

14. 수나사 소재 직경 도표 (절삭 가공용 다이스)

■ 미터 나사의 외경 허용 한계 치수 및 공차

단위 : mm

나사 치수	피치 <i>P</i>	수나사 외경					
		ISO			JIS		
		<i>d</i> _{max}	<i>d</i> _{min}	<i>T</i> _a	<i>d</i> _{max}	<i>d</i> _{min}	<i>T</i> _a
M1	0.25	1.000	0.933	0.067	0.985	0.940	0.045
	0.2	1.000	0.944	0.056	0.980	0.930	0.050
M1.1	0.25	1.100	1.033	0.067	1.100	1.033	0.067
	0.2	1.100	1.044	0.056	1.100	1.044	0.056
M1.2	0.25	1.200	1.133	0.067	1.185	1.140	0.045
	0.2	1.200	1.144	0.056	1.180	1.130	0.050
M1.4	0.3	1.400	1.325	0.075	1.380	1.320	0.060
	0.2	1.400	1.344	0.056	1.380	1.330	0.050
M1.6	0.35	1.581	1.496	0.085	1.581	1.496	0.085
	0.2	1.583	1.527	0.056	1.583	1.527	0.056
M1.8	0.35	1.781	1.696	0.085	1.781	1.696	0.085
	0.2	1.783	1.727	0.056	1.783	1.727	0.056
M2	0.4	1.981	1.886	0.095	1.980	1.890	0.090
	0.25	1.982	1.915	0.067	1.980	1.930	0.050
M2.2	0.45	2.180	2.080	0.100	2.180	2.080	0.100
	0.25	2.182	2.115	0.067	2.182	2.115	0.067
M2.5	0.45	2.480	2.380	0.100	2.480	2.380	0.100
	0.35	2.481	2.396	0.085	2.481	2.396	0.085
M3	0.5	2.980	2.874	0.106	2.980	2.874	0.106
	0.35	2.981	2.896	0.085	2.980	2.880	0.100
M3.5	0.6	3.479	3.354	0.125	3.470	3.360	0.110
	0.35	3.481	3.396	0.085	3.480	3.380	0.100
M4	0.7	3.978	3.838	0.140	3.978	3.838	0.140
	0.5	3.980	3.874	0.106	3.970	3.860	0.110
M4.5	0.75	4.478	4.338	0.140	4.470	4.340	0.130
	0.5	4.480	4.374	0.106	4.470	4.360	0.110
M5	0.8	4.976	4.826	0.150	4.976	4.826	0.150
	0.5	4.980	4.874	0.106	4.970	4.860	0.110
M5.5	0.5	5.480	5.374	0.106	5.470	5.360	0.110
M6	1	5.974	5.794	0.180	5.970	5.820	0.150
	0.75	5.978	5.838	0.140	5.970	5.850	0.120
M7	1	6.974	6.794	0.180	6.970	6.820	0.150
	0.75	6.978	6.838	0.140	6.970	6.850	0.120
M8	1.25	7.972	7.760	0.212	7.960	7.790	0.170
	1	7.974	7.794	0.180	7.970	7.830	0.140
M9	0.75	7.978	7.838	0.140	7.970	7.830	0.140
	1.25	8.972	8.760	0.212	8.960	8.790	0.170
M10	1	8.974	8.794	0.180	8.970	8.830	0.140
	0.75	8.978	8.838	0.140	8.970	8.830	0.140
M11	1.5	9.968	9.732	0.236	9.960	9.770	0.190
	1.25	9.972	9.760	0.212	9.960	9.810	0.150
M12	1	9.974	9.794	0.180	9.970	9.820	0.150
	0.75	9.978	9.838	0.140	9.978	9.838	0.140
M14	1.5	10.968	10.732	0.236	10.968	10.732	0.236
	1	10.974	10.794	0.180	10.970	10.820	0.150
M15	0.75	10.978	10.838	0.140	10.978	10.838	0.140
	1.75	11.966	11.701	0.265	11.950	11.760	0.190
M16	1.5	11.968	11.732	0.236	11.960	11.790	0.170
	1.25	11.972	11.760	0.212	11.972	11.760	0.212
M18	1	11.974	11.794	0.180	11.960	11.810	0.150
	2	13.962	13.682	0.280	13.950	13.740	0.210
M20	1.5	13.968	13.732	0.236	13.960	13.790	0.170
	1	13.974	13.794	0.180	13.960	13.810	0.150
M22	1.5	14.968	14.732	0.236	14.960	14.790	0.170
	1	14.974	14.794	0.180	14.960	14.810	0.150
M24	1.5	15.968	15.732	0.236	15.960	15.790	0.170
	1	15.974	15.794	0.180	15.960	15.810	0.150
M26	1.5	16.968	16.732	0.236	16.960	16.790	0.170
	1	16.974	16.794	0.180	16.960	16.810	0.150
M28	1.5	17.968	17.732	0.236	17.960	17.790	0.170
	1	17.974	17.794	0.180	17.960	17.810	0.150
M30	1.5	18.968	18.732	0.236	18.960	18.790	0.170
	1	18.974	18.794	0.180	18.960	18.810	0.150
M32	1.5	19.968	19.732	0.236	19.960	19.790	0.170
	1	19.974	19.794	0.180	19.960	19.810	0.150
M34	1.5	20.968	20.732	0.236	20.960	20.790	0.170
	1	20.974	20.794	0.180	20.960	20.810	0.150
M36	1.5	21.968	21.732	0.236	21.960	21.790	0.170
	1	21.974	21.794	0.180	21.960	21.810	0.150
M38	1.5	22.968	22.732	0.236	22.960	22.790	0.170
	1	22.974	22.794	0.180	22.960	22.810	0.150
M40	1.5	23.968	23.732	0.236	23.960	23.790	0.170
	1	23.974	23.794	0.180	23.960	23.810	0.150

나사 치수	피치 <i>P</i>	수나사 외경					
		ISO			JIS		
		<i>d</i> _{max}	<i>d</i> _{min}	<i>T</i> _a	<i>d</i> _{max}	<i>d</i> _{min}	<i>T</i> _a
M16	2	15.962	15.682	0.280	15.950	15.740	0.210
	1.5	15.968	15.732	0.236	15.960	15.790	0.170
M17	1	15.974	15.794	0.180	15.960	15.810	0.150
	1.5	16.968	16.732	0.236	16.968	16.732	0.236
M18	1	16.974	16.794	0.180	16.974	16.794	0.180
	2.5	17.958	17.623	0.335	17.950	17.710	0.240
M18	2	17.962	17.682	0.280	17.950	17.650	0.300
	1.5	17.968	17.732	0.236	17.950	17.780	0.170
M20	1	17.974	17.794	0.180	17.960	17.810	0.150
	2.5	19.958	19.623	0.335	19.950	19.710	0.240
M20	2	19.962	19.682	0.280	19.950	19.650	0.300
	1.5	19.968	19.732	0.236	19.950	19.780	0.170
M22	1	19.974	19.794	0.180	19.960	19.810	0.150
	2.5	21.958	21.623	0.335	21.950	21.710	0.240
M22	2	21.962	21.682	0.280	21.950	21.650	0.300
	1.5	21.968	21.732	0.236	21.950	21.780	0.170
M24	1	21.974	21.794	0.180	21.960	21.810	0.150
	3	23.952	23.577	0.375	23.940	23.680	0.260
M24	2	23.962	23.682	0.280	23.940	23.640	0.300
	1.5	23.968	23.732	0.236	23.950	23.780	0.170
M25	1	23.974	23.794	0.180	23.960	23.810	0.150
	2	24.962	24.682	0.280	24.940	24.640	0.300
M26	1.5	24.968	24.732	0.236	24.950	24.780	0.170
	1	24.974	24.794	0.180	24.960	24.810	0.150
M27	1.5	25.968	25.732	0.236	25.950	25.780	0.170
	3	26.952	26.577	0.375	26.940	26.680	0.260
M27	2	26.962	26.682	0.280	26.962	26.682	0.280
	1.5	26.968	26.732	0.236	26.950	26.780	0.170
M28	1	26.974	26.794	0.180	26.974	26.794	0.180
	2	27.962	27.682	0.280	27.940	27.640	0.300
M28	1.5	27.968	27.732	0.236	27.950	27.780	0.170
	1	27.974	27.794	0.180	27.960	27.810	0.150
M30	3.5	29.947	29.522	0.425	29.940	29.660	0.280
	3	29.952	29.577	0.375	29.950	29.577	0.375
M30	2	29.962	29.682	0.280	29.940	29.640	0.300
	1.5	29.968	29.732	0.236	29.950	29.780	0.170
M32	1	29.974	29.794	0.180	29.960	29.810	0.150
	2	31.962	31.682	0.280	31.940	31.640	0.300
M32	1.5	31.968	31.732	0.236	31.950	31.780	0.170
	3.5	32.947	32.522	0.425	32.940	32.660	0.280
M33	3	32.952	32.577	0.375	32.952	32.577	0.375
	2	32.962	32.682	0.280	32.962	32.682	0.280
M35	1.5	32.968	32.732	0.236	32.950	32.780	0.170
	4	34.968	34.732	0.236	34.950	34.780	0.170
M36	1.5	35.968	35.732	0.236	35.950	35.780	0.170
	3	35.962	35.577	0.375	35.952	35.577	0.375
M36	2	35.962	35.682	0.280	35.940	35.640	0.300
	1.5	35.968	35.732	0.236	35.950	35.780	0.170
M38	1.5	37.968	37.732	0.236	37.950	37.780	0.170
	4	38.940	38.465	0.475	38.930	38.630	0.300
M39	3	38.952	38.577	0.375	38.952	38.577	0.375
	2	38.962	38.682	0.280	38.962	38.682	0.280
M40	1.5	38.968	38.732	0.236	38.968	38.732	0.236
	3	39.952	39.577	0.375	39.952	39.577	0.375
M40	2	39.962	39.682	0.280	39.940	39.640	0.300
	1.5	39.968	39.732	0.236	39.950	39.780	0.170

ISO : 공차 범위 클래스 6g (M1.6 이상) 6h (M1.4 이하)
 JIS : 2 급
 · ISO : JIS B 0209-2_표 2 및 JIS B 0209-3_표 1에서
 · JIS : JIS B 0209-1982 부속서 1_부속서 1 부표 4_미터 일반 나사의
 허용 한계 치수 및 공차 (2 급 수나사 사용) 및 JIS B 0211-1982 부속서_
 부속 부 표

14. 수나사 소재 직경 표 (절삭 가공용 다이스)

단위 : mm

나사 치수	피치 P	수나사 외경					
		ISO			JIS		
		d_{max}	d_{min}	T_d	d_{max}	d_{min}	T_d
M42	4.5	41.937	41.437	0.500	41.930	41.610	0.320
	4	41.940	41.465	0.475	41.940	41.465	0.475
	3	41.952	41.577	0.375	41.952	41.577	0.375
	2	41.962	41.682	0.280	41.940	41.640	0.300
	1.5	41.968	41.732	0.236	41.950	41.780	0.170
M45	4.5	44.937	44.437	0.500	44.930	44.610	0.320
	4	44.940	44.465	0.475	44.940	44.465	0.475
	3	44.952	44.577	0.375	44.952	44.577	0.375
	2	44.962	44.682	0.280	44.940	44.640	0.300
	1.5	44.968	44.732	0.236	44.950	44.780	0.170
M48	5	47.929	47.399	0.530	47.930	47.590	0.340
	4	47.940	47.465	0.475	47.940	47.465	0.475
	3	47.952	47.577	0.375	47.952	47.577	0.375
	2	47.962	47.682	0.280	47.940	47.640	0.300
	1.5	47.968	47.732	0.236	47.950	47.780	0.170

■ 통합 수나사 외경 허용 한계 치수 및 공차 (2A 나사)

단위 : mm

나사 치수	수나사 외경		
	d_{max}	d_{min}	T_d
No0-80UNF	1.511	1.431	0.080
No.1-64UNC	1.838	1.743	0.095
No.1-72UNF	1.838	1.751	0.087
No.2-56UNC	2.169	2.066	0.103
No.2-64UNF	2.169	2.073	0.096
No.3-48UNC	2.496	2.383	0.113
No.3-56UNF	2.496	2.393	0.103
No.4-40UNC	2.824	2.695	0.129
No.4-48UNF	2.827	2.713	0.114
No.5-40UNC	3.154	3.026	0.128
No.5-44UNF	3.157	3.036	0.121
No.6-32UNC	3.484	3.333	0.151
No.6-40UNF	3.484	3.356	0.128
No.8-32UNC	4.142	3.991	0.151
No.8-36UNF	4.145	4.006	0.139
No.10-24UNC	4.800	4.618	0.182
No.10-32UNF	4.803	4.651	0.152
No.12-24UNC	5.461	5.279	0.182
No.12-28UNF	5.461	5.296	0.165
1/4-20UNC	6.322	6.117	0.205
1/4-28UNF	6.324	6.160	0.164
5/16-18UNC	7.907	7.687	0.220
5/16-24UNF	7.909	7.727	0.182
3/8-16UNC	9.491	9.254	0.237
3/8-24UNF	9.497	9.315	0.182
7/16-14UNC	11.076	10.816	0.260
7/16-20UNF	11.079	10.874	0.205
1/2-13UNC	12.661	12.386	0.275
1/2-20UNF	12.666	12.462	0.204
9/16-12UNC	14.246	13.958	0.288
9/16-18UNF	14.251	14.031	0.220
5/8-11UNC	15.834	15.528	0.306
5/8-18UNF	15.839	15.619	0.220
3/4-10UNC	19.004	18.677	0.327
3/4-16UNF	19.011	18.774	0.237
7/8-9UNC	22.176	21.824	0.352
7/8-14UNF	22.184	21.923	0.261
1-8UNC	25.349	24.969	0.380
1-12UNF	25.354	25.065	0.289
1 1/8-7UNC	28.519	28.103	0.416
1 1/8-12UNF	28.529	28.240	0.289
1 1/4-7UNC	31.694	31.278	0.416
1 1/4-12UNF	31.704	31.415	0.289
1 3/8-6UNC	34.864	34.402	0.462
1 3/8-12UNF	34.876	34.588	0.288
1 1/2-6UNC	38.039	37.577	0.462
1 1/2-12UNF	38.051	37.763	0.288
1 3/4-5UNC	44.381	43.861	0.520
2-4 1/2UNC	50.726	50.168	0.558

· JIS B 0210_ 표 4와 · JIS B 0212_ 표 4에서

■ 미싱 나사의 나사 외경의 허용 한계 치수 및 공차 (2 급 나사)

단위 : mm

나사 치수	수나사 외경		
	d_{max}	d_{min}	T_d
1/16 SM80	1,588	1,518	0,070
5/64 SM64	1,984	1,904	0,080
3/32 SM56	2,381	2,286	0,095
3/32 SM100	2,381	2,306	0,075
1/8 SM40	3,175	3,045	0,130
1/8 SM44	3,175	3,055	0,120
1/8 SM48	3,175	3,065	0,110
9/64 SM40	3,572	3,442	0,130
11/64 SM40	4,366	4,236	0,130
3/16 SM24	4,762	4,602	0,160
3/16 SM28	4,762	4,602	0,160
3/16 SM32	4,762	4,602	0,160
7/32 SM32	5,556	5,396	0,160
15/64 SM28	5,953	5,773	0,180
1/4 SM24	6,350	6,170	0,180
1/4 SM40	6,350	6,220	0,130

· JIS B 0226-1963_ 표 2- [2001 폐지]

■ 관용 테이퍼 나사 (R, PT)

단위 : mm

치수	소재 직경 (참고)	
	스트레이트의 경우	테이퍼의 경우 (선단 직경)
R 1/16	7.9	7.5
R 1/8	9.9	9.5
R 1/4	13.4	12.8
R 3/8	16.9	16.3
R 1/2	21.3	20.5
R 3/4	26.8	25.9
R 1	33.7	32.7
R 1·1/4	42.3	41.2
R 1·1/2	48.2	47.1
R 2	60.1	58.7

■ 관용 평행 나사 (G, PF)

단위 : mm

치수	수나사 외경	
	d_{max}	d_{min}
G 1/16	7,723	7,509
G 1/8	9,728	9,514
G 1/4	13,157	12,907
G 3/8	16,662	16,412
G 1/2	20,955	20,671
G 5/8	22,911	22,627
G 3/4	26,441	26,157
G 7/8	30,201	29,917
G 1	33,249	32,889
G 1·1/4	41,910	41,550
G 1·1/2	47,803	47,443
G 2	59,614	59,254