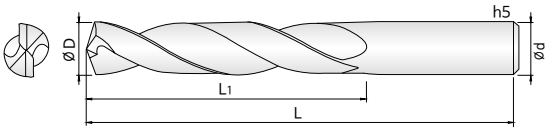
2DUBE

Carbide 2 Flutes Dube Drills (Short length)

초경 2날 짧은 길이 두배 드릴

New



- HRc28이하, S45C, SCM, 주강, 주철용 고정밀 드릴
- T-CRO 코팅을 적용하여 드릴 가공 시 발생하는 융착 현상을 최소화 하였습니다.
- 절삭 저항을 최소화하는 Point thinning을 채택 하였습니다.
- 특수 인선처리와 최적의 형상으로 치핑 및 돌발파손을 방지합니다.
- 우수한 공구의 강성과 칩 배출의 설계를 적용하여 칩 배출성을 향상시켰습니다.

- High-speed drills for materials up to HRc28, S45C, SCM, cast steels, and cast irons
- Minimized adhesion during drilling operations by applying T-CRO coating.
- Adopted point thinning to minimize cutting resistance.
- Prevents chipping and unexpected fractures with special edge treatment and optimal shape.
- Enhanced chip evacuation with the application of a design for superior tool rigidity and chip evacuation.

2 | WC 미립자 | TCRO COATING | h7 Diameter Tolerence | 30° Helix Angle | 140° | CUTTING DATA

513P

단위 : mm

Order Number	날경 Diameter D	홈길이 Flute Length L1	전장 Overall Length L	생크 Shank Dia d	비고
2DUBE 010 050 S03	1	5	40	3	
2DUBE 0105 050 S03	1.05	5	40	3	
2DUBE 011 060 S03	1.1	6	40	3	
2DUBE 0115 060 S03	1.15	6	40	3	
2DUBE 012 060 S03	1.2	6	40	3	
2DUBE 0125 060 S03	1.25	6	40	3	
2DUBE 013 060 S03	1.3	6	40	3	
2DUBE 0135 070 S03	1.35	7	40	3	
2DUBE 014 070 S03	1.4	7	40	3	
2DUBE 0145 070 S03	1.45	7	40	3	
2DUBE 015 070 S03	1.5	7	40	3	
2DUBE 0155 080 S03	1.55	8	40	3	
2DUBE 016 080 S03	1.6	8	40	3	
2DUBE 0165 080 S03	1.65	8	40	3	
2DUBE 017 080 S03	1.7	8	40	3	
2DUBE 0175 090 S03	1.75	9	40	3	
2DUBE 018 090 S03	1.8	9	40	3	
2DUBE 0185 090 S03	1.85	9	40	3	
2DUBE 019 090 S03	1.9	9	40	3	
2DUBE 0195 100 S03	1.95	10	50	3	
2DUBE 020 100 S03	2	10	50	3	
2DUBE 0205 100 S03	2.05	10	50	3	
2DUBE 021 100 S03	2.1	10	50	3	
2DUBE 0215 110 S03	2.15	11	50	3	
2DUBE 022 110 S03	2.2	11	50	3	
2DUBE 0225 110 S03	2.25	11	50	3	
2DUBE 023 110 S03	2.3	11	50	3	
2DUBE 0235 110 S03	2.35	11	50	3	
2DUBE 024 120 S03	2.4	12	50	3	
2DUBE 0245 120 S03	2.45	12	50	3	
2DUBE 025 120 S03	2.5	12	50	3	
2DUBE 0255 120 S03	2.55	12	50	3	
2DUBE 026 120 S03	2.6	12	50	3	
2DUBE 0265 120 S03	2.65	12	50	3	
2DUBE 027 140 S03	2.7	14	50	3	
2DUBE 0275 140 S03	2.75	14	50	3	
2DUBE 028 140 S03	2.8	14	50	3	
2DUBE 0285 140 S03	2.85	14	50	3	
2DUBE 029 140 S03	2.9	14	50	3	
2DUBE 0295 140 S03	2.95	14	50	3	
2DUBE 030 140 S03	3	14	50	3	
2DUBE 0305 160 S04	3.05	16	55	4	
2DUBE 031 160 S04	3.1	16	55	4	
2DUBE 0315 160 S04	3.15	16	55	4	
2DUBE 032 160 S04	3.2	16	55	4	
2DUBE 0325 160 S04	3.25	16	55	4	
2DUBE 033 160 S04	3.3	16	55	4	
2DUBE 0335 160 S04	3.35	16	55	4	
2DUBE 034 160 S04	3.4	16	55	4	
2DUBE 0345 160 S04	3.45	16	55	4	

Order Number	날경 Diameter D	홈길이 Flute Length L1	전장 Overall Length L	생크 Shank Dia d	비고
2DUBE 035 160 S04	3.5	16	55	4	
2DUBE 0355 160 S04	3.55	16	55	4	
2DUBE 036 180 S04	3.6	18	55	4	
2DUBE 0365 180 S04	3.65	18	55	4	
2DUBE 037 180 S04	3.7	18	55	4	
2DUBE 0375 180 S04	3.75	18	55	4	
2DUBE 038 200 S04	3.8	20	55	4	
2DUBE 0385 200 S04	3.85	20	55	4	
2DUBE 039 200 S04	3.9	20	55	4	
2DUBE 0395 200 S04	3.95	20	55	4	
2DUBE 040 200 S04	4	20	55	4	
2DUBE 0405 200 S05	4.05	20	60	5	
2DUBE 041 200 S05	4.1	20	60	5	
2DUBE 0415 200 S05	4.15	20	60	5	
2DUBE 042 200 S05	4.2	20	60	5	
2DUBE 0425 200 S05	4.25	20	60	5	
2DUBE 043 220 S05	4.3	22	60	5	
2DUBE 0435 220 S05	4.35	22	60	5	
2DUBE 044 220 S05	4.4	22	60	5	
2DUBE 0445 220 S05	4.45	22	60	5	
2DUBE 045 220 S05	4.5	22	60	5	
2DUBE 0455 220 S05	4.55	22	60	5	
2DUBE 046 220 S05	4.6	22	60	5	
2DUBE 0465 220 S05	4.65	22	60	5	
2DUBE 047 220 S05	4.7	22	60	5	
2DUBE 0475 220 S05	4.75	22	60	5	
2DUBE 048 240 S05	4.8	24	60	5	
2DUBE 0485 240 S05	4.85	24	60	5	
2DUBE 049 240 S05	4.9	24	60	5	
2DUBE 0495 240 S05	4.95	24	60	5	
2DUBE 050 240 S05	5	24	60	5	
2DUBE 051 240 S06	5.1	24	60	6	
2DUBE 052 240 S06	5.2	24	60	6	
2DUBE 053 240 S06	5.3	24	60	6	
2DUBE 054 240 S06	5.4	24	60	6	
2DUBE 055 280 S06	5.5	28	65	6	
2DUBE 056 280 S06	5.6	28	65	6	
2DUBE 057 280 S06	5.7	28	65	6	
2DUBE 058 280 S06	5.8	28	65	6	
2DUBE 059 280 S06	5.9	28	65	6	
2DUBE 060 280 S06	6	28	65	6	
2DUBE 061 280 S06	6.1	28	65	6	
2DUBE 062 320 S07	6.2	32	65	7	
2DUBE 063 320 S07	6.3	32	65	7	
2DUBE 064 320 S07	6.4	32	65	7	
2DUBE 065 320 S07	6.5	32	65	7	
2DUBE 066 320 S07	6.6	32	65	7	
2DUBE 067 320 S07	6.7	32	65	7	
2DUBE 068 320 S07	6.8	32	65	7	
2DUBE 069 320 S07	6.9	32	65	7	

단위 : mm

Order Number	날경 Diameter D	홈길이 Flute Length L1	전장 Overall Length L	생크 Shank Dia d	비고
2DUBE 070 320 S07	7	32	65	7	
2DUBE 071 320 S07	7.1	32	65	7	
2DUBE 072 360 S08	7.2	36	70	8	
2DUBE 073 360 S08	7.3	36	70	8	
2DUBE 074 360 S08	7.4	36	70	8	
2DUBE 075 360 S08	7.5	36	70	8	
2DUBE 076 360 S08	7.6	36	70	8	
2DUBE 077 360 S08	7.7	36	70	8	
2DUBE 078 360 S08	7.8	36	70	8	
2DUBE 079 360 S08	7.9	36	70	8	
2DUBE 080 360 S08	8	36	70	8	
2DUBE 081 360 S08	8.1	36	70	8	
2DUBE 082 400 S09	8.2	40	75	9	
2DUBE 083 400 S09	8.3	40	75	9	
2DUBE 084 400 S09	8.4	40	75	9	
2DUBE 085 400 S09	8.5	40	75	9	
2DUBE 086 400 S09	8.6	40	75	9	
2DUBE 087 400 S09	8.7	40	75	9	
2DUBE 088 400 S09	8.8	40	75	9	
2DUBE 089 400 S09	8.9	40	75	9	
2DUBE 090 400 S09	9	40	75	9	
2DUBE 091 400 S09	9.1	40	75	9	
2DUBE 092 430 S10	9.2	43	80	10	
2DUBE 093 430 S10	9.3	43	80	10	
2DUBE 094 430 S10	9.4	43	80	10	
2DUBE 095 430 S10	9.5	43	80	10	
2DUBE 096 430 S10	9.6	43	80	10	
2DUBE 097 430 S10	9.7	43	80	10	
2DUBE 098 430 S10	9.8	43	80	10	
2DUBE 099 430 S10	9.9	43	80	10	
2DUBE 100 430 S10	10	43	80	10	
2DUBE 101 430 S10	10.1	43	80	10	
2DUBE 102 450 S11	10.2	45	85	11	
2DUBE 103 450 S11	10.3	45	85	11	
2DUBE 104 450 S11	10.4	45	85	11	
2DUBE 105 450 S11	10.5	45	85	11	
2DUBE 106 450 S11	10.6	45	85	11	
2DUBE 107 450 S11	10.7	45	85	11	
2DUBE 108 450 S11	10.8	45	85	11	
2DUBE 109 450 S11	10.9	45	85	11	
2DUBE 110 450 S11	11	45	85	11	
2DUBE 111 450 S11	11.1	45	85	11	
2DUBE 112 520 S12	11.2	52	90	12	
2DUBE 113 520 S12	11.3	52	90	12	
2DUBE 114 520 S12	11.4	52	90	12	
2DUBE 115 520 S12	11.5	52	90	12	
2DUBE 116 520 S12	11.6	52	90	12	
2DUBE 117 520 S12	11.7	52	90	12	
2DUBE 118 520 S12	11.8	52	90	12	
2DUBE 119 520 S12	11.9	52	90	12	
2DUBE 120 520 S12	12	52	90	12	

2DUBE(Short length) Cutting Condition

• RPM : rev./min • Feed : mm/min

피삭재 Material	일반구조강/쾌삭강 Mild Steels/Free cutting steels HP/SM		구조용강/탄소강/회주철 Structural steels / Carbon Steels /Gray cast irons SS/SC/FC		공구강/금형강 Tool steels / Mold steels SCM/HPM		덕타일 주철 Ductile cast irons FCD	
경도 Hardness	~ 200HB		~ 30HRc		30~40HRc		-	
외경 Outside Diameter	회전수 RPM	이송 속도 FEED	회전수 RPM	이송 속도 FEED	회전수 RPM	이송 속도 FEED	회전수 RPM	이송 속도 FEED
ø1	19,100	840	19,200	430	13,000	360	11,500	385
ø2	9,500	630	9,700	430	6,000	330	6,100	330
ø3	8,500	840	8,200	360	5,900	450	5,950	460
ø4	6,400	770	6,500	430	4,500	450	4,400	440
ø5	5,000	940	5,200	680	3,450	550	3,500	560
ø6	4,250	880	4,500	600	4,000	550	3,000	560
ø8	3,200	740	3,300	580	2,100	440	2,200	460
ø10	2,550	640	2,500	580	1,700	400	1,800	420
ø12	2,200	600	2,100	530	1,400	350	1,500	390

- 피삭재의 고정이 불안정 할 시 내구성이 떨어지므로, 확실한 클램핑을 하십시오.
- 원활한 칩 배출을 위해 절삭유 사용을 권장하며, 수용성 절삭유가 효과적입니다.
- 상기 절삭 조건은 참고 수치이므로, 실 가공 시 가공 형상, 가공 목적, 적용 기계에 따라 조건 변경 요망합니다.
- 조건표가 기계의 최대 스핀들 속도를 초과하거나 버 및 적열 현상이 발생할 때 스핀들 속도와 이송 속도를 비례하여 조정하십시오.

- Ensure a stable clamping when fixing the cutting tool, as durability may be compromised if the clamping is unstable.
- For smooth chip evacuation, we recommend using cutting oil, and a soluble cutting fluid is effective as well.
- Use this table for your reference. Adjust the parameters depending on your machining geometry, machining purpose and CNC.
- If the cutting conditions exceed the maximum spindle speed of the machine or if chattering and thermal phenomena occur, adjust the spindle speed and feed rate proportionally.

2DUBE(Standard length) Cutting Condition

• RPM : rev./min • Feed : mm/min

피삭재 Material	일반구조강/쾌삭강 Mild Steels/Free cutting steels HP/SM		구조용강/탄소강/회주철 Structural steels / Carbon Steels /Gray cast irons SS/SC/FC		공구강/금형강 Tool steels / Mold steels SCM/HPM		덕타일 주철 Ductile cast irons FCD	
경도 Hardness	~ 200HB		~ 30HRc		30~40HRc		-	
외경 Outside Diameter	회전수 RPM	이송 속도 FEED	회전수 RPM	이송 속도 FEED	회전수 RPM	이송 속도 FEED	회전수 RPM	이송 속도 FEED
ø1	19,100	760	19,200	390	13,000	330	11,500	350
ø2	9,500	570	9,700	390	6,000	300	6,100	300
ø3	8,500	760	8,200	330	5,900	410	5,950	420
ø4	6,400	700	6,500	390	4,500	410	4,400	400
ø5	5,000	850	5,200	620	3,450	520	3,500	510
ø6	4,250	800	4,500	550	4,000	500	3,000	510
ø8	3,200	670	3,300	530	2,100	400	2,200	420
ø10	2,550	850	2,500	530	1,700	360	1,800	380
ø12	2,200	550	2,100	480	1,400	320	1,500	350
ø16	1,600	530	1,600	430	1,150	310	1,100	300
ø20	1,300	450	1,300	430	950	310	900	300

- 피삭재의 고정이 불안정 할 시 내구성이 떨어지므로, 확실한 클램핑을 하십시오.
- 원활한 칩 배출을 위해 절삭유 사용을 권장하며, 수용성 절삭유가 효과적입니다.
- 상기 절삭 조건은 참고 수치이므로, 실 가공 시 가공 형상, 가공 목적, 적용 기계에 따라 조건 변경 요망합니다.
- 절삭하는 피삭재의 따라 구멍깊이 최대 5xDc 이상의 드릴링 시 peck(Q) 절입량을 변경하십시오.
- 조건표가 기계의 최대 스핀들 속도를 초과하거나 버 및 적열 현상이 발생할 때 스핀들 속도와 이송 속도를 비례하여 조정하십시오.

- Ensure a stable clamping when fixing the cutting tool, as durability may be compromised if the clamping is unstable.
- For smooth chip evacuation, we recommend using cutting oil, and a soluble cutting fluid is effective as well.
- Use this table for your reference. Adjust the parameters depending on your machining geometry, machining purpose and CNC.
- Please adjust the peck (Q) feed rate when drilling with a cutting tool that has a depth of cut (Dc) exceeding 5 times the diameter.
- If the cutting conditions exceed the maximum spindle speed of the machine or if chattering and thermal phenomena occur, adjust the spindle speed and feed rate proportionally.