

SwiftCARB Speeds & Feeds for RampMill Tools MDC Coated

XD4 Series			ISO XD4 Series Feeds and Speeds -MDC Coated-							H
			Hardened Steels (55-60HRC)							
Diameter	#FL	#	Chip Thickness at TEA			MAX AXIAL DOC	Surface Feet Per Min			When ramping, reduce program to RPM = 70% Feed = 30%
			TEA-30	TEA-26	TEA-22		30°	26°	22°	
3/16"	0.187	4	0.0011	0.0014	0.0016	0.375	101	122	144	Helical Ramp Angle 3 - 5° Over 3° for Coolant-Through Only
1/4"	0.250	4	0.0017	0.0020	0.0024	0.500	112	136	160	
5/16"	0.312	4	0.0020	0.0024	0.0028	0.625	123	150	176	
3/8"	0.375	4	0.0021	0.0026	0.0030	0.750	134	163	192	
7/16"	0.437	4	0.0022	0.0027	0.0032	0.875	134	163	192	
1/2"	0.500	4	0.0024	0.0029	0.0034	1.000	146	177	208	
5/8"	0.625	4	0.0025	0.0030	0.0035	1.250	146	177	208	
3/4"	0.750	4	0.0025	0.0031	0.0036	1.500	146	177	208	
7/8"	0.875	4	0.0027	0.0032	0.0038	1.750	146	177	208	
1"	1.000	4	0.0027	0.0032	0.0038	2.000	146	177	208	

XT5 Series			ISO XT5 Series Feeds and Speeds -MDC Coated-							P
			Non-Alloy Steel, Cast Steel, Free Cutting Steel 1018, 1020, A36, 8620							
Diameter	#FL	#	Chip Thickness at TEA			MAX AXIAL DOC	Surface Feet Per Min			When ramping, reduce program to RPM = 80% Feed = 50%
			TEA-50	TEA-40	TEA-30		50°	40°	30°	
3/16"	0.187	5	0.0015	0.0018	0.0021	0.375	540	656	771	Helical Ramp Angle 5 - 8° Over 5° for Coolant-Through Only
1/4"	0.250	5	0.0018	0.0022	0.0026	0.500	596	724	851	
5/16"	0.312	5	0.0022	0.0027	0.0032	0.625	633	769	904	
3/8"	0.375	5	0.0025	0.0031	0.0036	0.750	670	814	958	
7/16"	0.437	5	0.0028	0.0034	0.0040	0.875	689	837	984	
1/2"	0.500	5	0.0032	0.0038	0.0045	1.000	708	859	1011	
5/8"	0.625	5	0.0039	0.0047	0.0055	1.250	708	859	1011	
3/4"	0.750	5	0.0042	0.0051	0.0060	1.500	708	859	1011	
7/8"	0.875	5	0.0046	0.0055	0.0065	1.750	708	859	1011	
1"	1.000	5	0.0049	0.0060	0.0070	2.000	708	859	1011	

XT5 Series			ISO XT5 Series Feeds and Speeds -MDC Coated-							P
			Low Alloy Steel, Cast Steel 4130, 4140, 8620, 4330, 4340							
Diameter	#FL	#	Chip Thickness at TEA			MAX AXIAL DOC	Surface Feet Per Min			When ramping, reduce program to RPM = 80% Feed = 50%
			TEA-50	TEA-40	TEA-30		50°	40°	30°	
3/16"	0.187	5	0.0013	0.0015	0.0018	0.375	372	452	532	Helical Ramp Angle 5 - 8° Over 5° for Coolant-Through Only
1/4"	0.250	5	0.0018	0.0022	0.0026	0.500	410	497	585	
5/16"	0.312	5	0.0023	0.0028	0.0033	0.625	447	543	638	
3/8"	0.375	5	0.0027	0.0033	0.0039	0.750	484	588	692	
7/16"	0.437	5	0.0029	0.0035	0.0041	0.875	503	610	718	
1/2"	0.500	5	0.0031	0.0037	0.0044	1.000	521	633	745	
5/8"	0.625	5	0.0036	0.0044	0.0052	1.250	521	633	745	
3/4"	0.750	5	0.0039	0.0048	0.0056	1.500	521	633	745	
7/8"	0.875	5	0.0042	0.0051	0.0060	1.750	521	633	745	
1"	1.000	5	0.0044	0.0054	0.0063	2.000	521	633	745	

XT5 Series			ISO XT5 Series Feeds and Speeds -MDC Coated-							P
			Die & Mold Steels P20, A-2, D-2, M2, M42, T15							
Diameter	#FL	#	Chip Thickness at TEA			MAX AXIAL DOC	Surface Feet Per Min			When ramping, reduce program to RPM = 80% Feed = 40%
			TEA-50	TEA-40	TEA-30		50°	40°	30°	
3/16"	0.187	5	0.0011	0.0014	0.0016	0.375	317	384	452	Helical Ramp Angle 5 - 8° Over 5° for Coolant-Through Only
1/4"	0.250	5	0.0017	0.0020	0.0024	0.500	335	407	479	
5/16"	0.312	5	0.0020	0.0024	0.0028	0.625	363	441	519	
3/8"	0.375	5	0.0021	0.0026	0.0030	0.750	382	464	545	
7/16"	0.437	5	0.0023	0.0028	0.0033	0.875	391	475	559	
1/2"	0.500	5	0.0025	0.0031	0.0036	1.000	410	497	585	
5/8"	0.625	5	0.0027	0.0032	0.0038	1.250	410	497	585	
3/4"	0.750	5	0.0029	0.0036	0.0042	1.500	410	497	585	
7/8"	0.875	5	0.0031	0.0037	0.0044	1.750	410	497	585	
1"	1.000	5	0.0032	0.0039	0.0046	2.000	410	497	585	

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XT5 Series			ISO XT5 Series Feeds and Speeds -MDC Coated- K							
			Nodular Cast Iron, Grey Cast Iron, Malleable Cast Iron							
Diameter	#FL	#FL	TEA-50	TEA-40	TEA-30	MAX AXIAL DOC	Surface Feet Per Min			When ramping, reduce program to RPM = 80% Feed = 50%
			Chip Thickness at TEA				50°	40°	30°	
3/16"	0.187	5	0.0015	0.0018	0.0021	0.375	466	565	665	Helical Ramp Angle 3 - 5° Over 3° for Coolant-Through Only
1/4"	0.250	5	0.0018	0.0022	0.0026	0.500	484	588	692	
5/16"	0.312	5	0.0022	0.0027	0.0032	0.625	503	610	718	
3/8"	0.375	5	0.0025	0.0031	0.0036	0.750	521	633	745	
7/16"	0.437	5	0.0028	0.0034	0.0040	0.875	531	644	758	
1/2"	0.500	5	0.0032	0.0038	0.0045	1.000	559	678	798	
5/8"	0.625	5	0.0039	0.0047	0.0055	1.250	559	678	798	
3/4"	0.750	5	0.0042	0.0051	0.0060	1.500	559	678	798	
7/8"	0.875	5	0.0046	0.0055	0.0065	1.750	559	678	798	
1"	1.000	5	0.0049	0.0060	0.0070	2.000	559	678	798	

XT5 Series			ISO XT5 Series Feeds and Speeds -MDC Coated- M							
			Stainless Steel (Precipitation) 15-5PH, 17-4PH							
Diameter	#FL	#FL	TEA-32	TEA-28	TEA-24	MAX AXIAL DOC	Surface Feet Per Min			When ramping, reduce program to RPM = 80% Feed = 40%
			Chip Thickness at TEA				32°	28°	24°	
3/16"	0.187	5	0.0011	0.0014	0.0016	0.375	329	400	470	Helical Ramp Angle 3 - 5° Over 3° for Coolant-Through Only
1/4"	0.250	5	0.0017	0.0020	0.0024	0.500	350	425	500	
5/16"	0.312	5	0.0021	0.0026	0.0030	0.625	370	450	529	
3/8"	0.375	5	0.0024	0.0029	0.0034	0.750	390	473	557	
7/16"	0.437	5	0.0027	0.0032	0.0038	0.875	400	486	572	
1/2"	0.500	5	0.0029	0.0036	0.0042	1.000	410	498	586	
5/8"	0.625	5	0.0034	0.0041	0.0048	1.250	410	498	586	
3/4"	0.750	5	0.0036	0.0044	0.0052	1.500	410	498	586	
7/8"	0.875	5	0.0038	0.0046	0.0054	1.750	410	498	586	
1"	1.000	5	0.0039	0.0048	0.0056	2.000	410	498	586	

XT5 Series			ISO XT5 Series Feeds and Speeds -MDC Coated- M							
			Stainless Steels (Austenitic) 303, 304, 304L, 312, 316, 316L							
Diameter	#FL	#FL	TEA-30	TEA-27	TEA-24	MAX AXIAL DOC	Surface Feet Per Min			When ramping, reduce program to RPM = 70% Feed = 30%
			Chip Thickness at TEA				30°	27°	24°	
3/16"	0.187	5	0.0011	0.0014	0.0016	0.375	223	271	319	Helical Ramp Angle 3 - 5° Over 3° for Coolant-Through Only
1/4"	0.250	5	0.0017	0.0020	0.0024	0.500	246	298	351	
5/16"	0.312	5	0.0020	0.0024	0.0028	0.625	268	326	383	
3/8"	0.375	5	0.0021	0.0026	0.0030	0.750	290	353	415	
7/16"	0.437	5	0.0022	0.0027	0.0032	0.875	302	366	431	
1/2"	0.500	5	0.0025	0.0031	0.0036	1.000	313	380	447	
5/8"	0.625	5	0.0027	0.0032	0.0038	1.250	313	380	447	
3/4"	0.750	5	0.0029	0.0036	0.0042	1.500	313	380	447	
7/8"	0.875	5	0.0031	0.0037	0.0044	1.750	313	380	447	
1"	1.000	5	0.0032	0.0039	0.0046	2.000	313	380	447	

XT5 Series			ISO XT5 Series Feeds and Speeds -MDC Coated- S							
			High Temp Alloys, Titanium Alloys Ti-6AL4V							
Diameter	#FL	#FL	TEA-32	TEA-28	TEA-24	MAX AXIAL DOC	Surface Feet Per Min			When ramping, reduce program to RPM = 70% Feed = 30%
			Chip Thickness at TEA				32°	28°	24°	
3/16"	0.187	5	0.0011	0.0014	0.0016	0.375	156	190	223	Helical Ramp Angle 3 - 5° Over 3° for Coolant-Through Only
1/4"	0.250	5	0.0017	0.0020	0.0024	0.500	179	217	255	
5/16"	0.312	5	0.0020	0.0024	0.0028	0.625	201	244	287	
3/8"	0.375	5	0.0021	0.0026	0.0030	0.750	223	271	319	
7/16"	0.437	5	0.0022	0.0027	0.0032	0.875	235	285	335	
1/2"	0.500	5	0.0024	0.0029	0.0034	1.000	246	298	351	
5/8"	0.625	5	0.0025	0.0030	0.0035	1.250	246	298	351	
3/4"	0.750	5	0.0025	0.0031	0.0036	1.500	246	298	351	
7/8"	0.875	5	0.0027	0.0032	0.0038	1.750	246	298	351	
1"	1.000	5	0.0027	0.0032	0.0038	2.000	246	298	351	

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XT5 Series			ISO XT5 Series Feeds and Speeds -MDC Coated-							S
			High Temp Alloys (Nickel & Cobalt Based) Monel 400, Hastelloy, Nimonic 75, Inconel 625, 718							
Diameter	#FL	Chip Thickness at TEA			MAX AXIAL DOC	Surface Feet Per Min			When ramping, reduce program to	
		TEA-30	TEA-26	TEA-22		30°	26°	22°	RPM = 70%	Feed = 30%
3/16"	0.187	5	0.0011	0.0014	0.0016	0.375	39	47	56	Helical Ramp Angle 3 - 5° Over 3° for Coolant-Through Only
1/4"	0.250	5	0.0017	0.0020	0.0024	0.500	45	54	64	
5/16"	0.312	5	0.0020	0.0024	0.0028	0.625	56	68	80	
3/8"	0.375	5	0.0021	0.0026	0.0030	0.750	56	68	80	
7/16"	0.437	5	0.0022	0.0027	0.0032	0.875	56	68	80	
1/2"	0.500	5	0.0024	0.0029	0.0034	1.000	67	81	96	
5/8"	0.625	5	0.0025	0.0030	0.0035	1.250	67	81	96	
3/4"	0.750	5	0.0025	0.0031	0.0036	1.500	67	81	96	
7/8"	0.875	5	0.0027	0.0032	0.0038	1.750	67	81	96	
1"	1.000	5	0.0027	0.0032	0.0038	2.000	67	81	96	

XT5 Series			ISO XT5 Series Feeds and Speeds -MDC Coated-							H
			Hardened Steels (55-60HRC)							
Diameter	#FL	Chip Thickness at TEA			MAX AXIAL DOC	Surface Feet Per Min			When ramping, reduce program to	
		TEA-30	TEA-26	TEA-22		30°	26°	22°	RPM = 70%	Feed = 30%
3/16"	0.187	5	0.0011	0.0014	0.0016	0.375	101	122	144	Helical Ramp Angle 3 - 5° Over 3° for Coolant-Through Only
1/4"	0.250	5	0.0017	0.0020	0.0024	0.500	112	136	160	
5/16"	0.312	5	0.0020	0.0024	0.0028	0.625	123	150	176	
3/8"	0.375	5	0.0021	0.0026	0.0030	0.750	134	163	192	
7/16"	0.437	5	0.0022	0.0027	0.0032	0.875	134	163	192	
1/2"	0.500	5	0.0024	0.0029	0.0034	1.000	146	177	208	
5/8"	0.625	5	0.0025	0.0030	0.0035	1.250	146	177	208	
3/4"	0.750	5	0.0025	0.0031	0.0036	1.500	146	177	208	
7/8"	0.875	5	0.0027	0.0032	0.0038	1.750	146	177	208	
1"	1.000	5	0.0027	0.0032	0.0038	2.000	146	177	208	

XT7 Series			ISO XT7 Series Feeds and Speeds -MDC Coated-							P
			Non-Alloy Steel, Cast Steel, Free Cutting Steel 1018, 1020, A36, 8620							
Diameter	#FL	Chip Thickness at TEA			MAX AXIAL DOC	Surface Feet Per Min			When ramping, reduce program to	
		TEA-45	TEA-35	TEA-30		45°	35°	30°	RPM = 80%	Feed = 50%
3/16"	0.187	7	0.0015	0.0018	0.0021	0.375	540	656	771	Helical Ramp Angle 3 - 5° Over 3° for Coolant-Through Only
1/4"	0.250	7	0.0018	0.0022	0.0026	0.500	596	724	851	
5/16"	0.312	7	0.0022	0.0027	0.0032	0.625	633	769	904	
3/8"	0.375	7	0.0025	0.0031	0.0036	0.750	670	814	958	
7/16"	0.437	7	0.0028	0.0034	0.0040	0.875	689	837	984	
1/2"	0.500	7	0.0032	0.0038	0.0045	1.000	708	859	1011	
5/8"	0.625	7	0.0039	0.0047	0.0055	1.250	708	859	1011	
3/4"	0.750	7	0.0042	0.0051	0.0060	1.500	708	859	1011	
7/8"	0.875	7	0.0046	0.0055	0.0065	1.750	708	859	1011	
1"	1.000	7	0.0049	0.0060	0.0070	2.000	708	859	1011	

XT7 Series			ISO XT7 Series Feeds and Speeds -MDC Coated-							P
			Low Alloy Steel, Cast Steel 4130, 4140, 8620, 4330, 4340							
Diameter	#FL	Feed (Inch Per Tooth)			MAX AXIAL DOC	Surface Feet Per Min			When ramping, reduce program to	
		.60x D	TEA-35	TEA-30		.60x DIA	Mid	Max	RPM = 80%	Feed = 50%
3/16"	0.187	7	0.0013	0.0015	0.0018	0.375	372	452	532	Helical Ramp Angle 3 - 5° Over 3° for Coolant-Through Only
1/4"	0.250	7	0.0018	0.0022	0.0026	0.500	410	497	585	
5/16"	0.312	7	0.0023	0.0028	0.0033	0.625	447	543	638	
3/8"	0.375	7	0.0027	0.0033	0.0039	0.750	484	588	692	
7/16"	0.437	7	0.0029	0.0035	0.0041	0.875	503	610	718	
1/2"	0.500	7	0.0031	0.0037	0.0044	1.000	521	633	745	
5/8"	0.625	7	0.0036	0.0044	0.0052	1.250	521	633	745	
3/4"	0.750	7	0.0039	0.0048	0.0056	1.500	521	633	745	
7/8"	0.875	7	0.0042	0.0051	0.0060	1.750	521	633	745	
1"	1.000	7	0.0044	0.0054	0.0063	2.000	521	633	745	

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XT7		Series	ISO XT7 Series Feeds and Speeds -MDC Coated-							P	
			Die & Mold Steels P20, A-2, D-2, M2, M42, T15								
Diameter	#FL	#FL	TEA-45	TEA-35	TEA-30	MAX AXIAL DOC	45°	35°	30°	When ramping, reduce program to	
			Chip Thickness at TEA				Surface Feet Per Min			RPM = 80%	Feed = 40%
							Min	Mid	Max	Helical Ramp Angle 3 - 5° Over 3° for Coolant-Through Only	
3/16"	0.187	7	0.0011	0.0014	0.0016	0.375	317	384	452		
1/4"	0.250	7	0.0017	0.0020	0.0024	0.500	335	407	479		
5/16"	0.312	7	0.0020	0.0024	0.0028	0.625	363	441	519		
3/8"	0.375	7	0.0021	0.0026	0.0030	0.750	382	464	545		
7/16"	0.437	7	0.0023	0.0028	0.0033	0.875	391	475	559		
1/2"	0.500	7	0.0025	0.0031	0.0036	1.000	410	497	585		
5/8"	0.625	7	0.0027	0.0032	0.0038	1.250	410	497	585		
3/4"	0.750	7	0.0029	0.0036	0.0042	1.500	410	497	585		
7/8"	0.875	7	0.0031	0.0037	0.0044	1.750	410	497	585		
1"	1.000	7	0.0032	0.0039	0.0046	2.000	410	497	585		

XT7		Series	ISO XT7 Series Feeds and Speeds -MDC Coated-							K	
			Nodular Cast Iron, Grey Cast Iron, Malleable Cast Iron								
Diameter	#FL	#FL	TEA-45	TEA-35	TEA-30	MAX AXIAL DOC	45°	35°	30°	When ramping, reduce program to	
			Chip Thickness at TEA				Surface Feet Per Min			RPM = 80%	Feed = 50%
							Min	Mid	Max	Helical Ramp Angle 2 - 3° Over 2° for Coolant-Through Only	
3/16"	0.187	7	0.0015	0.0018	0.0021	0.375	TEA-24	565	665		
1/4"	0.250	7	0.0018	0.0022	0.0026	0.500	466	588	692		
5/16"	0.312	7	0.0022	0.0027	0.0032	0.625	484	610	718		
3/8"	0.375	7	0.0025	0.0031	0.0036	0.750	503	633	745		
7/16"	0.437	7	0.0028	0.0034	0.0040	0.875	521	644	758		
1/2"	0.500	7	0.0032	0.0038	0.0045	1.000	531	678	798		
5/8"	0.625	7	0.0039	0.0047	0.0055	1.250	559	678	798		
3/4"	0.750	7	0.0042	0.0051	0.0060	1.500	559	678	798		
7/8"	0.875	7	0.0046	0.0055	0.0065	1.750	559	678	798		
1"	1.000	7	0.0049	0.0060	0.0070	2.000	559	678	798		

XT7		Series	ISO XT7 Series Feeds and Speeds -MDC Coated-							M	
			Stainless Steel (Precipitation) 15-5PH, 17-4PH								
Diameter	#FL	#FL	TEA-32	TEA-28	TEA-24	MAX AXIAL DOC	32°	28°	24°	When ramping, reduce program to	
			Chip Thickness at TEA				Surface Feet Per Min			RPM = 80%	Feed = 40%
							Min	Mid	Max	Helical Ramp Angle 2 - 3° Over 2° for Coolant-Through Only	
3/16"	0.187	7	0.0011	0.0014	0.0016	0.375	329	400	470		
1/4"	0.250	7	0.0017	0.0020	0.0024	0.500	350	425	500		
5/16"	0.312	7	0.0021	0.0026	0.0030	0.625	370	450	529		
3/8"	0.375	7	0.0024	0.0029	0.0034	0.750	390	473	557		
7/16"	0.437	7	0.0027	0.0032	0.0038	0.875	400	486	572		
1/2"	0.500	7	0.0029	0.0036	0.0042	1.000	410	498	586		
5/8"	0.625	7	0.0034	0.0041	0.0048	1.250	410	498	586		
3/4"	0.750	7	0.0036	0.0044	0.0052	1.500	410	498	586		
7/8"	0.875	7	0.0038	0.0046	0.0054	1.750	410	498	586		
1"	1.000	7	0.0039	0.0048	0.0056	2.000	410	498	586		

XT7		Series	ISO XT7 Series Feeds and Speeds -MDC Coated-							M	
			Stainless Steels (Austenitic) 303, 304, 304L, 312, 316, 316L								
Diameter	#FL	#FL	TEA-30	TEA-27	TEA-24	MAX AXIAL DOC	30°	27°	24°	When ramping, reduce program to	
			Chip Thickness at TEA				Surface Feet Per Min			RPM = 70%	Feed = 30%
							Min	Mid	Max	Helical Ramp Angle 2 - 3° Over 2° for Coolant-Through Only	
3/16"	0.187	7	0.0011	0.0014	0.0016	0.375	223	271	319		
1/4"	0.250	7	0.0017	0.0020	0.0024	0.500	246	298	351		
5/16"	0.312	7	0.0020	0.0024	0.0028	0.625	268	326	383		
3/8"	0.375	7	0.0021	0.0026	0.0030	0.750	290	353	415		
7/16"	0.437	7	0.0022	0.0027	0.0032	0.875	302	366	431		
1/2"	0.500	7	0.0025	0.0031	0.0036	1.000	313	380	447		
5/8"	0.625	7	0.0027	0.0032	0.0038	1.250	313	380	447		
3/4"	0.750	7	0.0029	0.0036	0.0042	1.500	313	380	447		
7/8"	0.875	7	0.0031	0.0037	0.0044	1.750	313	380	447		
1"	1.000	7	0.0032	0.0039	0.0046	2.000	313	380	447		

SwiftCARB Speeds & Feeds for RampMill Tools MDC Coated

XT7		Series	ISO			XT7 Series Feeds and Speeds -MDC Coated-				S
			TEA-32	TEA-28	TEA-24	MAX AXIAL DOC	High Temp Alloys, Titanium Alloys Ti-6AL4V			
Diameter	#FL	Chip Thickness at TEA			MAX AXIAL DOC		Surface Feet Per Min			When ramping, reduce program to
		TEA-32	TEA-28	TEA-24		Min	Mid	Max	RPM = 70%	Feed = 30%
3/16"	0.187	7	0.0011	0.0014	0.0016	0.375	156	190	223	Helical Ramp Angle 2 - 3° Over 2° for Coolant-Through Only
1/4"	0.250	7	0.0017	0.0020	0.0024	0.500	179	217	255	
5/16"	0.312	7	0.0020	0.0024	0.0028	0.625	201	244	287	
3/8"	0.375	7	0.0021	0.0026	0.0030	0.750	223	271	319	
7/16"	0.437	7	0.0022	0.0027	0.0032	0.875	235	285	335	
1/2"	0.500	7	0.0024	0.0029	0.0034	1.000	246	298	351	
5/8"	0.625	7	0.0025	0.0030	0.0035	1.250	246	298	351	
3/4"	0.750	7	0.0025	0.0031	0.0036	1.500	246	298	351	
7/8"	0.875	7	0.0027	0.0032	0.0038	1.750	246	298	351	
1"	1.000	7	0.0027	0.0032	0.0038	2.000	246	298	351	

XT7		Series	ISO			XT7 Series Feeds and Speeds -MDC Coated-				S
			TEA-30	TEA-26	TEA-22	MAX AXIAL DOC	High Temp Alloys (Nickel & Cobalt Based) Monel 400, Hastelloy, Nimonic 75, Inconel 625, 718			
Diameter	#FL	Chip Thickness at TEA			MAX AXIAL DOC		Surface Feet Per Min			When ramping, reduce program to
		TEA-30	TEA-26	TEA-22		Min	Mid	Max	RPM = 70%	Feed = 30%
3/16"	0.187	7	0.0011	0.0014	0.0016	0.375	39	47	56	Helical Ramp Angle 2 - 3° Over 2° for Coolant-Through Only
1/4"	0.250	7	0.0017	0.0020	0.0024	0.500	45	54	64	
5/16"	0.312	7	0.0020	0.0024	0.0028	0.625	56	68	80	
3/8"	0.375	7	0.0021	0.0026	0.0030	0.750	56	68	80	
7/16"	0.437	7	0.0022	0.0027	0.0032	0.875	56	68	80	
1/2"	0.500	7	0.0024	0.0029	0.0034	1.000	67	81	96	
5/8"	0.625	7	0.0025	0.0030	0.0035	1.250	67	81	96	
3/4"	0.750	7	0.0025	0.0031	0.0036	1.500	67	81	96	
7/8"	0.875	7	0.0027	0.0032	0.0038	1.750	67	81	96	
1"	1.000	7	0.0027	0.0032	0.0038	2.000	67	81	96	

XT7		Series	ISO			XT7 Series Feeds and Speeds -MDC Coated-				H
			TEA-30	TEA-26	TEA-22	MAX AXIAL DOC	Hardened Steels (55-60HRC)			
Diameter	#FL	Chip Thickness at TEA			MAX AXIAL DOC		Surface Feet Per Min			When ramping, reduce program to
		TEA-30	TEA-26	TEA-22		Min	Mid	Max	RPM = 70%	Feed = 30%
3/16"	0.187	7	0.0011	0.0014	0.0016	0.375	101	122	144	Helical Ramp Angle 2 - 3° Over 2° for Coolant-Through Only
1/4"	0.250	7	0.0017	0.0020	0.0024	0.500	112	136	160	
5/16"	0.312	7	0.0020	0.0024	0.0028	0.625	123	150	176	
3/8"	0.375	7	0.0021	0.0026	0.0030	0.750	134	163	192	
7/16"	0.437	7	0.0022	0.0027	0.0032	0.875	134	163	192	
1/2"	0.500	7	0.0024	0.0029	0.0034	1.000	146	177	208	
5/8"	0.625	7	0.0025	0.0030	0.0035	1.250	146	177	208	
3/4"	0.750	7	0.0025	0.0031	0.0036	1.500	146	177	208	
7/8"	0.875	7	0.0027	0.0032	0.0038	1.750	146	177	208	
1"	1.000	7	0.0027	0.0032	0.0038	2.000	146	177	208	

XT9		Series	ISO			XT9 Series Feeds and Speeds -MDC Coated-				P
			TEA-40	TEA-30	TEA-20	MAX AXIAL DOC	Non-Alloy Steel, Cast Steel, Free Cutting Steel 1018, 1020, A36, 8620			
Diameter	#FL	Chip Thickness at TEA			MAX AXIAL DOC		Surface Feet Per Min			When ramping, reduce program to
		TEA-40	TEA-30	TEA-20		Min	Mid	Max	RPM = 80%	Feed = 50%
3/16"	0.187	9	0.0015	0.0018	0.0021	0.375	540	656	771	Helical Ramp Angle 3 - 5° Over 3° for Coolant-Through Only
1/4"	0.250	9	0.0018	0.0022	0.0026	0.500	596	724	851	
5/16"	0.312	9	0.0022	0.0027	0.0032	0.625	633	769	904	
3/8"	0.375	9	0.0025	0.0031	0.0036	0.750	670	814	958	
7/16"	0.437	9	0.0028	0.0034	0.0040	0.875	689	837	984	
1/2"	0.500	9	0.0032	0.0038	0.0045	1.000	708	859	1011	
5/8"	0.625	9	0.0039	0.0047	0.0055	1.250	708	859	1011	
3/4"	0.750	9	0.0042	0.0051	0.0060	1.500	708	859	1011	
7/8"	0.875	9	0.0046	0.0055	0.0065	1.750	708	859	1011	
1"	1.000	9	0.0049	0.0060	0.0070	2.000	708	859	1011	

SwiftCARB Speeds & Feeds for RampMill Tools MDC Coated

XT9 Series			ISO <i>XT9 Series Feeds and Speeds -MDC Coated-</i> P								
			Low Alloy Steel, Cast Steel 4130, 4140, 8620, 4330, 4340								
Diameter	#FL	#FL	Chip Thickness at TEA			MAX AXIAL DOC	Surface Feet Per Min			When ramping, reduce program to	
			TEA-40	TEA-30	TEA-20		40°	30°	20°	RPM = 80%	Feed = 50%
						Min	Mid	Max			
3/16"	0.187	9	0.0013	0.0015	0.0018	0.375	372	452	532	Helical Ramp Angle 3 - 5° Over 3° for Coolant-Through Only	
1/4"	0.250	9	0.0018	0.0022	0.0026	0.500	410	497	585		
5/16"	0.312	9	0.0023	0.0028	0.0033	0.625	447	543	638		
3/8"	0.375	9	0.0027	0.0033	0.0039	0.750	484	588	692		
7/16"	0.437	9	0.0029	0.0035	0.0041	0.875	503	610	718		
1/2"	0.500	9	0.0031	0.0037	0.0044	1.000	521	633	745		
5/8"	0.625	9	0.0036	0.0044	0.0052	1.250	521	633	745		
3/4"	0.750	9	0.0039	0.0048	0.0056	1.500	521	633	745		
7/8"	0.875	9	0.0042	0.0051	0.0060	1.750	521	633	745		
1"	1.000	9	0.0044	0.0054	0.0063	2.000	521	633	745		

XT9 Series			ISO <i>XT9 Series Feeds and Speeds -MDC Coated-</i> P								
			Die & Mold Steels P20, A-2, D-2, M2, M42, T15								
Diameter	#FL	#FL	Chip Thickness at TEA			MAX AXIAL DOC	Surface Feet Per Min			When ramping, reduce program to	
			TEA-40	TEA-30	TEA-20		40°	30°	20°	RPM = 80%	Feed = 40%
						Min	Mid	Max			
3/16"	0.187	9	0.0011	0.0014	0.0016	0.375	317	384	452	Helical Ramp Angle 3 - 5° Over 3° for Coolant-Through Only	
1/4"	0.250	9	0.0017	0.0020	0.0024	0.500	335	407	479		
5/16"	0.312	9	0.0020	0.0024	0.0028	0.625	363	441	519		
3/8"	0.375	9	0.0021	0.0026	0.0030	0.750	382	464	545		
7/16"	0.437	9	0.0023	0.0028	0.0033	0.875	391	475	559		
1/2"	0.500	9	0.0025	0.0031	0.0036	1.000	410	497	585		
5/8"	0.625	9	0.0027	0.0032	0.0038	1.250	410	497	585		
3/4"	0.750	9	0.0029	0.0036	0.0042	1.500	410	497	585		
7/8"	0.875	9	0.0031	0.0037	0.0044	1.750	410	497	585		
1"	1.000	9	0.0032	0.0039	0.0046	2.000	410	497	585		

XT9 Series			ISO <i>XT9 Series Feeds and Speeds -MDC Coated-</i> K								
			Nodular Cast Iron, Grey Cast Iron, Malleable Cast Iron								
Diameter	#FL	#FL	Chip Thickness at TEA			MAX AXIAL DOC	Surface Feet Per Min			When ramping, reduce program to	
			TEA-40	TEA-30	TEA-20		40°	30°	20°	RPM = 80%	Feed = 50%
						Min	Mid	Max			
3/16"	0.187	9	0.0015	0.0018	0.0021	0.375	466	565	665	Helical Ramp Angle 2 - 3° Over 2° for Coolant-Through Only	
1/4"	0.250	9	0.0018	0.0022	0.0026	0.500	484	588	692		
5/16"	0.312	9	0.0022	0.0027	0.0032	0.625	503	610	718		
3/8"	0.375	9	0.0025	0.0031	0.0036	0.750	521	633	745		
7/16"	0.437	9	0.0028	0.0034	0.0040	0.875	531	644	758		
1/2"	0.500	9	0.0032	0.0038	0.0045	1.000	559	678	798		
5/8"	0.625	9	0.0039	0.0047	0.0055	1.250	559	678	798		
3/4"	0.750	9	0.0042	0.0051	0.0060	1.500	559	678	798		
7/8"	0.875	9	0.0046	0.0055	0.0065	1.750	559	678	798		
1"	1.000	9	0.0049	0.0060	0.0070	2.000	559	678	798		

XT9 Series			ISO <i>XT9 Series Feeds and Speeds -MDC Coated-</i> M								
			Stainless Steel (Precipitation) 15-5PH, 17-4PH								
Diameter	#FL	#FL	Chip Thickness at TEA			MAX AXIAL DOC	Surface Feet Per Min			When ramping, reduce program to	
			TEA-32	TEA-28	TEA-24		32°	28°	24°	RPM = 80%	Feed = 40%
						Min	Mid	Max			
3/16"	0.187	9	0.0011	0.0014	0.0016	0.375	329	400	470	Helical Ramp Angle 2 - 3° Over 2° for Coolant-Through Only	
1/4"	0.250	9	0.0017	0.0020	0.0024	0.500	350	425	500		
5/16"	0.312	9	0.0021	0.0026	0.0030	0.625	370	450	529		
3/8"	0.375	9	0.0024	0.0029	0.0034	0.750	390	473	557		
7/16"	0.437	9	0.0027	0.0032	0.0038	0.875	400	486	572		
1/2"	0.500	9	0.0029	0.0036	0.0042	1.000	410	498	586		
5/8"	0.625	9	0.0034	0.0041	0.0048	1.250	410	498	586		
3/4"	0.750	9	0.0036	0.0044	0.0052	1.500	410	498	586		
7/8"	0.875	9	0.0038	0.0046	0.0054	1.750	410	498	586		
1"	1.000	9	0.0039	0.0048	0.0056	2.000	410	498	586		

XT9 Series			ISO XT9 Series Feeds and Speeds with MDC Coating M							
			Stainless Steels (Austenitic) 303, 304, 304L, 312, 316, 316L							
Diameter	#FL		Chip Thickness at TEA			MAX AXIAL DOC	Surface Feet Per Min			When ramping, reduce program to RPM = 70% Feed = 30%
			TEA-32	TEA-28	TEA-24		32°	28°	24°	
						Min	Mid	Max	Helical Ramp Angle 2 - 3° Over 2° for Coolant-Through Only	
3/16"	0.187	9	0.0011	0.0014	0.0016	0.375	223	271		319
1/4"	0.250	9	0.0017	0.0020	0.0024	0.500	246	298		351
5/16"	0.312	9	0.0020	0.0024	0.0028	0.625	268	326		383
3/8"	0.375	9	0.0021	0.0026	0.0030	0.750	290	353		415
7/16"	0.437	9	0.0022	0.0027	0.0032	0.875	302	366		431
1/2"	0.500	9	0.0025	0.0031	0.0036	1.000	313	380		447
5/8"	0.625	9	0.0027	0.0032	0.0038	1.250	313	380		447
3/4"	0.750	9	0.0029	0.0036	0.0042	1.500	313	380		447
7/8"	0.875	9	0.0031	0.0037	0.0044	1.750	313	380		447
1"	1.000	9	0.0032	0.0039	0.0046	2.000	313	380	447	

XT9 Series			ISO XT9 Series Feeds and Speeds with MDC Coating S							
			High Temp Alloys, Titanium Alloys Ti-6AL4V							
Diameter	#FL		Chip Thickness at TEA			MAX AXIAL DOC	Surface Feet Per Min			When ramping, reduce program to RPM = 70% Feed = 30%
			TEA-32	TEA-28	TEA-24		32°	28°	24°	
						Min	Mid	Max	Helical Ramp Angle 2 - 3° Over 2° for Coolant-Through Only	
3/16"	0.187	9	0.0011	0.0014	0.0016	0.375	156	190		223
1/4"	0.250	9	0.0017	0.0020	0.0024	0.500	179	217		255
5/16"	0.312	9	0.0020	0.0024	0.0028	0.625	201	244		287
3/8"	0.375	9	0.0021	0.0026	0.0030	0.750	223	271		319
7/16"	0.437	9	0.0022	0.0027	0.0032	0.875	235	285		335
1/2"	0.500	9	0.0024	0.0029	0.0034	1.000	246	298		351
5/8"	0.625	9	0.0025	0.0030	0.0035	1.250	246	298		351
3/4"	0.750	9	0.0025	0.0031	0.0036	1.500	246	298		351
7/8"	0.875	9	0.0027	0.0032	0.0038	1.750	246	298		351
1"	1.000	9	0.0027	0.0032	0.0038	2.000	246	298	351	

XT9 Series			ISO XT9 Series Feeds and Speeds with MDC Coating S							
			High Temp Alloys (Nickel & Cobalt Based) Monel 400, Hastelloy, Nimonic 75, Inconel 625, 718							
Diameter	#FL		Chip Thickness at TEA			MAX AXIAL DOC	Surface Feet Per Min			When ramping, reduce program to RPM = 70% Feed = 30%
			TEA-32	TEA-28	TEA-24		30°	26°	22°	
						Min	Mid	Max	Helical Ramp Angle 2 - 3° Over 2° for Coolant-Through Only	
3/16"	0.187	9	0.0011	0.0014	0.0016	0.375	39	47		56
1/4"	0.250	9	0.0017	0.0020	0.0024	0.500	45	54		64
5/16"	0.312	9	0.0020	0.0024	0.0028	0.625	56	68		80
3/8"	0.375	9	0.0021	0.0026	0.0030	0.750	56	68		80
7/16"	0.437	9	0.0022	0.0027	0.0032	0.875	56	68		80
1/2"	0.500	9	0.0024	0.0029	0.0034	1.000	67	81		96
5/8"	0.625	9	0.0025	0.0030	0.0035	1.250	67	81		96
3/4"	0.750	9	0.0025	0.0031	0.0036	1.500	67	81		96
7/8"	0.875	9	0.0027	0.0032	0.0038	1.750	67	81		96
1"	1.000	9	0.0027	0.0032	0.0038	2.000	67	81	96	

XT9 Series			ISO XT9 Series Feeds and Speeds with MDC Coating H							
			Hardened Steels (55-60HRC)							
Diameter	#FL		Chip Thickness at TEA			MAX AXIAL DOC	Surface Feet Per Min			When ramping, reduce program to RPM = 70% Feed = 30%
			TEA-32	TEA-28	TEA-24		30°	26°	22°	
						Min	Mid	Max	Helical Ramp Angle 2 - 3° Over 2° for Coolant-Through Only	
3/16"	0.187	9	0.0011	0.0014	0.0016	0.375	101	122		144
1/4"	0.250	9	0.0017	0.0020	0.0024	0.500	112	136		160
5/16"	0.312	9	0.0020	0.0024	0.0028	0.625	123	150		176
3/8"	0.375	9	0.0021	0.0026	0.0030	0.750	134	163		192
7/16"	0.437	9	0.0022	0.0027	0.0032	0.875	134	163		192
1/2"	0.500	9	0.0024	0.0029	0.0034	1.000	146	177		208
5/8"	0.625	9	0.0025	0.0030	0.0035	1.250	146	177		208
3/4"	0.750	9	0.0025	0.0031	0.0036	1.500	146	177		208
7/8"	0.875	9	0.0027	0.0032	0.0038	1.750	146	177		208
1"	1.000	9	0.0027	0.0032	0.0038	2.000	146	177	208	