

# GOLD TWIN



**Diameters (All with Inch Shanks)**  
Inch: 1.032" - 1.781" (every 1/32")  
Metric: 26.0mm - 45.0mm (every 1mm)

**Bodies**  
Inch Weldon Shanks  
Metric Shanks Available Upon Request

**Length/Diameter Ratio**  
5xD

**Tip Geometry**  
TPA...-C for Steel & General Purpose

**Grade**  
IN2505

**Insert Geometry**  
SPGX



## New Large Diameter Drilling Solution with a Quick Change Tip and Indexable Inserts

Ingersoll Cutting Tools is pleased to introduce the Gold Twin for machining large diameter holes - a product that guarantees excellent performance and improved productivity.

Ingersoll combines the revolutionary and highly popular Gold Twist tip, with its precision, self-centering tip, achieving excellent hole concentricity, and a newly designed, wiper style, 4 cornered SPGX insert, achieving improved surface finish. When compared to the conventional indexable drill, the SPGX insert offers double the productivity with its two effective design.

Additional benefits include a hardened body for excellent rigidity, polished flutes for ease of chip evacuation, through the tool coolant, and excellent wear resistance.

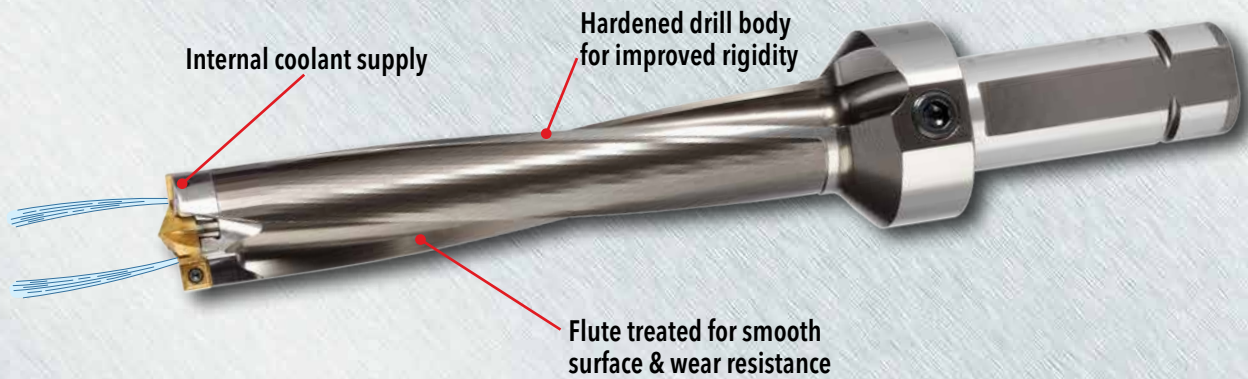
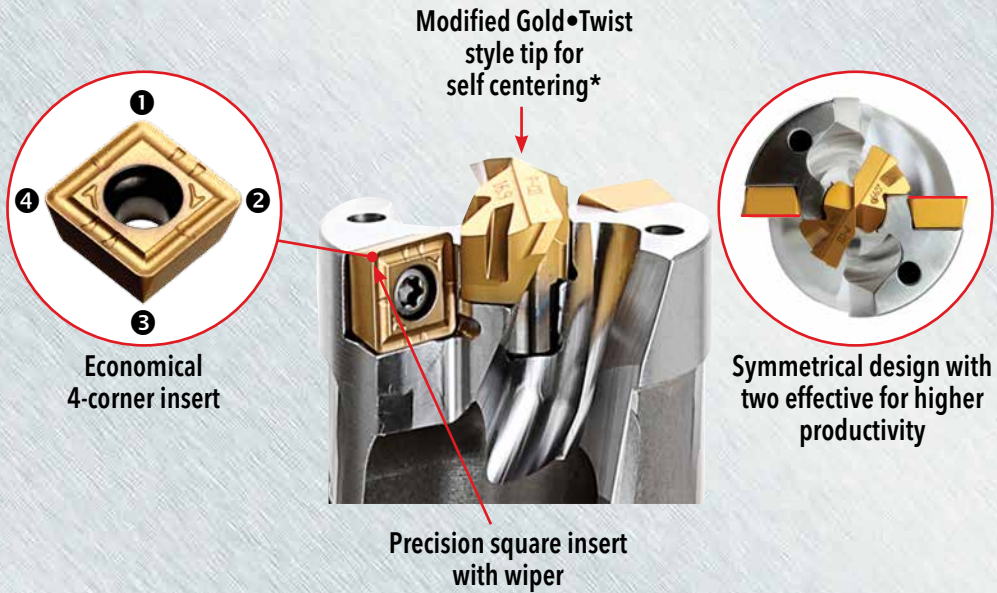
### Features:

- Hole accuracy IT10-11
- Two effective design means higher productivity
- Precision 4-corner insert with wiper
- Excellent hole straightness and surface finish
- Excellent chip control
- Improved body rigidity
- Self-centering, no need for a pilot hole



# GOLD•TWIN

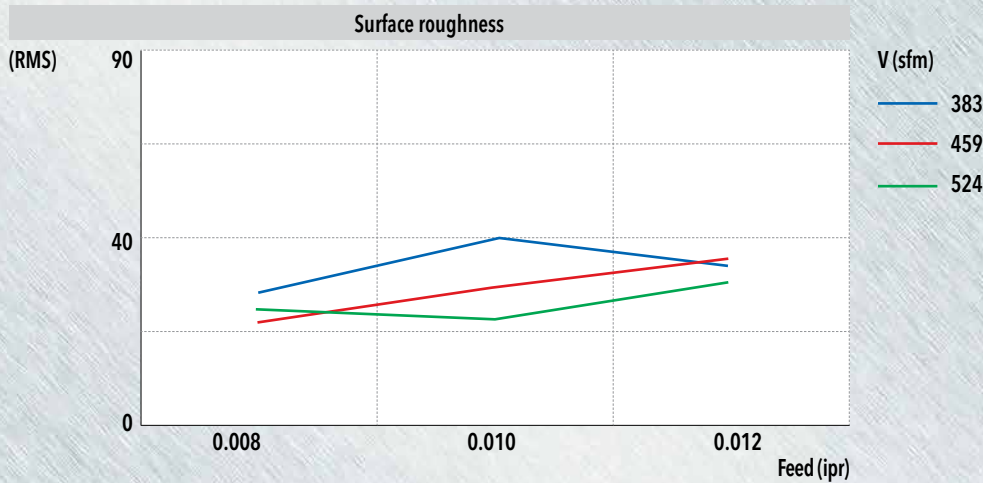
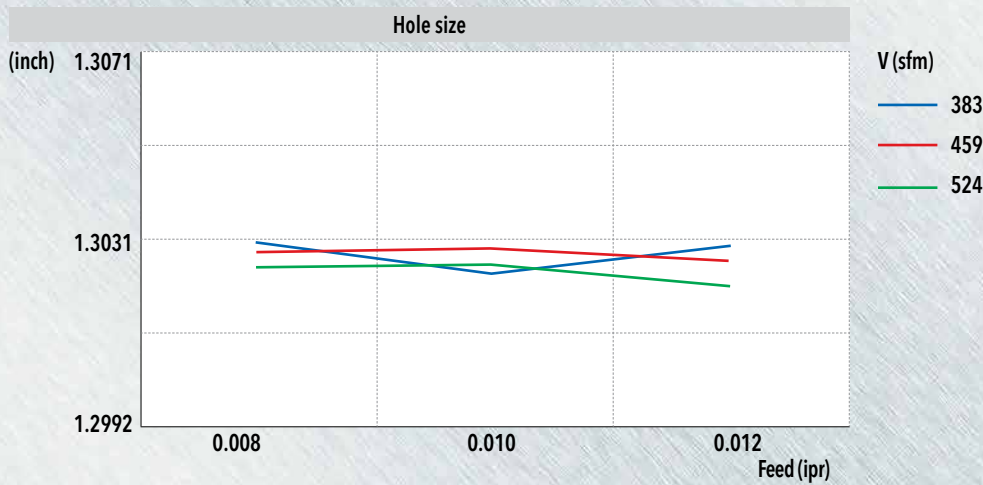
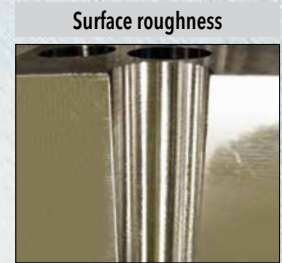
**GOLD•TWIN**



**\* NOTE: The standard Gold•Twist tips are not compatible with Gold•Twin bodies.**

## Case study 1 - Performance test

Machine	Vertical machining center (Spindle : BT50)	
Coolant	Internal (145 psi)	
Material	SAE 4340	
Drill	CD3300165N6R01 (1.299")	
Head	TPA1690R01-C IN2505 SPGX090408WG IN2505	
Cutting speed	V (sfm)	383/459/524
Feed rate	f (ipr)	.008/.010/.012
Hole depth (inch)	6.00" (Through hole)	

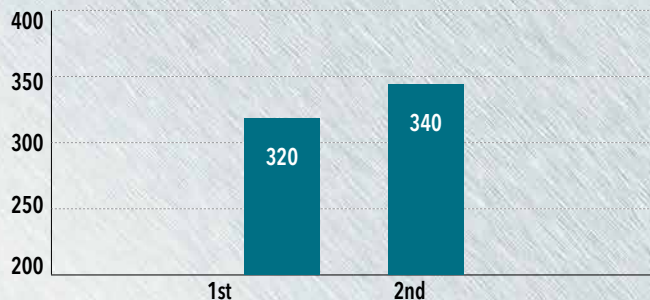


• Results may vary according to machine and cutting conditions

## Case study 2 - Tool life on alloy steel

Machine	Vertical machining center (Spindle : BT50)	
Coolant	Internal (145 psi)	
Material	Alloy steel (AISI 4140)	
Drill	CD3300165N6R01 (1.299")	
Head	TPA1690R01-C IN2505 SPGX090408WG IN2505	
Cutting speed	V (sfm)	459
Feed rate	f (ipr)	0.010
Hole depth (inch)	6.00" (Through hole)	

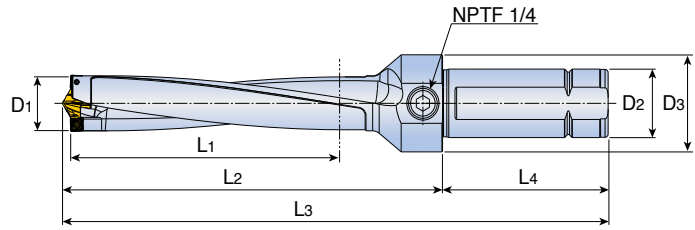
Tool life  
(holes/insert)



• Results may vary according to machine and cutting conditions



5XD Weldon Style Shank

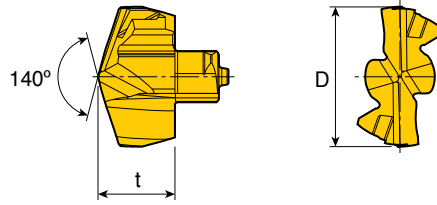


Designation	D1 Dimensions		D2 Shank Dia	D3 Flange Dia	L1 Max DOC	L2 Ext	L3 OAL	L4 Shank Length	NPTF	Center Tip	Locking Key	Outer Insert
	(mm)	(inch)										
CD2600130N6R01	26	1.024	1.25	1.772	5.118	7.232	10.382	3.15	1/4	TPA1590R01-C	KTD15.0-15.9-C	SPGX060204WG
CD2620131N6R01	26.2	1.031	1.25	1.772	5.157	7.232	10.382	3.15	1/4	TPA1590R01-C	KTD15.0-15.9-C	
CD2700135N6R01	27	1.063	1.25	1.772	5.315	7.472	10.622	3.15	1/4	TPA1690R01-C	KTD16.0-16.9-C	
CD2780139N6R01	27.8	1.094	1.25	1.772	5.472	7.472	10.622	3.15	1/4	TPA1690R01-C	KTD16.0-16.9-C	
CD2800140N6R01	28	1.102	1.25	1.772	5.512	7.713	10.863	3.15	1/4	TPA1790R01-C	KTD17.0-17.9-C	
CD2860143N6R01	28.6	1.125	1.25	1.772	5.630	7.713	10.863	3.15	1/4	TPA1790R01-C	KTD17.0-17.9-C	
CD2900145N6R01	29	1.142	1.25	2.165	5.709	7.882	11.032	3.15	1/4	TPA1590R01-C	KTD15.0-15.9-C	
CD2940147N6R01	29.4	1.156	1.25	2.165	5.787	7.882	11.032	3.15	1/4	TPA1590R01-C	KTD15.0-15.9-C	
CD3000150N6R01	30	1.181	1.25	2.165	5.906	8.122	11.272	3.15	1/4	TPA1690R01-C	KTD16.0-16.9-C	
CD3020151N6R01	30.2	1.189	1.25	2.165	5.945	8.122	11.272	3.15	1/4	TPA1690R01-C	KTD16.0-16.9-C	
CD3100155N6R01	31	1.220	1.25	2.165	6.102	8.362	11.512	3.15	1/4	TPA1790R01-C	KTD17.0-17.9-C	
CD3180159N6R01	31.8	1.250	1.25	2.165	6.260	8.362	11.512	3.15	1/4	TPA1790R01-C	KTD17.0-17.9-C	
CD3200160N6R01	32	1.260	1.25	2.165	6.299	8.602	11.752	3.15	1/4	TPA1890R01-C	KTD18.0-18.9-C	
CD3250163N6R01	32.5	1.280	1.25	2.165	6.417	8.602	11.752	3.15	1/4	TPA1890R01-C	KTD18.0-18.9-C	
CD3300165N6R01	33	1.299	1.25	2.165	6.496	8.866	12.016	3.15	1/4	TPA1590R01-C	KTD15.0-15.9-C	
CD3330167N6R01	33.3	1.312	1.25	2.165	6.575	8.866	12.016	3.15	1/4	TPA1590R01-C	KTD15.0-15.9-C	
CD3400170N6R01	34	1.339	1.25	2.165	6.693	9.106	12.256	3.15	1/4	TPA1690R01-C	KTD16.0-16.9-C	
CD3410171N6R01	34.1	1.343	1.25	2.165	6.732	9.106	12.256	3.15	1/4	TPA1690R01-C	KTD16.0-16.9-C	
CD3490175N6R01	34.9	1.375	1.25	2.165	6.890	9.106	12.256	3.15	1/4	TPA1690R01-C	KTD16.0-16.9-C	
CD3500175N6R01	35	1.378	1.25	2.165	6.890	9.346	12.496	3.15	1/4	TPA1790R01-C	KTD17.0-17.9-C	
CD3570179N6R01	35.7	1.406	1.25	2.165	7.047	9.346	12.496	3.15	1/4	TPA1790R01-C	KTD17.0-17.9-C	
CD3600180N6R01	36	1.417	1.25	2.165	7.087	9.587	12.737	3.15	1/4	TPA1890R01-C	KTD18.0-18.9-C	
CD3650182N6R01	36.5	1.437	1.25	2.165	7.165	9.587	12.737	3.15	1/4	TPA1890R01-C	KTD18.0-18.9-C	
CD3700185N6R01	37	1.457	1.25	2.165	7.283	9.756	12.906	3.15	1/4	TPA1690R01-C	KTD16.0-16.9-C	
CD3730186N6R01	37.3	1.468	1.25	2.165	7.323	9.756	12.906	3.15	1/4	TPA1690R01-C	KTD16.0-16.9-C	
CD3800190N6R01	38	1.496	1.25	2.165	7.480	9.996	13.146	3.15	1/4	TPA1790R01-C	KTD17.0-17.9-C	
CD3810191N6R01	38.1	1.500	1.25	2.165	7.519	9.996	13.146	3.15	1/4	TPA1790R01-C	KTD17.0-17.9-C	
CD3890194N6R01	38.9	1.531	1.25	2.165	7.638	9.996	13.146	3.15	1/4	TPA1790R01-C	KTD17.0-17.9-C	
CD3900195N6R01	39	1.535	1.25	2.165	7.677	10.236	13.386	3.15	1/4	TPA1890R01-C	KTD18.0-18.9-C	
CD3970198N6R01	39.7	1.562	1.25	2.165	7.795	10.236	13.386	3.15	1/4	TPA1890R01-C	KTD18.0-18.9-C	
CD4000200N6R01	40	1.575	1.25	2.165	7.874	10.472	13.622	3.15	1/4	TPA1990R01-C	KTD19.0-19.9-C	
CD4050202N6R01	40.5	1.594	1.25	2.165	7.953	10.472	13.622	3.15	1/4	TPA1990R01-C	KTD19.0-19.9-C	
CD4100205N6R01	41	1.614	1.25	2.165	8.071	10.713	13.863	3.15	1/4	TPA2090R01-C	KTD20.0-20.9-C	
CD4130206N6R01	41.3	1.625	1.25	2.165	8.110	10.713	13.863	3.15	1/4	TPA2090R01-C	KTD20.0-20.9-C	
CD4200210N6R01	42	1.654	1.25	2.165	8.268	10.953	14.103	3.15	1/4	TPA2190R01-C	KTD21.0-21.9-C	
CD4280214N6R01	42.8	1.687	1.25	2.165	8.425	10.953	14.103	3.15	1/4	TPA2190R01-C	KTD21.0-21.9-C	
CD4300215N7R01	43	1.693	1.50	2.362	8.465	11.193	14.343	3.15	1/4	TPA2290R01-C	KTD22.0-22.9-C	
CD4370218N7R01	43.7	1.719	1.50	2.362	8.583	11.193	14.343	3.15	1/4	TPA2290R01-C	KTD22.0-22.9-C	
CD4400220N7R01	44	1.732	1.50	2.362	8.661	11.429	14.579	3.15	1/4	TPA2390R01-C	KTD23.0-23.9-C	
CD4450222N7R01	44.5	1.750	1.50	2.362	8.740	11.429	14.579	3.15	1/4	TPA2390R01-C	KTD23.0-23.9-C	
CD4500225N7R01	45	1.772	1.50	2.362	8.858	11.669	14.819	3.15	1/4	TPA2490R01-C	KTD24.0-24.9-C	
CD4520226N7R01	45.2	1.781	1.50	2.362	8.897	11.669	14.819	3.15	1/4	TPA2490R01-C	KTD24.0-24.9-C	

Notes: Intermediate sizes are available upon request. Hole tolerance, +.006/-.000, under stable conditions.

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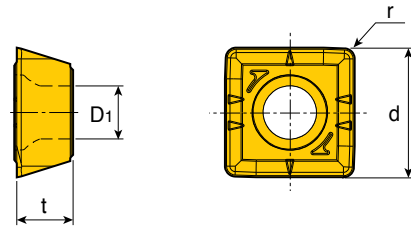
## GOLD•TWIN DRILL HEAD: TPA... -C



Designation	Dimensions			Pocket Size	Grade IN2505
	D(inch)	D(mm)	t		
* TPA1590R01-C	.626"	15.9	.343"	15	•
* TPA1690R01-C	.665"	16.9	.366"	16	•
* TPA1790R01-C	.705"	17.9	.390"	17	•
* TPA1890R01-C	.744"	18.9	.413"	18	•
* TPA1990R01-C	.783"	19.9	.433"	19	•
* TPA2090R01-C	.823"	20.9	.457"	20	•
* TPA2190R01-C	.862"	21.9	.476"	21	•
* TPA2290R01-C	.902"	22.9	.500"	22	•
* TPA2390R01-C	.941"	23.9	.524"	23	•
* TPA2490R01-C	.980"	24.9	.539"	24	•

\* Note: Standard Gold•Twist tips are not compatible with Gold•Twin bodies  
 • Standard Items

## GOLD•TWIN INSERT: SPGX...WG



Designation	Size	Dimensions				Grade IN2505	Screw	Torque Spec (in-lbs)	Torx Driver
		d	t	r	D1				
SPGX060204WG	6	.239"	.094"	.016"	.103"	•	TS22052I/HG (M2.2X5.2MM)	7-11	HZS.0004
SPGX07T308WG	7	.316"	.156"	.031"	.112"	•	TS25064I (M2.5X6.4MM)	10-15	TD 8
SPGX090408WG	9	.390"	.169"	.031"	.159"	•	SM35-088-60 (M3.5X8.75MM)	25-30	TD 10
SPGX110408WG	11	.457"	.190"	.031"	.175"	•	SE02-82 (M4X9.3MM)	30-35	TD 15

• Standard Items

ISO	Material	Condition	Tensile Strength Rm (N/mm <sup>2</sup> )	Hardness (HB)	Matl No.	Cutting Speed Vc (SFM)	Feed vs Drill Diameter				
							D= 26-28.9mm 1.024-1.138" SPGX06	D= 29-32.9mm 1.142-1.295" SPGX07	D= 33-36.9mm 1.299-1.453" SPGX09	D= 37-43.9mm 1.457-1.728" SPGX11	D= 44-45.9mm 1.732-1.807" SPGX11
							IPR (inches/rev)				
P	Non-alloy steel <0.25% C & cast steel, >= 0.25% C free cutting <0.55% C steel >= 0.55% C	Annealed	420	125	1	390-650	.008-.011-.014	.010-.012-.014	.008-.012-.016	.010-.013-.016	.011-.015-.018
		Annealed	650	190	2	390-650					
		Quenched & Tempered	850	250	3	425-625					
		Annealed	750	220	4	425-625					
		Quenched & Tempered	1000	300	5	425-625					
	Low alloy steel & cast steel (less than 5% alloying elements)	Annealed	600	200	6	325-650	.008-.011-.013	.010-.011-.013	.010-.012-.014	.010-.012-.014	.010-.013-.016
		Quenched & Tempered	930	275	7	325-650					
			1000	300	8	325-650					
	High alloy steel, cast steel, & tool steel	Annealed	680	200	10	325-525	.008-.011-.013	.010-.011-.013	.010-.012-.014	.010-.012-.014	.010-.013-.016
		Quenched & Tempered	1100	325	11	325-525					
M	Stainless steel & cast stainless steel	Ferritic/martensitic	680	200	12	260-460	.005-.008-.010	.006-.008-.010	.006-.008-.010	.007-.009-.011	.007-.010-.012
		Martensitic	820	240	13	260-460					
		Austenitic	600	180	14	260-460					
K	GreyCast Iron (GG)	Ferritic		160	15	325-825	.010-.014-.018	.010-.014-.018	.012-.016-.020	.012-.016-.020	.014-.018-.022
		Pearlitic		250	16	325-825					
	Cast Iron Nodular (GGG)	Ferritic		180	17	325-825					
		Pearlitic		260	18	325-825					
	Malleable Cast Iron	Ferritic		130	19	325-825					
		Pearlitic		230	20	325-825					
N	Aluminum - wrought alloy	Not cureable		60	21	525-850	.012-.016-.020	.012-.016-.020	.014-.018-.022	.014-.018-.022	.016-.020-.024
		Cured		100	22	525-850					
	Aluminum - cast, alloyed	Not cureable		75	23	525-850					
		Cured		90	24	525-850					
		High temperature		130	25	525-850					
	Copper alloys	Free cutting		110	26	525-850					
		Brass		90	27	525-850					
		Electrolytic copper		100	28	525-850					
	Non-metallic	Duro & fiber plastics			29	-					
		Hard rubber			30	-					
S	High temp alloys	Fe based		200	31	100-200	.004-.005-.006	.004-.006-.007	.006-.007-.008	.006-.007-.009	.006-.008-.009
		Cured		280	32	100-265					
		Annealed		250	33	100-265					
		Cured		350	34	100-265					
		Cast		320	35	100-265					
	Titanium, Ti alloys		Rm 400		36	100-265					
		Alpha+beta alloys cured	Rm 1050		37	100-265					
H	Hardened steel	Hardened		55 HRC	38	65-165					
		Hardened		60 HRC	39	65-165					
	Chilled cast iron	Cast		400	40	-					
	Cast iron nodular	Hardened		55 HRC	41	-					

\* Feed Rates are based on Two Effective - DO NOT DOUBLE.