



HSS, Straight Shank Chucking Reamers - Straight Flute

ISO	VDI 3323	Material Description	SFM (ft/min.)	IPR(inch/rev.)			
				<Ø.0394	Ø.0394	Ø.0787	Ø.1575
P	1	Non-alloy steel	46	.0004~.0012	.0012~.002	.002~.0028	.0028~.0035
	2		46	.0004~.0012	.0012~.002	.002~.0028	.0028~.0035
	3		33	.0004~.0012	.0012~.002	.002~.0028	.0028~.0035
	4		26	.0004~.0012	.0012~.002	.002~.0028	.0028~.0035
	5						
	6	Low alloy steel	39	.0004~.0012	.0012~.002	.002~.0028	.0028~.0035
	7		26	.0004~.0012	.0012~.002	.002~.0028	.0028~.0035
	8						
	9						
	10	High alloyed steel, and tool steel	20	.0004~.0008	.0008~.0012	.0012~.0016	.0016~.002
	11						
M	12	Stainless steel	20	.0004~.0008	.0008~.0012	.0012~.0016	.0016~.002
	13		16	.0004~.0008	.0008~.0012	.0012~.0016	.0016~.002
	14		13	.0004~.0008	.0008~.0012	.0012~.0016	.0016~.002
K	15	Grey cast iron	46	.0004~.0012	.0012~.002	.002~.0028	.0028~.0035
	16		36	.0004~.0012	.0012~.002	.002~.0028	.0028~.0035
	17	Nodular cast iron	39	.0004~.0012	.0012~.002	.002~.0028	.0028~.0035
	18		33	.0004~.0012	.0012~.002	.002~.0028	.0028~.0035
	19	Malleable cast iron	39	.0004~.0012	.0012~.002	.002~.0028	.0028~.0035
	20		33	.0004~.0012	.0012~.002	.002~.0028	.0028~.0035
N	21	Aluminum-wrought alloy	59	.0008~.0024	.0024~.0039	.0039~.0051	.0051~.0063
	22		59	.0008~.0024	.0024~.0039	.0039~.0051	.0051~.0063
	23	Aluminum-cast, alloyed	59	.0008~.0024	.0024~.0039	.0039~.0051	.0051~.0063
	24		56	.0008~.0024	.0024~.0039	.0039~.0051	.0051~.0063
	25						
	26	Copper and Copper Alloys (Bronze / Brass)	59	.0008~.0024	.0024~.0039	.0039~.0051	.0051~.0063
	27		52	.0008~.0024	.0024~.0039	.0039~.0051	.0051~.0063
	28		66	.0008~.0024	.0024~.0039	.0039~.0051	.0051~.0063
	29	Non Metallic Materials					
	30						

SFM = ft/min.
IPR = inch/rev.

IPR(inch/rev.)						
Ø.2362	Ø.315	Ø.3937	Ø.4724	Ø.5512	Ø.6299	Ø.7874
.0035~.0043	.0043~.0055	.0055~.0067	.0067~.0079	.0079~.0091	.0091~.0102	.0102~.0114
.0035~.0043	.0043~.0055	.0055~.0067	.0067~.0079	.0079~.0091	.0091~.0102	.0102~.0114
.0035~.0043	.0043~.0051	.0051~.0059	.0059~.0067	.0067~.0075	.0075~.0083	.0083~.0091
.0035~.0043	.0043~.0051	.0051~.0059	.0059~.0067	.0067~.0075	.0075~.0083	.0083~.0091
.0035~.0043	.0043~.0051	.0051~.0059	.0059~.0067	.0067~.0075	.0075~.0083	.0083~.0091
.0035~.0043	.0043~.0051	.0051~.0059	.0059~.0067	.0067~.0075	.0075~.0083	.0083~.0091
.002~.0024	.0024~.0028	.0028~.0031	.0031~.0039	.0039~.0047	.0047~.0055	.0055~.0063
.002~.0024	.0024~.0028	.0028~.0031	.0031~.0039	.0039~.0047	.0047~.0055	.0055~.0063
.002~.0024	.0024~.0028	.0028~.0031	.0031~.0039	.0039~.0047	.0047~.0055	.0055~.0063
.002~.0024	.0024~.0028	.0028~.0031	.0031~.0039	.0039~.0047	.0047~.0055	.0055~.0063
.0035~.0043	.0043~.0055	.0055~.0067	.0067~.0079	.0079~.0091	.0091~.0102	.0102~.0114
.0035~.0043	.0043~.0051	.0051~.0059	.0059~.0067	.0067~.0075	.0075~.0083	.0083~.0091
.0035~.0043	.0043~.0055	.0055~.0067	.0067~.0079	.0079~.0091	.0091~.0102	.0102~.0114
.0035~.0043	.0043~.0051	.0051~.0059	.0059~.0067	.0067~.0075	.0075~.0083	.0083~.0091
.0035~.0043	.0043~.0055	.0055~.0067	.0067~.0079	.0079~.0091	.0091~.0102	.0102~.0114
.0035~.0043	.0043~.0051	.0051~.0059	.0059~.0067	.0067~.0075	.0075~.0083	.0083~.0091
.0063~.0075	.0075~.0087	.0087~.0098	.0098~.011	.011~.0122	.0122~.0134	.0134~.0146
.0063~.0075	.0075~.0087	.0087~.0098	.0098~.011	.011~.0122	.0122~.0134	.0134~.0146
.0063~.0075	.0075~.0087	.0087~.0098	.0098~.011	.011~.0122	.0122~.0134	.0134~.0146
.0063~.0075	.0075~.0087	.0087~.0098	.0098~.011	.011~.0122	.0122~.0134	.0134~.0146
.0063~.0075	.0075~.0087	.0087~.0098	.0098~.011	.011~.0122	.0122~.0134	.0134~.0146
.0063~.0075	.0075~.0087	.0087~.0098	.0098~.011	.011~.0122	.0122~.0134	.0134~.0146
.0063~.0075	.0075~.0087	.0087~.0098	.0098~.011	.011~.0122	.0122~.0134	.0134~.0146

SELECTION GUIDE

REAMERS

Straight Shank Chucking Reamers - Straight Flute



◎ : Excellent ○ : Good

Recommended cutting conditions : P. 40-43

ISO	VDI 3323	Material Description	Composition / Structure / Heat Treatment		HB	HRC		
P	1	Non-alloy steel	About 0.15% C	Annealed	125		⊙	⊙
	2		About 0.45% C	Annealed	190	13	⊙	⊙
	3		About 0.45% C	Quenched & Tempered	250	25	○	○
	4		About 0.75% C	Annealed	270	28	○	○
	5		About 0.75% C	Quenched & Tempered	300	32		
	6	Low alloy steel		Annealed	180	10	⊙	⊙
	7			Quenched & Tempered	275	29	○	○
	8			Quenched & Tempered	300	32		
	9			Quenched & Tempered	350	38		
	10	High alloyed steel, and tool steel		Annealed	200	15	○	○
	11			Quenched & Tempered	325	35		
M	12	Stainless steel	Ferritic / Martensitic	Annealed	200	15	○	○
	13		Martensitic	Quenched & Tempered	240	23	○	○
	14		Austenitic		180	10	○	○
K	15	Grey cast iron	Pearlitic / ferritic		180	10	○	○
	16		Pearlitic (Martensitic)		260	26	○	○
	17	Nodular cast iron	Ferritic		160	3	○	○
	18		Pearlitic		250	25	○	○
	19	Malleable cast iron	Ferritic		130		○	○
	20		Pearlitic		230	21	○	○
N	21	Aluminum-wrought alloy	Not Curable		60		○	○
	22		Curable Hardened		100		○	○
	23	Aluminum-cast, alloyed	≤ 12% Si, Not Curable		75		○	○
	24		≤ 12% Si, Curable Hardened		90		○	○
	25		> 12% Si, Not Curable		130			
	26	Copper and Copper Alloys (Bronze / Brass)	Cutting Alloys, PB>1%		110		○	○
	27		CuZn, CuSnZn (Brass)		90		○	○
	28		CuSn, lead-free copper and electrolytic copper		100		○	○
	29	Non Metallic Materials	Duroplastic, Fiber Reinforced Plastic					
	30		Rubber, Wood, etc.					
S	31	Heat Resistant Super Alloys	Fe Based	Annealed	200	15		
	32			Cured	280	30		
	33			Annealed	250	25		
	34		Ni or Co Based	Cured	350	38		
	35			Cast	320	34		
	36	Titanium Alloys	Pure Titanium		400 Rm			
	37		Alpha + Beta Alloys		1050 Rm			
H	38	Hardened steel		Hardened	550	55		
	39			Hardened	630	60		
	40	Chilled Cast Iron		Cast	400	42		
	41	Hardened Cast Iron		Hardened	550	55		

[illegible]