



STRAIGHT SHANK DRILLS

RECOMMENDED CUTTING CONDITIONS

HSS & HSSCo8, STRAIGHT SHANK SCREW MACHINE DRILLS

D1118, D1115, D1119, D2146, D2147, D2148 SERIES

WORK MATERIAL	CARBON STEELS		CARBON STEELS		CARBON STEELS		ALLOY STEELS		ALLOY STEELS	
HARDNESS			~ HRC23		~ HRC23 ~ 28		HRC23 ~ 34		HRC34 ~ 38	
STRENGTH	~ 570 N/mm ²		~ 830 N/mm ²		830 ~ 950 N/mm ²		830 ~ 1110 N/mm ²		1110 ~ 1260 N/mm ²	
DIAMETER	N	S	N	S	N	S	N	S	N	S
0 ~ 3/32	3380	.0010	2550	.0010	1900	.0006	2380	.0008	1400	.0006
3/32 ~ 5/32	2700	.0020	2000	.0020	1500	.0010	1880	.0020	1100	.0008
11/64 ~ 1/4	1700	.0025	1280	.0025	960	.0015	1190	.0025	700	.0010
17/64 ~ 23/64	1050	.0051	780	.0051	590	.0030	730	.0051	430	.0015
3/8 ~ 37/64	750	.0059	560	.0060	425	.0030	520	.0070	310	.0020
19/32 ~ 1	440	.0090	330	.0090	255	.0051	300	.0090	180	.0020
1 ~	260	.0110	195	.0110	145	.0070	180	.0070	107	.0030

WORK MATERIAL	STAINLESS STEELS		TITANIUM ALLOYS		TOOL STEELS		CAST IRON		ALUMINUM ALLOYS	
HARDNESS	HRC23						~ HRC21			
STRENGTH	830 N/mm ²		410 N/mm ²		~ 270 N/mm ²		~ 800 N/mm ²			
DIAMETER	N	S	N	S	N	S	N	S	N	S
0 ~ 3/32	2550	.0010	1400	.0008	3180	.0016	2250	.0010	6400	.0015
3/32 ~ 5/32	2000	.0020	1100	.0010	2500	.0020	2000	.0020	5000	.0025
11/64 ~ 1/4	1280	.0025	700	.0015	1590	.0025	1280	.0025	3200	.0030
17/64 ~ 23/64	780	.0051	430	.0030	970	.0051	780	.0051	2000	.0070
3/8 ~ 37/64	560	.0060	430	.0030	700	.0070	560	.0060	1400	.0078
19/32 ~ 1	330	.0090	180	.0051	440	.0090	330	.0090	820	.0118
1 ~	195	.0110	107	.0070	240	.1180	195	.0110	490	.0150

WORK MATERIAL	MAGNESIUM ALLOYS		ZINC ALLOYS		PLASTIC	
HARDNESS						
STRENGTH						
DIAMETER	N	S	N	S	N	S
0 ~ 3/32	8600	.0015	6400	.0015	3380	.0010
3/32 ~ 5/32	6800	.0025	5000	.0025	2700	.0020
11/64 ~ 1/4	4300	.0030	3200	.0030	1700	.0025
17/64 ~ 23/64	2600	.0070	2000	.0070	1050	.0051
3/8 ~ 37/64	1900	.0078	1400	.0078	750	.0060
19/32 ~ 1	1100	.0118	820	.0118	440	.0090
1 ~	660	.0150	490	.0150	260	.0110

N = R.P.M

S =Inch per Revolution(inch/rev.)