SM 1/ 2-28	11.7	11.812	11.622
SM 9/16-20	12.9	13.018	12.778

- D₁: JIS 2級めねじ内径を表します。
- () 内はJIS 2級相当の数値です。
- 呼び※印のものはJISに規定されていません。
- The recommended tap drill sizes indicated above are for JIS Class 2 Sewing Machine Threads.
- D₁: Minor diameter of JIS Class 2 internal thread. The minor diameters D₁ shown in () are equivalent to JIS Class 2 internal threads.
- ※Marked sizes are not specified in JIS.

1. ねじ下穴ドリル径表 / Recommended Tap Drill Sizes

■ 管用テーパねじ (Pc, PT) / Pipe Thread (Pc, PT)

単位 / Unit: mm

呼び Nominal size	ドリル径 / Drill Size		有効ねじ部の長さ (最小) におけるめねじ内径 Internal Thread Minor Dia. on [Min.] Length of Useful Thread	基準の長さ (最小) におけるめねじ内径 Internal Thread Minor Dia. on [Min.] Gauge Length
	リーマ使用の場合 With Reaming Before Tapping	リーマ使用せぬ場合 Without Reaming Before Tapping		
Rc 1/16 - 28	6.1	6.2	6.244	6.384
Rc 1/8 - 28	8.1	8.2	8.249	8.388
Rc 1/4 - 19	10.7	11.0	10.962	11.174
Rc 3/8 - 19	14.2	14.5	14.448	14.658
Rc 1/2 - 14	17.6	18.0	17.979	18.263
Rc 3/4 - 14	23.0	23.5	23.378	23.663
Rc1 - 11	29.0	29.5	29.459	29.822
Rc1 1/4 - 11	37.5	38.0	37.976	38.339
Rc1 1/2 - 11	43.4	44.0	43.869	44.232
Rc2 - 11	54.9	55.5	55.412	55.844

■ 管用平行ねじ / Pipe Thread

○Rp, PS

単位 / Unit: mm

呼び Nominal size	ドリル径 Drill Size	めねじ内径 (D ₁) / Minor Diameter of JIS internal thread (D ₁)	
		Max.	Min.
Rp 1/16 - 28	6.5	6.632	6.490
Rp 1/8 - 28	8.5	8.637	8.495
Rp 1/4 - 19	11.4	11.549	11.341
Rp 3/8 - 19	14.9	15.054	14.846
Rp 1/2 - 14	18.6	18.773	18.489
Rp 3/4 - 14	24.0	24.259	23.975
Rp1 - 11	30.2	30.472	30.110
Rp1 1/4 - 11	38.8	39.133	38.771
Rp1 1/2 - 11	44.7	45.026	44.664
Rp2 - 11	56.5	56.837	56.475

○OG, PF

単位 / Unit: mm

呼び Nominal size	ドリル径 Drill Size	めねじ内径 (D ₁) / Minor Diameter of JIS internal thread (D ₁)	
		Max.	Min.
G 1/16 - 28	6.7	6.843	6.561
G 1/8 - 28	8.7	8.848	8.566
G 1/4 - 19	11.7	11.890	11.445
G 3/8 - 19	15.2	15.395	14.950
G 1/2 - 14	19.0	19.172	18.631
G 5/8 - 14	21.0	21.128	20.587
G 3/4 - 14	24.5	24.658	24.117
G 7/8 - 14	28.2	28.418	27.877
G1 - 11	30.6	30.931	30.291
G1 1/8 - 11	35.2	35.579	34.939
G1 1/4 - 11	39.2	39.592	38.952
G1 1/2 - 11	45.0	45.485	44.845
G1 3/4 - 11	51.0	51.428	50.788
G2 - 11	57.0	57.296	56.656

■ アメリカ管用ねじ / American Standard Pipe Thread

単位 / Unit: mm

呼び Nominal size	ドリル径／Tap Drill Size				NPSC	
	NPT					
	リーマ使用の場合／With Reaming Before Tapping		リーマ使用せぬ場合／Without Reaming Before Tapping		mm	inch
mm	inch	mm	inch			
1/16-27	5.94	0.234	6.15	0.242	6.35	0.250
1/ 8-27	8.33	0.328	8.43	0.332	8.74	0.344
1/ 4-18	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
1/ 2-14	17.48	0.688	17.86	0.703	18.26	0.719
3/ 4-14	22.63	0.891	23.01	0.906	23.42	0.922
1 -11 ¹ / ₂	28.58	1.125	28.98	1.141	29.36	1.156
1 1/ 4-11 ¹ / ₂	37.31	1.469	37.69	1.484	38.10	1.500
1 1/ 2-11 ¹ / ₂	43.26	1.703	43.66	1.719	44.45	1.750
2 -11 ¹ / ₂	55.17	2.172	55.58	2.188	56.36	2.219
2 1/ 2- 8	65.48	2.578	66.27	2.609	67.46	2.656

- ・アメリカ管用ねじ ANSI/ASME B1.20.1-1983 PIPE THREADS, GENERAL PURPOSE (INCH) の推奨下穴ドリル径より抜粋。
- ・The drill sizes are according to ANSI/ASME B1.20.1-1983 PIPE THREADS, GENERAL PURPOSE (INCH) (partial listing).

■アメリカドライシール管用ねじ／Dryseal American Standard Pipe Thread

単位／Unit:mm

呼び Nominal size	ドリル径／Tap Drill Size				NPSF	
	NPTF					
	リーマ使用の場合／With Reaming Before Tapping		リーマ使用せぬ場合／Without Reaming Before Tapping			
	mm	inch	mm	inch	mm	inch
1/16-27	5.94	0.234	6.15	0.242	6.25	0.246
1/ 8-27	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
3/ 8-18	14.27	0.562	14.27	0.562	14.68	0.578
1/ 2-14	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
1 -11 1/2	28.58	1.125	28.98	1.141	29.36	1.156
1 1/ 4-11 1/2	37.31	1.469	37.69	1.484		
1 1/ 2-11 1/2	43.26	1.703	43.66	1.719		
2 -11 1/2	55.17	2.172	55.58	2.188		
2 1/ 2- 8	65.48	2.578	66.27	2.609		

- ・アメリカドライシール管用ねじANSI B1.20.3-1976 Dryseal Pipe Threads (Inch) の推奨下穴ドリル径より抜粋。
- ・The drill sizes are according to ANSI B1.20.3-1976 Dryseal Pipe Threads (Inch) (partial listing).

■ねじ下穴径のひっかかり率算出式及びめねじの山の高さと断面積の関係

Percentage of Thread Engagement & Relation between Percentage of Thread Height and Area Removed at A Thread Height

ひっかかり率(%)／Percentage of Thread Engagement

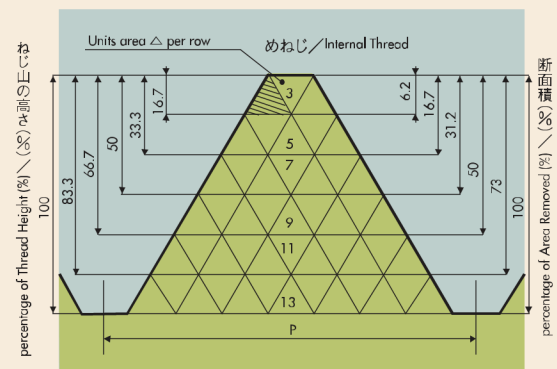
$$\frac{\text{外径の基準寸法 一下穴径}}{2 \times (\text{標準のひっかかり高さ})} \times 100$$

$$\frac{\text{Basic Major Dia. — Hole Size Before Tapping}}{2 \times (\text{Basic Thread Overlap})} \times 100$$

基準のひっかかり高さ／Basic Thread Overlap:

メートルねじ、ユニファイねじ／Metric & Unified Thread	0.5413P
ワイトねじ／Whitworth Thread	0.5664P
管用ねじ(Rc, Rp, G, PT, PS, PF)／Pipe Thread	0.6403P

P= ピッチ、Pitch



ねじ山の高さと断面積の関係は上図の通りで、ねじ下穴径は許される範囲で大きければ、タッピングによるねじ立てにも有利といえます。

As shown above, when the thread height increases, the amount of material to be removed increases rapidly, so it is an advantage to tap users to keep the hole size (thread minor diameter) as large as possible.