DRILL-IN™

ISO Thread:
M4 - M10

Drill Diameter Range:
3.30mm - 8.50mm

Shank Size:
6mm - 12mm

Grade:
IN2005

ISO STANDARD PRE-THREAD DRILLING SOLUTION

Ingersoll's solid carbide drill–the versatile ISO solid drill–has been expanded as a cost effective solution for pre-thread hole drilling in chamfering of blind and through-hole applications.

Solid pre-thread drilling is a complex operation across a wide range of applications and is engineered for use on all kinds of materials.

This standard drill performs economically on standard ISO M pre-thread hole applications from M4 to M10.

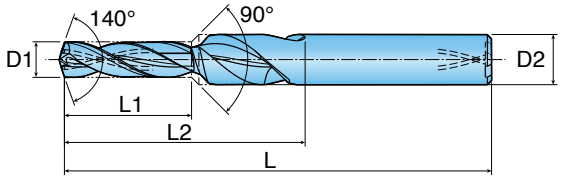
The solid pre-thread drill enables positioning accuracy with repeatability. Moreover, customers can expect high quality holes with increased productivity.

Member IMC Group
Ingersoll Cutting Tools

FEATURES

- Cost effective solution for standard pre-thread hole drilling
- Optimized performance on standard ISO M pre-thread (M4-M10) hole applications

DRILLS



Designation	Dimension (mm)					Shank	# of Flutes	ISO Thread	Grade
	D1	D2	L1	L2	L				
HB003312T7R00	3.30mm	6mm	12mm	26mm	62mm	Cylindrical	2	M4	IN2005
HB004215T7R00	4.30mm	6mm	15mm	28mm	66mm	Cylindrical	2	M5	IN2005
HB005018T0R00	5.00mm	8mm	18mm	36mm	79mm	Cylindrical	2	M6	IN2005
HB006824T1R00	6.80mm	10mm	24mm	48mm	90mm	Cylindrical	2	M8	IN2005
HB008530T2R00	8.50mm	12mm	30mm	55mm	102mm	Cylindrical	2	M10	IN2005

RECOMMENDED CUTTING CONDITIONS

ISO	Material		Condition	Material Example (JIS)	Tensile Strength (N/mm^2)	Hardness HB	Material Group No	Cutting Speed Vc (m/min)	Feed vs. Drill Diameter (mm/rev)		
									3-5	5.1-8	8.1-12
P	Non-alloy steel and cast steel, free cutting steel	<0.25%C	Annealed	SS41/S10C	420	125	1	80-120	0.1-0.2	0.15-0.25	0.2-0.3
		>=0.25%C	Annealed	S25C	650	190	2	80-110			
		<0.55%C	Quenched and tempered	S45C	850	250	3	70-100			
		>=0.55%C	Annealed	S55C	750	220	4				
			Quenched and tempered	SK3	1000	300	5				
	Low alloy steel and cast steel (less than 5% of alloying elements)		Annealed	SCM4	600	200	6	70-90			
			Quenched and tempered	SKS3	930	275	7				
					1000	300	8	50-80			
					1200	350	9	40-70			
	High alloy steel, cast steel and tool steel		Annealed	SKD61	680	200	10	50-80	0.08-0.18	0.1-0.2	0.15-0.25
			Quenched and tempered	SKH/HSS	1100	325	11	40-70			
M	Stainless steel and cast steel		Ferritic / martensitic	SUS416	680	200	12	30-60	0.06-0.12	0.1-0.15	0.12-0.18
			Martensitic	SCS5/SUS431	820	240	13				
			Austenitic	SUS304	600	180	14				
K	Cast iron nodular (GGG)		Ferritic / pearlitic	FCD		180	15	85-105	0.1-0.2	0.15-0.25	0.2-0.3
			Pearlitic			260	16	75-90			
	Grey cast iron (GG)		Ferritic	FC		160	17	65-80			
			Pearlitic			250	18				
	Malleable cast iron		Ferritic	FCMP/AC4A		130	19				
			Pearlitic			230	20				
S	High temp. alloys	Fe based	Annealed			200	31	15-40	0.02-0.08	0.04-0.1	0.06-0.12
			Cured			280	32				
		Ni or Co based	Annealed			250	33				
			Cured			350	34				
			Cast			320	35				
	Titanium, Ti alloys				RM400		RM400				
			Alpha+beta alloys cured		RM1050		RM1050				

- When using external coolant supply only, reduce cutting speed by 10-20%.
- Internal coolant supply is highly recommended when machining austenitic stainless steel.

Steel **Stainless Steel** **Cast Iron** **High Temp. Alloys**