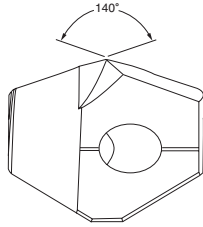
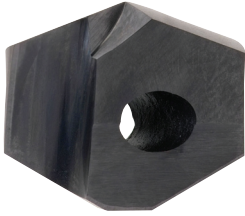


# *i*-Dream Drill INSERTS & HOLDERS



## -Feature of *i*-Dream Drill Insert-

- ▶ Secure and accurate seating resulting in accurate repeatability and concentricity.

Series	Insert EDP No. (TiAlN)	Insert O.D.			Drilling Depth	Holder EDP No.	O.D. HD	Shank Dia. SD g6	Shank Length L2	Flange Dia. FD	Flute Length(L1)			Overall Length (L3) Ref.			Torx No.
		dec.	frac.	mm							3xD	5xD	7xD	3xD	5xD	7xD	
<b>G</b>	YG1A2400	0.9449		24.00	3D 5D 7D	ZH24003032 ZH24005032 ZH24007032	23.7	32	60	37	85	134	183	172	221	270	TX2425T20
	YG1A2421	0.9531	61/64	24.21													
	YG1A2450	0.9646		24.50	3D 5D 7D	ZH24503032 ZH24505032 ZH24507032	24.2	32	60	37	87	137	187	173	223	273	
	YG1A2461	0.9689	31/32	24.61													
	YG1A2470	0.9724		24.70													
	YG1A2500	0.9843	63/64	25.00	3D 5D 7D	ZH25003032 ZH25005032 ZH25007032	24.7	32	60	37	89	140	191	175	226	277	
	YG1A2540	1.0000	1	25.40													
	YG1A2550	1.0039		25.50													
	YG1A2567	1.0106		25.67	3D 5D 7D	ZH25503032 ZH25505032 ZH25507032	25.2	32	60	37	91	142	194	177	228	280	
	YG1A2570	1.0118		25.70													
YG1A2580	1.0157	1*1/64	25.80														
<b>H</b>	YH1A2600	1.0236		26.00	3D 5D 7D	ZH26003032 ZH26005032 ZH26007032	25.7	32	60	37	92	144	196	177	229	281	TX2627T25
	YH1A2619	1.0311	1*1/32	26.19													
	YH1A2650	1.0433	1*3/64	26.50	3D 5D 7D	ZH26503032 ZH26505032 ZH26507032	26.2	32	60	37	93	146	199	178	231	284	
	YH1A2659	1.0469		26.59													
	YH1A2699	1.0626	1*1/16	26.99	3D 5D 7D	ZH27003032 ZH27005032 ZH27007032	26.7	32	60	37	95	149	203	180	234	288	
	YH1A2700	1.0630		27.00													
	YH1A2750	1.0827		27.50	3D 5D 7D	ZH27503032 ZH27505032 ZH27507032	27.2	32	60	37	97	153	208	181	237	292	
	YH1A2778	1.0937	1*3/32	27.78													
<b>I</b>	YI1A2800	1.1024		28.00	3D 5D 7D	ZH28003032 ZH28005032 ZH28007032	27.7	32	60	37	99	155	211	183	239	295	TX2831T25
	YI1A2818	1.1094	1*7/64	28.18													
	YI1A2850	1.1220		28.50	3D 5D 7D	ZH28503032 ZH28505032 ZH28507032	28.2	32	60	37	100	157	214	184	241	298	
	YI1A2858	1.1252	1*1/8	28.58													
	YI1A2900	1.1417		29.00	3D 5D 7D	ZH29003032 ZH29005032 ZH29007032	28.7	32	60	37	103	162	220	186	245	303	
	YI1A2937	1.1563	1*5/32	29.37													
	YI1A2950	1.1614		29.50	3D 5D 7D	ZH29503032 ZH29505032 ZH29507032	29.2	32	60	37	104	164	223	187	247	306	
YI1A2977	1.1720		29.77														
<b>J</b>	YJ1A3000	1.1811		30.00	3D 5D 7D	ZH30003032 ZH30005032 ZH30007032	29.7	32	60	37	106	166	226	189	249	309	TX2831T25
	YJ1A3016	1.1874	1*3/16	30.16													
	YJ1A3050	1.2008		30.50	3D 5D 7D	ZH30503032 ZH30505032 ZH30507032	30.2	32	60	37	108	170	232	190	252	314	
	YJ1A3056	1.2031		30.56													
	YJ1A3096	1.2189	1*7/32	30.96													
	YJ1A3100	1.2205		31.00	3D 5D 7D	ZH31003032 ZH31005032 ZH31007032	30.7	32	60	37	109	171	233	191	253	315	
	YJ1A3150	1.2402		31.50													
YJ1A3175	1.2500	1*1/4	31.75	3D 5D 7D	ZH31503032 ZH31505032 ZH31507032	31.2	32	60	37	112	176	240	194	258	322		

Coating : TiN, TiCN & Hardslick is available on your request.

# RECOMMENDED CUTTING CONDITIONS

## i-Dream Drill **METRIC**

Material	Material Hardness (Bhn)	Speed (M/min)			Feed (mm/rev)				
		TiN	TiCN	TiAlN	ø12 ~ 15.9	ø16 ~ 19.9	ø20 ~ 23.9	ø24 ~ 27.9	ø28 ~ 31.9
<b>Free machining Steel</b> 1213, 12L13, 1215 12L14, 1118 etc	100 - 150	109	124	138	0.24	0.28	0.32	0.35	0.37
	150 - 200	106	119	132	0.22	0.26	0.30	0.33	0.35
	200 - 250	98	106	121	0.21	0.25	0.29	0.32	0.34
<b>Low Carbon Steel</b> 1015, 1020, 1140 1025 etc	85 - 125	113	132	143	0.22	0.26	0.30	0.33	0.35
	125 - 175	98	106	128	0.22	0.26	0.30	0.33	0.35
	175 - 225	91	98	115	0.19	0.23	0.27	0.30	0.32
	225 - 275	74	88	101	0.19	0.23	0.27	0.30	0.32
<b>Medium Carbon Steel</b> 1035, 1050, 1045 1055, 1140 etc	125 - 175	98	106	122	0.22	0.26	0.30	0.33	0.35
	175 - 225	90	101	112	0.19	0.23	0.27	0.30	0.32
	225 - 275	79	84	101	0.19	0.23	0.27	0.30	0.32
	275 - 325	67	77	80	0.16	0.20	0.24	0.27	0.29
<b>Structural Steel</b> A36, A516, A182 etc	100 - 150	90	98	109	0.26	0.30	0.34	0.37	0.39
	150 - 250	74	84	90	0.22	0.26	0.30	0.33	0.35
	250 - 350	66	77	88	0.19	0.23	0.27	0.30	0.32
<b>Cast Iron / S,G Iron</b> A48-76 GR30/GR45 A536-72 60-40-18 A220-76 GR40010 etc	120 - 150	112	144	158	0.25	0.29	0.33	0.36	0.38
	150 - 200	109	116	145	0.23	0.27	0.31	0.34	0.36
	200 - 220	90	109	133	0.21	0.25	0.29	0.32	0.34
	220 - 260	79	97	112	0.17	0.21	0.25	0.28	0.30
	260 - 320	67	84	95	0.16	0.20	0.24	0.27	0.29
<b>Alloy Steel</b> 8620, 4130, 4137 4140, 6150 etc	125 - 175	95	102	118	0.23	0.27	0.31	0.34	0.36
	175 - 225	88	97	106	0.22	0.26	0.30	0.33	0.35
	225 - 275	79	88	97	0.21	0.25	0.29	0.32	0.34
	275 - 325	74	84	94	0.17	0.21	0.25	0.28	0.30
	325 - 375	64	70	77	0.15	0.19	0.23	0.26	0.28
<b>Tool Steel</b> H13, H21, A2, S1 etc	150 - 200	60	67	80	0.14	0.18	0.22	0.25	0.27
	200 - 250	44	55	60	0.14	0.18	0.22	0.25	0.27
<b>High Temp. Alloy</b> Hastelloy B, Inconel etc	140 - 220	31	32	36	0.15	0.19	0.23	0.26	0.28
	220 - 310	24	28	29	0.14	0.18	0.22	0.25	0.27
<b>High Strength Alloy</b> 9840, 4340, 4330V etc	225 - 300	59	66	74	0.21	0.25	0.29	0.32	0.34
	300 - 350	52	59	66	0.17	0.21	0.25	0.28	0.30
	350 - 400	46	52	56	0.15	0.19	0.23	0.26	0.28
<b>Aluminium</b> 2014, 6061, 7075 etc	30	439	475	512	0.36	0.40	0.44	0.47	0.49
	180	293	348	349	0.31	0.35	0.39	0.42	0.44
<b>Stainless Steel</b> 310, 316, 410, 330 etc	135 - 185	60	66	74	0.23	0.27	0.31	0.34	0.36
	185 - 275	46	53	55	0.21	0.25	0.29	0.32	0.34

RPM = revolution per minute (rev/min)  
M/min = surface meter per minute(M/min)  
DIA = diameter of drill (mm)  
mm/rev = feed rate(mm/rev)

\* Formulas :

$$M/min = \frac{(RPM) \cdot (\pi) \cdot (DIA.)}{1000}$$

$$mm/min = (RPM) \cdot (mm/rev)$$

$$RPM = \frac{(M/min) \cdot (1000)}{(\pi) \cdot (DIA.)}$$

- The recommendations for speeds, feeds and other parameters presented in this chart are nominal recommendations and should be considered only as good starting points. Speed and feed reductions (20% reduction in speed and 10% reduction in feed) are recommended.
- Recommend you to reduce the feed rate to 85%,70% when you use 5xD,7xD holders.

# RECOMMENDED CUTTING CONDITIONS

## i-Dream Drill INCH

Material	Material Hardness (Bhn)	Speed (SFM)			Feed (IPR)				
		TiN	TiCN	TiAlN	Ø31/64 ~ 5/8	Ø41/64 ~ 25/32	Ø51/64 ~ 15/16	Ø61/64 ~ 1*3/32	Ø1*7/64 ~ 1*1/4
<b>Free machining Steel</b> 1213, 12L13, 1215 12L14, 1118 etc	100 - 150	358	406	453	0.009	0.011	0.013	0.014	0.015
	150 - 200	346	390	433	0.009	0.010	0.012	0.013	0.014
	200 - 250	323	346	398	0.008	0.010	0.011	0.012	0.013
<b>Low Carbon Steel</b> 1015, 1020, 1140 1025 etc	85 - 125	370	433	469	0.009	0.010	0.012	0.013	0.014
	125 - 175	323	346	421	0.009	0.010	0.012	0.013	0.014
	175 - 225	299	323	378	0.008	0.009	0.011	0.012	0.013
	225 - 275	244	287	331	0.008	0.009	0.011	0.012	0.013
<b>Medium Carbon Steel</b> 1035, 1050, 1045 1055, 1140 etc	125 - 175	323	346	402	0.009	0.010	0.012	0.013	0.014
	175 - 225	295	331	366	0.008	0.009	0.011	0.012	0.013
	225 - 275	260	276	331	0.008	0.009	0.011	0.012	0.013
	275 - 325	220	252	264	0.006	0.008	0.009	0.011	0.011
<b>Structural Steel</b> A36, A516, A182 etc	100 - 150	295	323	358	0.010	0.012	0.013	0.015	0.015
	150 - 250	244	276	295	0.009	0.010	0.012	0.013	0.014
	250 - 350	217	252	287	0.008	0.009	0.011	0.012	0.013
<b>Cast Iron / S,G Iron</b> A48-76 GR30/GR45 A536-72 60-40-18 A220-76 GR40010 etc	120 - 150	366	472	520	0.010	0.011	0.013	0.014	0.015
	150 - 200	358	382	476	0.009	0.011	0.012	0.013	0.014
	200 - 220	295	358	437	0.008	0.010	0.011	0.012	0.013
	220 - 260	260	319	366	0.007	0.008	0.010	0.011	0.012
	260 - 320	220	276	311	0.006	0.008	0.009	0.011	0.011
<b>Alloy Steel</b> 8620, 4130, 4137 4140, 6150 etc	125 - 175	311	335	386	0.009	0.011	0.012	0.013	0.014
	175 - 225	287	319	346	0.009	0.010	0.012	0.013	0.014
	225 - 275	260	287	319	0.008	0.010	0.011	0.012	0.013
	275 - 325	244	276	307	0.007	0.008	0.010	0.011	0.012
	325 - 375	209	228	252	0.006	0.007	0.009	0.010	0.011
<b>Tool Steel</b> H13, H21, A2, S1 etc	150 - 200	197	220	264	0.005	0.007	0.009	0.010	0.011
	200 - 250	146	181	197	0.005	0.007	0.009	0.010	0.011
<b>High Temp. Alloy</b> Hastelloy B, Inconel etc	140 - 220	102	106	118	0.006	0.007	0.009	0.010	0.011
	220 - 310	79	91	94	0.005	0.007	0.009	0.010	0.011
<b>High Strength Alloy</b> 9840, 4340, 4330V etc	225 - 300	193	217	244	0.008	0.010	0.011	0.012	0.013
	300 - 350	169	193	217	0.007	0.008	0.010	0.011	0.012
	350 - 400	150	169	185	0.006	0.007	0.009	0.010	0.011
<b>Aluminium</b> 2014, 6061, 7075 etc	30	1441	1559	1681	0.014	0.016	0.018	0.019	0.019
	180	961	1142	1146	0.012	0.014	0.015	0.016	0.017
<b>Stainless Steel</b> 310, 316, 410, 330 etc	135 - 185	197	217	244	0.009	0.011	0.012	0.013	0.014
	185 - 275	150	173	181	0.008	0.010	0.011	0.012	0.013

RPM = revolution per minute (rev/min)  
 SFM = surface feet per minute (ft/min)  
 DIA = diameter of drill (inch)  
 IPR = feed rate (in/rev)  
 IPM = inch per minute penetration rate

\* Formulas :

$$\text{SFM} = \frac{(\text{RPM}) \cdot (\pi) \cdot (\text{DIA.})}{12}$$

$$\text{IPM} = (\text{RPM}) \cdot (\text{IPR})$$

$$\text{RPM} = \frac{(\text{SFM}) \cdot (12)}{(\pi) \cdot (\text{DIA.})}$$

- ▶ The recommendations for speeds, feeds and other parameters presented in this chart are nominal recommendations and should be considered only as good starting points. Speed and feed reductions (20% reduction in speed and 10% reduction in feed) are recommended.
- ▶ Recommend you to reduce the feed rate to 85%,70% when you use 5xD,7xD holders.