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LANDING PAGE

Scan the QR code to access detailed specifications, dimensional data, and the full product offering of the Ingersoll Precision Boring (IPB) System in our e-catalog.



CROSS REFERENCE

This document provides a detailed, side-by-side comparison of components from the legacy boring system alongside their corresponding IPB equivalents.



INSERTS

Ingersoll is continuously updating insert geometries and grades. Scan the QR code for the latest list of compatible insert offerings.



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OPERATING GUIDELINES

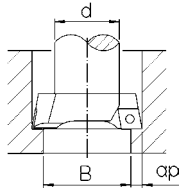
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Operating Guidelines

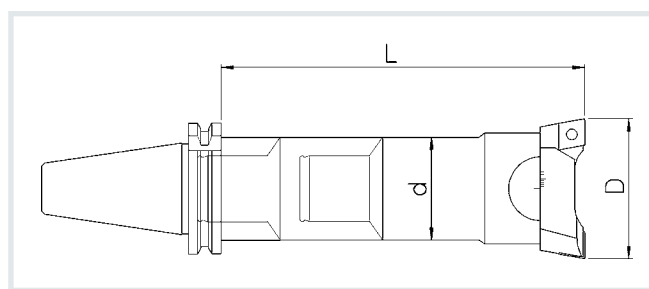
RECOMMENDED CUTTING CONDITIONS FOR ROUGHING OPERATIONS

ISO	Material Group	Boring Bar Dimensions	Working Conditions	Cutting Speed $V_c = \text{sfm}$			Feed $f = \text{ipr}$		
				Diameter			Insert Radius		
				D < 1.50	D = 1.50-4.72	D > 4.72	R=.008	R=.016	R=.031
P	Carbon steel HB ≤ 200	L/d = 2.5	good	393-590	460-655	525-820	-	.008-.016	.012-.020
		L/d = 4	normal	328-525	393-590	460-655	-	.008-.016	.012-.020
		L/d = 6.3	difficult	230-328	230-328	230-328	.006-.012	.008-.016	-
	Carbon steel HB > 200	L/d = 2.5	good	328-525	393-590	460-655	-	.008-.016	.012-.020
		L/d = 4	normal	260-460	328-525	393-590	-	.008-.016	.012-.020
		L/d = 6.3	difficult	196-295	230-328	230-328	.006-.012	.008-.016	-
M	Stainless steel AISI 304-316	L/d = 2.5	good	260-360	295-393	328-460	-	.008-.016	.012-.020
		L/d = 4	normal	230-328	260-360	295-393	-	.008-.016	.012-.020
		L/d = 6.3	difficult	196-295	196-295	196-295	.006-.012	.008-.016	-
K	Cast iron	L/d = 2.5	good	295-393	328-460	393-525	-	.008-.016	.012-.020
		L/d = 4	normal	230-328	295-393	328-460	-	.008-.016	.012-.020
		L/d = 6.3	difficult	196-295	196-295	196-295	.006-.012	.008-.016	-
N	Aluminium	L/d = 2.5	good	525-820	655-984	820-1148	-	.012-.020	.016-.024
		L/d = 4	normal	460-655	525-820	820-984	-	.012-.020	.016-.024
		L/d = 6.3	difficult	328-492	328-492	328-492	.006-.012	.012-.020	-

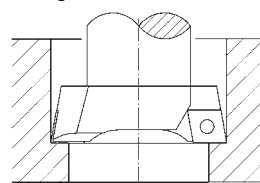
Note: Feed and speed recommendations are starting operating parameters. They are only guidelines from which further optimization should take place. Operating parameters are influenced by many machining variables. These variables may cause for reductions in feeds and speed or dramatic increases. Additionally, DOC and WOC may need to be revised to optimize the tools performance.

Cutting Depth	Working Range	Max. Cutting Depth	
$a_p = \text{inch}$	$\varnothing = \text{inch}$	Steel	Cast Iron, Aluminium
	0.708 - 1.10	0.06 - 0.07	0.07 - 0.09
	1.10 - 1.97	0.07 - 0.12	0.09 - 0.14
	1.97 - 2.67	0.12 - 0.15	0.14 - 0.19
	2.67 - 7.87	0.15 - 0.19	0.19 - 0.27
	7.87 - 19.68	0.19 - 0.23	0.23 - 0.31

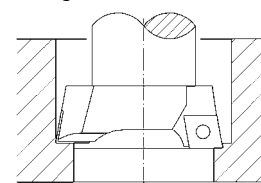
It's advisable to start with B hole $\geq$ the boring bar diameter d.



Twin cutters at the same cutting diameter



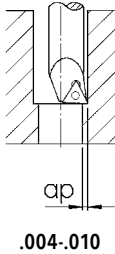
Twin cutters at different cutting diameters



ATTENTION: For boring operations at different diameters, reduce to a half the feed indicated on the above table.

Operating Guidelines

RECOMMENDED CUTTING CONDITIONS FOR FINISH BORING OPERATIONS

ISO	Material Group	Boring Bar Dimensions	Working Conditions	Cutting Speed Vc = sfm	Feed f = ipr			Cutting Depth
					Insert Radius			
					R=.000	R=.008	R=.016	
P	Carbon steel HB ≤ 200	L/d = 2.5	good	655-984	-	.002-.003	.003-.004	
		L/d = 4	normal	525-820	-	.002-.003	.003-.004	
		L/d = 6.3	difficult	230-328	.002-.03	.002-.003	-	
	Carbon steel HB > 200	L/d = 2.5	good	525-820	-	.002-.003	.003-.004	
		L/d = 4	normal	492-655	-	.002-.003	.003-.004	
		L/d = 6.3	difficult	230-328	.002-.03	.002-.003	-	
M	Stainless steel AISI 304-316	L/d = 2.5	good	393-525	-	.002-.003	.003-.004	
		L/d = 4	normal	328-460	-	.002-.003	.003-.004	
		L/d = 6.3	difficult	230-328	.002-.03	.002-.003	-	
K	Cast iron	L/d = 2.5	good	393-525	-	.002-.003	.003-.004	
		L/d = 4	normal	328-460	-	.002-.003	.003-.004	
		L/d = 6.3	difficult	230-328	.002-.03	.002-.003	-	
N	Aluminium	L/d = 2.5	good	984-1312	-	.002-.003	.003-.004	
		L/d = 4	normal	820-1148	-	.002-.003	.003-.004	
		L/d = 6.3	difficult	260-492	.002-.03	.002-.003	-	
H	Hardened steel HRC > 50	L/d = 2.5	good	260-328	-	.002-.003	.002-.03	
		L/d = 4	normal	260-328	-	.002-.003	.002-.03	

Note: Feed and speed recommendations are starting operating parameters. They are only guidelines from which further optimization should take place. Operating parameters are influenced by many machining variables. These variables may cause for reductions in feeds and speed or dramatic increases. Additionally, DOC and WOC may need to be revised to optimize the tools performance.

