OPERATING PARAMETERS RT 100 FB

Material group	Hardness HRC	Hardness BHN	SFM	Feed Rate - IPR 1/8 in. 3.17 mm	1/4 in. 6.35 mm	3/8 in. 9.52 mm	1/2 in. 12.70 mm	5/8 in. 15.87 mm	3/4 in. 19.05 mm
Common structural steels	-	≤ 150	360	0.0025	0.0040	0.0065	0.0065	0.0080	0.0100
	≤ 32	≤ 301	280	0.0025	0.0040	0.0065	0.0065	0.0080	0.0100
Free-cutting steels	≤ 25	≤ 255	360	0.0025	0.0040	0.0065	0.0065	0.0080	0.0100
	< 32	< 301	280	0.0025	0.0040	0.0065	0.0065	0.0080	0.0100
Unalloyed heat-treatable steels	≤ 20	≤ 220	295	0.0025	0.0040	0.0065	0.0065	0.0080	0.0100
	≤ 25	≤ 255	280	0.0025	0.0040	0.0065	0.0065	0.0080	0.0100
	< 32	< 301	260	0.0025	0.0040	0.0065	0.0065	0.0080	0.0100
Alloyed heat-treatable steels	≤ 32	≤ 301	295	0.0025	0.0040	0.0065	0.0065	0.0080	0.0100
	< 43	< 402	215	0.0025	0.0040	0.0065	0.0065	0.0080	0.0100
Unalloyed case hardened steels	< 25	< 255	330	0.0025	0.0040	0.0065	0.0065	0.0080	0.0100
Alloyed case hardened steels	≤ 32	≤ 301	295	0.0025	0.0040	0.0065	0.0065	0.0080	0.0100
	< 43	< 402	215	0.0025	0.0040	0.0065	0.0065	0.0080	0.0100
Nitriding steels	≤ 32	≤ 301	245	0.0025	0.0040	0.0065	0.0065	0.0080	0.0100
	< 43	< 402	230	0.0025	0.0040	0.0065	0.0065	0.0080	0.0100
Tool steels	≤ 25	≤ 255	165	0.0025	0.0040	0.0065	0.0065	0.0080	0.0100
	< 43	< 402	130	0.0025	0.0040	0.0065	0.0065	0.0080	0.0100
High speed steels	< 43	< 402	130	0.0025	0.0040	0.0065	0.0065	0.0080	0.0100
Spring steels	< 38	< 354	115	0.0025	0.0040	0.0065	0.0065	0.0080	0.0100
Hardened steels	≤ 48	≤ 460	115	0.0015	0.0020	0.0030	0.0030	0.0040	0.0050
	< 66	-							
Stainless steels, sulphured	≤ 28	≤ 273	130	0.0020	0.0030	0.0050	0.0050	0.0065	0.0080
austenitic	≤ 36	≤ 337	50	0.0020	0.0030	0.0050	0.0050	0.0065	0.0080
martensitic	< 46	< 435	115	0.0020	0.0030	0.0050	0.0050	0.0065	0.0080
Cast iron	≤ 23	≤ 242	525	0.0025	0.0040	0.0065	0.0065	0.0080	0.0100
	< 38	< 354	395	0.0025	0.0040	0.0065	0.0065	0.0080	0.0100
Spheroidal graphite iron and malleable cast iron	≤ 23	≤ 242	395	0.0025	0.0040	0.0065	0.0065	0.0080	0.0100
	< 38	< 354	310	0.0025	0.0040	0.0065	0.0065	0.0080	0.0100
Chilled cast iron	< 38	< 354	80	0.0015	0.0025	0.0040	0.0040	0.0050	0.0065
New cast materials GGV	≤ 20	≤ 220	330	0.0025	0.0040	0.0065	0.0065	0.0080	0.0100
	< 32	< 301	295	0.0025	0.0040	0.0065	0.0065	0.0080	0.0100
New cast materials ADI	≤ 32	≤ 301	260	0.0020	0.0030	0.0050	0.0050	0.0065	0.0080
	< 43	< 402	230	0.0020	0.0030	0.0050	0.0050	0.0065	0.0080
Special alloys	< 54	< 549	65	0.0020	0.0030	0.0050	0.0050	0.0065	0.0080
Ti and Ti-alloys	≤ 25	≤ 255	50	0.0020	0.0030	0.0050	0.0050	0.0065	0.0080
	< 43	< 402	50	0.0020	0.0030	0.0050	0.0050	0.0065	0.0080
Aluminium and Al-alloys	-	< 120	655	0.0025	0.0040	0.0065	0.0065	0.0080	0.0100
Al wrought alloys	-	< 200	655	0.0025	0.0040	0.0065	0.0065	0.0080	0.0100
Al cast alloys ≤ 10 % Si	-	≤ 180	560	0.0025	0.0040	0.0065	0.0065	0.0080	0.0100
≤ 24 % Si	-	< 180	460	0.0025	0.0040	0.0065	0.0065	0.0080	0.0100
Magnesium alloys	-	< 120	655	0.0025	0.0040	0.0065	0.0065	0.0080	0.0100
Copper, low-alloyed	-	< 150	260	0.0025	0.0040	0.0065	0.0065	0.0080	0.0100
Brass, short-chipping	-	≤ 180	690	0.0025	0.0040	0.0065	0.0065	0.0080	0.0100
long-chipping	-	< 180	460	0.0025	0.0040	0.0065	0.0065	0.0080	0.0100
Bronze, short-chipping	-	≤ 180	260	0.0025	0.0040	0.0065	0.0065	0.0080	0.0100
	≤ 25	≤ 255	215	0.0020	0.0030	0.0050	0.0050	0.0065	0.0080
Bronze, long-chipping	≤ 25	≤ 255	195	0.0020	0.0030	0.0050	0.0050	0.0065	0.0080
	< 32	< 301	150	0.0020	0.0030	0.0050	0.0050	0.0065	0.0080
Duroplastics Thermoplastics Reinforced plastics - Kevlar Reinforced plastics - GFK / CFK									

Application recommendations:

Drilling into, or exiting from, inclined surfaces:

- angle up to 15° = reduce IPR by 25%
- angle up to 30° = reduce IPR by 50%
- angle up to max. 45° = reduce IPR by 75%
- once the drill diameter is fully engaged, the feed rate can be raised to 100%

Drilling on flat surfaces:

PLEASE NOTE: When drilling on flat surfaces, spot drilling is recommended.

1. Spot drill with a conventional solid carbide drill or spot drill to the Ø of the FB drill or add 0.080" to the Ø to directly apply a chamfer."
2. Run your regular drill cycle with the RT 100 FB at full feed rate.