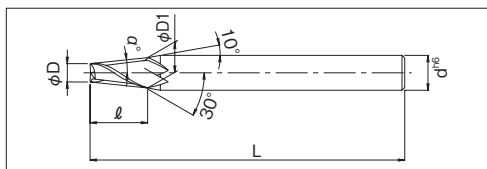


# テーパエンドミル

## 2-Flute Taper End Mill

# ATES-2



■ 最大テーパ角15° まで標準化した小径テーパボールエンドミルです。

Micro Taper End Mill with largest taper angle to 15°

外径公差：φD Tolerance

+0 ~ -0.015 (φ0.1 ~ 0.5)

+0 ~ -0.02 (φ0.6 ~ 0.9)

+0 ~ -0.025 (φ1 ~ 1.9)

+0 ~ -0.03 (φ2 ~ 3)



単位 Unit : mm

型番 CODE NUMBER	径 φD	刃長 ℓ	片角 α°	大端径 φD1	全長 L	シャンク φd	定価 ¥
ATES-20101	0.1	0.5	30°	0.11	35	3	25,800
ATES-20102	0.1	0.5	1°	0.12	35	3	25,800
ATES-20103	0.1	0.5	1°30'	0.13	35	3	25,800
ATES-20104	0.1	0.5	2°	0.13	35	3	25,800
ATES-20105	0.1	0.5	2°30'	0.14	35	3	25,800
ATES-20106	0.1	0.5	3°	0.15	35	3	25,800
ATES-20107	0.1	0.5	4°	0.17	35	3	25,800
ATES-20108	0.1	0.5	5°	0.19	35	3	27,700
ATES-20109	0.1	0.5	7°	0.22	35	3	27,700
ATES-20110	0.1	0.5	10°	0.28	35	3	29,800
ATES-20111	0.1	0.5	15°	0.37	35	3	33,300
ATES-20201	0.2	1	30°	0.22	35	3	25,700
ATES-20202	0.2	1	1°	0.23	35	3	25,700
ATES-20203	0.2	1	1°30'	0.25	35	3	25,700
ATES-20204	0.2	1	2°	0.27	35	3	25,700
ATES-20205	0.2	1	2°30'	0.29	35	3	25,700
ATES-20206	0.2	1	3°	0.3	35	3	25,700
ATES-20207	0.2	1	4°	0.34	35	3	25,700
ATES-20208	0.2	1	5°	0.37	35	3	27,300
ATES-20209	0.2	1	7°	0.45	35	3	27,300
ATES-20210	0.2	1	10°	0.55	35	3	29,300
ATES-20211	0.2	1	15°	0.74	35	3	32,800
ATES-20301	0.3	1.5	30°	0.33	35	3	12,300
ATES-20302	0.3	1.5	1°	0.35	35	3	12,300
ATES-20303	0.3	1.5	1°30'	0.38	35	3	12,300
ATES-20304	0.3	1.5	2°	0.4	35	3	12,300
ATES-20305	0.3	1.5	2°30'	0.43	35	3	12,300

単位 Unit : mm

型番 CODE NUMBER	径 φD	刃長 ℓ	片角 α°	大端径 φD1	全長 L	シャンク φd	定価 ¥
ATES-20306	0.3	1.5	3°	0.46	35	3	12,300
ATES-20307	0.3	1.5	4°	0.51	35	3	12,300
ATES-20308	0.3	1.5	5°	0.56	35	3	18,800
ATES-20309	0.3	1.5	7°	0.67	35	3	18,800
ATES-20310	0.3	1.5	10°	0.83	35	3	22,300
ATES-20311	0.3	1.5	15°	1.1	35	3	26,700
ATES-20401	0.4	2	30'	0.43	35	3	11,200
ATES-20402	0.4	2	1°	0.47	35	3	11,200
ATES-20403	0.4	2	1°30'	0.5	35	3	11,200
ATES-20404	0.4	2	2°	0.54	35	3	11,200
ATES-20405	0.4	2	2°30'	0.57	35	3	11,200
ATES-20406	0.4	2	3°	0.61	35	3	11,200
ATES-20407	0.4	2	4°	0.68	35	3	11,200
ATES-20408	0.4	2	5°	0.75	35	3	17,800
ATES-20409	0.4	2	7°	0.89	35	3	17,800
ATES-20410	0.4	2	10°	1.11	35	3	21,700
ATES-20411	0.4	2	15°	1.47	35	3	25,800
ATES-20501	0.5	2	30'	0.53	35	3	11,300
ATES-20502	0.5	2	1°	0.57	35	3	11,300
ATES-20503	0.5	2	1°30'	0.6	35	3	11,300
ATES-20504	0.5	2	2°	0.64	35	3	11,300
ATES-20505	0.5	2	2°30'	0.67	35	3	11,300
ATES-20506	0.5	2	3°	0.71	35	3	11,300
ATES-20507	0.5	2	4°	0.78	35	3	11,300
ATES-20508	0.5	2	5°	0.85	35	3	17,500
ATES-20509	0.5	2	7°	0.99	35	3	17,500
ATES-20510	0.5	2	10°	1.21	35	3	21,700
ATES-20511	0.5	2	15°	1.57	35	3	25,800
ATES-20601	0.6	3	30'	0.65	35	3	11,500
ATES-20602	0.6	3	1°	0.7	35	3	11,500
ATES-20603	0.6	3	1°30'	0.76	35	3	11,500
ATES-20604	0.6	3	2°	0.81	35	3	11,500
ATES-20605	0.6	3	2°30'	0.86	35	3	11,500
ATES-20606	0.6	3	3°	0.91	35	3	11,500
ATES-20607	0.6	3	4°	1.02	35	3	11,500
ATES-20608	0.6	3	5°	1.12	35	3	21,300
ATES-20609	0.6	3	7°	1.34	35	3	21,300
ATES-20610	0.6	3	10°	1.66	35	3	21,700
ATES-20611	0.6	3	15°	2.21	35	3	25,800
ATES-20701	0.7	3	30'	0.75	35	3	11,300
ATES-20702	0.7	3	1°	0.8	35	3	11,300
ATES-20703	0.7	3	1°30'	0.86	35	3	11,300
ATES-20704	0.7	3	2°	0.91	35	3	11,300
ATES-20705	0.7	3	2°30'	0.96	35	3	11,300

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型番 CODE NUMBER	径 φD	刃長 ℓ	片角 α°	大端径 φD1	全長 L	シャンク φd	定価 ¥
ATES-20706	0.7	3	3°	1.01	35	3	11,300
ATES-20707	0.7	3	4°	1.12	35	3	11,300
ATES-20708	0.7	3	5°	1.22	35	3	21,300
ATES-20709	0.7	3	7°	1.44	35	3	21,300
ATES-20710	0.7	3	10°	1.76	35	3	21,700
ATES-20711	0.7	3	15°	2.31	35	3	25,800
ATES-20801	0.8	4	30'	0.87	35	3	10,300
ATES-20802	0.8	4	1°	0.94	35	3	10,300
ATES-20803	0.8	4	1°30'	1.01	35	3	10,300
ATES-20804	0.8	4	2°	1.08	35	3	10,300
ATES-20805	0.8	4	2°30'	1.15	35	3	10,300
ATES-20806	0.8	4	3°	1.22	35	3	10,300
ATES-20807	0.8	4	4°	1.36	35	3	10,300
ATES-20808	0.8	4	5°	1.5	35	3	16,200
ATES-20809	0.8	4	7°	1.78	35	3	16,200
ATES-20810	0.8	4	10°	2.21	35	3	19,700
ATES-20811	0.8	4	15°	2.94	35	3	23,500
ATES-20901	0.9	4	30'	0.97	35	3	10,300
ATES-20902	0.9	4	1°	1.04	35	3	10,300
ATES-20903	0.9	4	1°30'	1.11	35	3	10,300
ATES-20904	0.9	4	2°	1.18	35	3	10,300
ATES-20905	0.9	4	2°30'	1.25	35	3	10,300
ATES-20906	0.9	4	3°	1.32	35	3	10,300
ATES-20907	0.9	4	4°	1.46	35	3	10,300
ATES-20908	0.9	4	5°	1.6	35	3	16,200
ATES-20909	0.9	4	7°	1.88	35	3	16,200
ATES-20910	0.9	4	10°	2.31	35	3	19,700
ATES-20911	0.9	4	15°	3.04	35	4	23,500
ATES-21001	1	4	30'	1.07	45	4	8,700
ATES-21002	1	4	1°	1.14	45	4	8,700
ATES-21003	1	4	1°30'	1.21	45	4	8,700
ATES-21004	1	4	2°	1.28	45	4	8,700
ATES-21005	1	4	2°30'	1.35	45	4	8,700
ATES-21006	1	4	3°	1.42	45	4	8,700
ATES-21007	1	4	4°	1.56	45	4	8,700
ATES-21008	1	4	5°	1.7	45	4	13,300
ATES-21009	1	4	7°	1.98	45	4	13,300
ATES-21010	1	4	10°	2.41	45	4	14,800
ATES-21011	1	4	15°	3.14	45	4	17,800
ATES-21101	1.1	5	30'	1.19	45	4	8,700
ATES-21102	1.1	5	1°	1.27	45	4	8,700
ATES-21103	1.1	5	1°30'	1.36	45	4	8,700
ATES-21104	1.1	5	2°	1.45	45	4	8,700
ATES-21105	1.1	5	2°30'	1.54	45	4	8,700

単位 Unit : mm

型番 CODE NUMBER	径 φD	刃長 ℓ	片角 α°	大端径 φD1	全長 L	シャンク φd	定価 ¥
ATES-21106	1.1	5	3°	1.62	45	4	8,700
ATES-21107	1.1	5	4°	1.8	45	4	8,700
ATES-21108	1.1	5	5°	1.97	45	4	13,300
ATES-21109	1.1	5	7°	2.33	45	4	13,300
ATES-21110	1.1	5	10°	2.86	45	4	14,800
ATES-21111	1.1	5	15°	3.78	45	4	17,800
ATES-21201	1.2	5	30'	1.29	45	4	8,700
ATES-21202	1.2	5	1°	1.37	45	4	8,700
ATES-21203	1.2	5	1°30'	1.46	45	4	8,700
ATES-21204	1.2	5	2°	1.55	45	4	8,700
ATES-21205	1.2	5	2°30'	1.64	45	4	8,700
ATES-21206	1.2	5	3°	1.72	45	4	8,700
ATES-21207	1.2	5	4°	1.9	45	4	8,700
ATES-21208	1.2	5	5°	2.07	45	4	13,300
ATES-21209	1.2	5	7°	2.43	45	4	13,300
ATES-21210	1.2	5	10°	2.96	45	4	14,800
ATES-21211	1.2	5	15°	3.88	45	4	17,800
ATES-21301	1.3	5	30'	1.39	45	4	8,700
ATES-21302	1.3	5	1°	1.47	45	4	8,700
ATES-21303	1.3	5	1°30'	1.56	45	4	8,700
ATES-21304	1.3	5	2°	1.65	45	4	8,700
ATES-21305	1.3	5	2°30'	1.74	45	4	8,700
ATES-21306	1.3	5	3°	1.82	45	4	8,700
ATES-21307	1.3	5	4°	2	45	4	8,700
ATES-21308	1.3	5	5°	2.17	45	4	13,300
ATES-21309	1.3	5	7°	2.53	45	4	13,300
ATES-21310	1.3	5	10°	3.06	45	4	14,800
ATES-21311	1.3	5	15°	3.98	45	4	17,800
ATES-21401	1.4	5	30'	1.49	45	4	8,700
ATES-21402	1.4	5	1°	1.57	45	4	8,700
ATES-21403	1.4	5	1°30'	1.66	45	4	8,700
ATES-21404	1.4	5	2°	1.75	45	4	8,700
ATES-21405	1.4	5	2°30'	1.84	45	4	8,700
ATES-21406	1.4	5	3°	1.92	45	4	8,700
ATES-21407	1.4	5	4°	2.1	45	4	8,700
ATES-21408	1.4	5	5°	2.27	45	4	13,300
ATES-21409	1.4	5	7°	2.63	45	4	13,300
ATES-21410	1.4	5	10°	3.16	45	4	14,800
ATES-21411	1.4	5	15°	4.08	45	6	17,800
ATES-21501	1.5	6	30'	1.6	45	4	9,000
ATES-21502	1.5	6	1°	1.71	45	4	9,000
ATES-21503	1.5	6	1°30'	1.81	45	4	9,000
ATES-21504	1.5	6	2°	1.92	45	4	9,000
ATES-21505	1.5	6	2°30'	2.02	45	4	9,000

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切削条件 Cutting Condition P.181

型番 CODE NUMBER	径 φD	刃長 ℓ	片角 α°	大端径 φD1	全長 L	シャンク φd	定価 ¥
ATES-21506	1.5	6	3°	2.13	45	4	9,000
ATES-21507	1.5	6	4°	2.34	45	4	9,000
ATES-21508	1.5	6	5°	2.55	45	4	13,300
ATES-21509	1.5	6	7°	2.97	45	4	13,300
ATES-21510	1.5	6	10°	3.62	45	4	14,800
ATES-21511	1.5	6	15°	4.72	45	6	17,800
ATES-21601	1.6	7	30'	1.72	45	4	9,000
ATES-21602	1.6	7	1°	1.84	45	4	9,000
ATES-21603	1.6	7	1°30'	1.97	45	4	9,000
ATES-21604	1.6	7	2°	2.09	45	4	9,000
ATES-21605	1.6	7	2°30'	2.21	45	4	9,000
ATES-21606	1.6	7	3°	2.33	45	4	9,000
ATES-21607	1.6	7	4°	2.58	45	4	9,000
ATES-21608	1.6	7	5°	2.82	45	4	13,300
ATES-21609	1.6	7	7°	3.32	45	4	13,300
ATES-21610	1.6	7	10°	4.07	45	6	14,800
ATES-21611	1.6	7	15°	5.35	45	6	17,800
ATES-21701	1.7	7	30'	1.82	45	4	9,000
ATES-21702	1.7	7	1°	1.94	45	4	9,000
ATES-21703	1.7	7	1°30'	2.07	45	4	9,000
ATES-21704	1.7	7	2°	2.19	45	4	9,000
ATES-21705	1.7	7	2°30'	2.31	45	4	9,000
ATES-21706	1.7	7	3°	2.43	45	4	9,000
ATES-21707	1.7	7	4°	2.68	45	4	9,000
ATES-21708	1.7	7	5°	2.92	45	4	13,300
ATES-21709	1.7	7	7°	3.42	45	4	13,300
ATES-21710	1.7	7	10°	4.17	45	6	14,800
ATES-21711	1.7	7	15°	5.45	45	6	17,800
ATES-21801	1.8	7	30'	1.92	45	4	9,000
ATES-21802	1.8	7	1°	2.04	45	4	9,000
ATES-21803	1.8	7	1°30'	2.17	45	4	9,000
ATES-21804	1.8	7	2°	2.29	45	4	9,000
ATES-21805	1.8	7	2°30'	2.41	45	4	9,000
ATES-21806	1.8	7	3°	2.53	45	4	9,000
ATES-21807	1.8	7	4°	2.78	45	4	9,000
ATES-21808	1.8	7	5°	3.02	45	4	13,300
ATES-21809	1.8	7	7°	3.52	45	4	13,300
ATES-21810	1.8	7	10°	4.27	45	6	14,800
ATES-21811	1.8	7	15°	5.55	45	6	17,800
ATES-21901	1.9	8	30'	2.04	45	4	9,000
ATES-21902	1.9	8	1°	2.18	45	4	9,000
ATES-21903	1.9	8	1°30'	2.32	45	4	9,000
ATES-21904	1.9	8	2°	2.46	45	4	9,000
ATES-21905	1.9	8	2°30'	2.6	45	4	9,000

単位 Unit : mm

型番 CODE NUMBER	径 φD	刃長 ℓ	片角 α°	大端径 φD1	全長 L	シャンク φd	定価 ¥
ATES-21906	1.9	8	3°	2.74	45	4	9,000
ATES-21907	1.9	8	4°	3.02	45	4	9,000
ATES-21908	1.9	8	5°	3.3	45	4	13,300
ATES-21909	1.9	8	7°	3.86	45	4	13,300
ATES-21910	1.9	8	10°	4.72	45	6	14,800
ATES-21911	1.9	8	15°	6.19	45	8	17,800
ATES-22001	2	8	30'	2.14	45	4	8,800
ATES-22002	2	8	1°	2.28	45	4	8,800
ATES-22003	2	8	1°30'	2.42	45	4	8,800
ATES-22004	2	8	2°	2.56	45	4	8,800
ATES-22005	2	8	2°30'	2.7	45	4	8,800
ATES-22006	2	8	3°	2.84	45	4	8,800
ATES-22007	2	8	4°	3.12	45	4	8,800
ATES-22008	2	8	5°	3.4	45	4	9,300
ATES-22009	2	8	7°	3.96	45	4	9,300
ATES-22010	2	8	10°	4.82	45	6	14,700
ATES-22011	2	8	15°	6.29	45	8	17,800
ATES-22101	2.1	8	30'	2.24	45	4	9,700
ATES-22102	2.1	8	1°	2.38	45	4	9,700
ATES-22103	2.1	8	1°30'	2.52	45	4	9,700
ATES-22104	2.1	8	2°	2.66	45	4	9,700
ATES-22105	2.1	8	2°30'	2.8	45	4	9,700
ATES-22106	2.1	8	3°	2.94	45	4	9,700
ATES-22107	2.1	8	4°	3.22	45	4	9,700
ATES-22108	2.1	8	5°	3.5	45	4	10,000
ATES-22109	2.1	8	7°	4.06	45	4	10,000
ATES-22110	2.1	8	10°	4.92	45	6	15,000
ATES-22111	2.1	8	15°	6.39	45	8	17,800
ATES-22201	2.2	9	30'	2.36	45	4	9,700
ATES-22202	2.2	9	1°	2.51	45	4	9,700
ATES-22203	2.2	9	1°30'	2.67	45	4	9,700
ATES-22204	2.2	9	2°	2.83	45	4	9,700
ATES-22205	2.2	9	2°30'	2.99	45	4	9,700
ATES-22206	2.2	9	3°	3.14	45	4	9,700
ATES-22207	2.2	9	4°	3.46	45	4	9,700
ATES-22208	2.2	9	5°	3.77	45	4	10,000
ATES-22209	2.2	9	7°	4.41	45	6	10,000
ATES-22210	2.2	9	10°	5.37	45	6	15,000
ATES-22211	2.2	9	15°	7.02	45	8	17,800
ATES-22301	2.3	9	30'	2.46	45	4	9,700
ATES-22302	2.3	9	1°	2.61	45	4	9,700
ATES-22303	2.3	9	1°30'	2.77	45	4	9,700
ATES-22304	2.3	9	2°	2.93	45	4	9,700
ATES-22305	2.3	9	2°30'	3.09	45	4	9,700

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切削条件 Cutting Condition P.181

型番 CODE NUMBER	径 φD	刃長 ℓ	片角 α°	大端径 φD1	全長 L	シャンク φd	定価 ¥
ATES-22306	2.3	9	3°	3.24	45	4	9,700
ATES-22307	2.3	9	4°	3.56	45	4	9,700
ATES-22308	2.3	9	5°	3.87	45	4	10,000
ATES-22309	2.3	9	7°	4.51	45	6	10,000
ATES-22310	2.3	9	10°	5.47	45	6	15,000
ATES-22311	2.3	9	15°	7.12	45	8	17,800
ATES-22401	2.4	10	30'	2.57	45	4	10,000
ATES-22402	2.4	10	1°	2.75	45	4	10,000
ATES-22403	2.4	10	1°30'	2.92	45	4	10,000
ATES-22404	2.4	10	2°	3.1	45	4	10,000
ATES-22405	2.4	10	2°30'	3.27	45	4	10,000
ATES-22406	2.4	10	3°	3.45	45	4	10,000
ATES-22407	2.4	10	4°	3.8	45	4	10,000
ATES-22408	2.4	10	5°	4.15	45	6	11,700
ATES-22409	2.4	10	7°	4.86	45	6	11,700
ATES-22410	2.4	10	10°	5.93	45	6	16,300
ATES-22411	2.4	10	15°	7.76	45	8	18,800
ATES-22501	2.5	10	30'	2.67	45	4	9,000
ATES-22502	2.5	10	1°	2.85	45	4	9,000
ATES-22503	2.5	10	1°30'	3.02	45	4	9,000
ATES-22504	2.5	10	2°	3.2	45	4	9,000
ATES-22505	2.5	10	2°30'	3.37	45	4	9,000
ATES-22506	2.5	10	3°	3.55	45	4	9,000
ATES-22507	2.5	10	4°	3.9	45	4	9,000
ATES-22508	2.5	10	5°	4.25	45	6	10,000
ATES-22509	2.5	10	7°	4.96	45	6	10,000
ATES-22510	2.5	10	10°	6.03	45	6	16,300
ATES-22511	2.5	10	15°	7.86	45	8	18,800
ATES-22601	2.6	11	30'	2.79	50	6	12,000
ATES-22602	2.6	11	1°	2.98	50	6	12,000
ATES-22603	2.6	11	1°30'	3.18	50	6	12,000
ATES-22604	2.6	11	2°	3.37	50	6	12,000
ATES-22605	2.6	11	2°30'	3.56	50	6	12,000
ATES-22606	2.6	11	3°	3.75	50	6	12,000
ATES-22607	2.6	11	4°	4.14	50	6	12,000
ATES-22608	2.6	11	5°	4.52	50	6	13,000
ATES-22609	2.6	11	7°	5.3	50	6	13,000
ATES-22610	2.6	11	10°	6.48	50	8	19,300
ATES-22611	2.6	11	15°	8.49	50	10	24,200
ATES-22701	2.7	11	30'	2.89	50	6	12,000
ATES-22702	2.7	11	1°	3.08	50	6	12,000
ATES-22703	2.7	11	1°30'	3.28	50	6	12,000
ATES-22704	2.7	11	2°	3.47	50	6	12,000
ATES-22705	2.7	11	2°30'	3.66	50	6	12,000

単位 Unit : mm

型番 CODE NUMBER	径 φD	刃長 ℓ	片角 α°	大端径 φD1	全長 L	シャンク φd	定価 ¥
ATES-22706	2.7	11	3°	3.85	50	6	12,000
ATES-22707	2.7	11	4°	4.24	50	6	12,000
ATES-22708	2.7	11	5°	4.62	50	6	13,000
ATES-22709	2.7	11	7°	5.4	50	6	13,000
ATES-22710	2.7	11	10°	6.58	50	8	19,300
ATES-22711	2.7	11	15°	8.59	50	10	24,200
ATES-22801	2.8	11	30'	2.99	50	6	12,000
ATES-22802	2.8	11	1°	3.18	50	6	12,000
ATES-22803	2.8	11	1°30'	3.38	50	6	12,000
ATES-22804	2.8	11	2°	3.57	50	6	12,000
ATES-22805	2.8	11	2°30'	3.76	50	6	12,000
ATES-22806	2.8	11	3°	3.95	50	6	12,000
ATES-22807	2.8	11	4°	4.34	50	6	12,000
ATES-22808	2.8	11	5°	4.72	50	6	13,000
ATES-22809	2.8	11	7°	5.5	50	6	13,000
ATES-22810	2.8	11	10°	6.68	50	8	19,300
ATES-22811	2.8	11	15°	8.69	50	10	24,200
ATES-22901	2.9	12	30'	3.11	50	6	12,700
ATES-22902	2.9	12	1°	3.32	50	6	12,700
ATES-22903	2.9	12	1°30'	3.53	50	6	12,700
ATES-22904	2.9	12	2°	3.74	50	6	12,700
ATES-22905	2.9	12	2°30'	3.95	50	6	12,700
ATES-22906	2.9	12	3°	4.16	50	6	12,700
ATES-22907	2.9	12	4°	4.58	50	6	12,700
ATES-22908	2.9	12	5°	5	50	6	19,700
ATES-22909	2.9	12	7°	5.85	50	6	19,700
ATES-22910	2.9	12	10°	7.13	50	8	22,800
ATES-22911	2.9	12	15°	9.33	50	10	25,700
ATES-23001	3	12	30'	3.21	50	6	12,700
ATES-23002	3	12	1°	3.42	50	6	12,700
ATES-23003	3	12	1°30'	3.63	50	6	12,700
ATES-23004	3	12	2°	3.84	50	6	12,700
ATES-23005	3	12	2°30'	4.05	50	6	12,700
ATES-23006	3	12	3°	4.26	50	6	12,700
ATES-23007	3	12	4°	4.68	50	6	12,700
ATES-23008	3	12	5°	5.1	50	6	19,700
ATES-23009	3	12	7°	5.95	50	6	19,700
ATES-23010	3	12	10°	7.23	50	8	22,800
ATES-23011	3	12	15°	9.43	50	10	25,700

テーパードエンドミル  
Taper End Mill



# ATES テーパーエンドミル/ATBES テーパーボール(2枚刃)

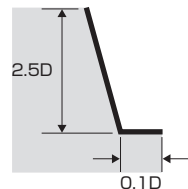
## ATES-2 Taper End Mill/ATBES-2 Taper Ball End Mill

被削材 Work Materials	炭素鋼 SS材 S50C Carbon Steel			合金鋼 SCM SK材 Alloy Steel			調質鋼 NAK Prehardened Steel		
	刃径 Diameter	回転数 Speed (RPM)	側面 SideMilling (mm/min)	溝 Slotting (mm/min)	回転数 Speed (RPM)	側面 SideMilling (mm/min)	溝 Slotting (mm/min)	回転数 Speed (RPM)	側面 SideMilling (mm/min)
0.1	20,000	30	20~30	15,000	20	15~20	15,000	15	10~20
0.2	20,000	50	30	15,000	40	20	15,000	30	20
0.3	18,000	70	40	13,000	50	30	13,000	40	20
0.4~0.5	15,000	80	50	11,300	55	40	10,000	45	30
0.8	13,000	100	60	10,000	70	45	8,500	50	30
1	12,700	130	75	9,600	90	50	8,000	70	45
1.5	8,500	130	75	6,400	90	50	5,300	70	45
2	6,400	150	90	4,800	100	60	4,000	80	55
2.5	5,100	150	90	3,800	100	60	3,200	80	55
3	4,200	160	100	3,200	110	70	2,700	90	60

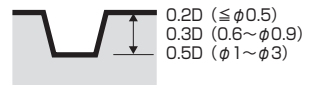
被削材 Work Materials	アルミ合金 Aluminium Alloy			銅合金 Copper Alloy		
	刃径 Diameter	回転数 Speed (RPM)	側面 SideMilling (mm/min)	溝 Slotting (mm/min)	回転数 Speed (RPM)	側面 SideMilling (mm/min)
0.1	25,000	100	60	20,000	70	40
0.2	25,000	100	60	20,000	70	40
0.3	22,000	150	60	18,000	100	40
0.4~0.5	20,000	150	90	18,000	100	60
0.8	18,000	200	90	15,000	150	60
1	17,500	250	150	14,300	190	100
1.5	11,700	250	150	9,600	190	100
2	8,800	300	180	7,200	230	130
2.5	7,000	300	180	5,700	230	130
3	5,800	330	210	4,800	250	150

ATES/ATBES 切り込み量  
Depth of cut

側面加工 Side Milling



溝加工 Slotting



### 備考

- 1) 機械、チャックは剛性のある精度の高いものをご使用下さい。
- 2) チャッキング時のエンドミルの振れ精度は0.01mm以下に抑えて下さい。
- 3) ご使用の機械の最高回転数が上記切削条件に達しない場合は、なるべく安定領域での高い回転数で使用し、送り速度を調整して下さい。

### Remarks:

- 1) Use a rigid and precise machine and holder.
- 2) The run out with an end mill in a spindle should be within 0.01mm.
- 3) When using low speed machines, use the maximum speed but in stable rotation range and adjust the feed rate.