

SwiftCARB Speeds & Feeds for Extreme Performance Tools MDC Coated

XM Series		ISO <i>XM5, XM7, XM9, XM11 Feeds and Speeds -MDC Coated-</i>					P				
		Non-Alloy Steel, Cast Steel, Free Cutting Steel 1018, 1020, A36, 8620									
Axial Depth		.5x DIA	.75x DIA	1.25x DIA	1.5x DIA	2x DIA	100-85%	85-50%	50-25%	25-10%	10-0%
Radial Engagement		100-85%	85-50%	50-25%	25-10%	10-0%	100-85%	85-50%	50-25%	25-10%	10-0%
Chip Load Range at TEA		Full	Heavy	Medium	Light	Light	Surface Feet Per Min				
Diameter		Slotting	Roughing	Roughing	Roughing	Finishing	MIN		MID		MAX
1/8"	0.125	0.0006	0.0009	0.0011	0.0014	0.0016	245	336	428	520	612
5/32"	0.156	0.0007	0.0010	0.0013	0.0015	0.0018	287	395	503	610	718
3/16"	0.187	0.0008	0.0012	0.0015	0.0018	0.0021	309	424	540	656	771
7/32"	0.218	0.0010	0.0013	0.0017	0.0020	0.0024	319	439	559	678	798
1/4"	0.250	0.0011	0.0015	0.0018	0.0022	0.0026	340	468	596	724	851
9/32"	0.281	0.0012	0.0017	0.0021	0.0026	0.0030	351	483	614	746	878
5/16"	0.312	0.0013	0.0018	0.0022	0.0027	0.0032	362	497	633	769	904
11/32"	0.343	0.0014	0.0019	0.0024	0.0029	0.0034	372	512	652	791	931
3/8"	0.375	0.0014	0.0020	0.0025	0.0031	0.0036	383	527	670	814	958
7/16"	0.437	0.0016	0.0022	0.0028	0.0034	0.0040	394	541	689	837	984
1/2"	0.500	0.0018	0.0025	0.0032	0.0038	0.0045	404	556	708	859	1011
5/8"	0.625	0.0022	0.0030	0.0039	0.0047	0.0055	404	556	708	859	1011
3/4"	0.750	0.0024	0.0033	0.0042	0.0051	0.0060	404	556	708	859	1011
7/8"	0.875	0.0026	0.0036	0.0046	0.0055	0.0065	404	556	708	859	1011
1"	1.000	0.0028	0.0039	0.0049	0.0060	0.0070	404	556	708	859	1011
1 1/4"	1.250	0.0030	0.0041	0.0052	0.0063	0.0074	404	556	708	859	1011

XM Series		ISO <i>XM5, XM7, XM9, XM11 Feeds and Speeds -MDC Coated-</i>					P				
		Low Alloy Steel, Cast Steel 4130, 4140, 8620, 4330, 4340									
Axial Depth		.5x DIA	.75x DIA	1.25x DIA	1.5x DIA	2x DIA	100-85%	85-50%	50-25%	25-10%	10-0%
Radial Engagement		100-85%	85-50%	50-25%	25-10%	10-0%	100-85%	85-50%	50-25%	25-10%	10-0%
Chip Load Range at TEA		Full	Heavy	Medium	Light	Light	Surface Feet Per Min				
Diameter		Slotting	Roughing	Roughing	Roughing	Finishing	MIN		MID		MAX
1/8"	0.125	0.0006	0.0008	0.0010	0.0012	0.0014	192	263	335	407	479
5/32"	0.156	0.0006	0.0009	0.0011	0.0013	0.0016	202	278	354	430	505
3/16"	0.187	0.0007	0.0010	0.0013	0.0015	0.0018	213	293	372	452	532
7/32"	0.218	0.0009	0.0012	0.0015	0.0019	0.0022	223	307	391	475	559
1/4"	0.250	0.0011	0.0015	0.0018	0.0022	0.0026	234	322	410	497	585
9/32"	0.281	0.0012	0.0017	0.0021	0.0026	0.0030	245	336	428	520	612
5/16"	0.312	0.0013	0.0018	0.0023	0.0028	0.0033	255	351	447	543	638
11/32"	0.343	0.0014	0.0020	0.0025	0.0031	0.0036	266	366	466	565	665
3/8"	0.375	0.0016	0.0021	0.0027	0.0033	0.0039	277	380	484	588	692
7/16"	0.437	0.0016	0.0022	0.0029	0.0035	0.0041	287	395	503	610	718
1/2"	0.500	0.0018	0.0024	0.0031	0.0037	0.0044	298	410	521	633	745
5/8"	0.625	0.0021	0.0029	0.0036	0.0044	0.0052	298	410	521	633	745
3/4"	0.750	0.0022	0.0031	0.0039	0.0048	0.0056	298	410	521	633	745
7/8"	0.875	0.0024	0.0033	0.0042	0.0051	0.0060	298	410	521	633	745
1"	1.000	0.0025	0.0035	0.0044	0.0054	0.0063	298	410	521	633	745
1 1/4"	1.250	0.0026	0.0036	0.0046	0.0055	0.0065	298	410	521	633	745

XM Series		ISO <i>XM5, XM7, XM9, XM11 Feeds and Speeds -MDC Coated-</i>					P				
		Die & Mold Steels P20, A-2, D-2, M2, M42, T15									
Axial Depth		.5x DIA	.75x DIA	1.25x DIA	1.5x DIA	2x DIA	100-85%	85-50%	50-25%	25-10%	10-0%
Radial Engagement		100-85%	85-50%	50-25%	25-10%	10-0%	100-85%	85-50%	50-25%	25-10%	10-0%
Chip Load Range at TEA		Full	Heavy	Medium	Light	Light	Surface Feet Per Min				
Diameter		Slotting	Roughing	Roughing	Roughing	Finishing	MIN		MID		MAX
1/8"	0.125	0.0005	0.0007	0.0008	0.0010	0.0012	160	219	279	339	399
5/32"	0.156	0.0005	0.0007	0.0009	0.0011	0.0013	170	234	298	362	426
3/16"	0.187	0.0006	0.0009	0.0011	0.0014	0.0016	181	249	317	384	452
7/32"	0.218	0.0007	0.0010	0.0013	0.0015	0.0018	186	256	326	396	466
1/4"	0.250	0.0010	0.0013	0.0017	0.0020	0.0024	192	263	335	407	479
9/32"	0.281	0.0010	0.0014	0.0018	0.0022	0.0026	202	278	354	430	505
5/16"	0.312	0.0011	0.0015	0.0020	0.0024	0.0028	207	285	363	441	519
11/32"	0.343	0.0012	0.0016	0.0020	0.0025	0.0029	213	293	372	452	532
3/8"	0.375	0.0012	0.0017	0.0021	0.0026	0.0030	218	300	382	464	545
7/16"	0.437	0.0013	0.0018	0.0023	0.0028	0.0033	223	307	391	475	559
1/2"	0.500	0.0014	0.0020	0.0025	0.0031	0.0036	234	322	410	497	585
5/8"	0.625	0.0015	0.0021	0.0027	0.0032	0.0038	234	322	410	497	585
3/4"	0.750	0.0017	0.0023	0.0029	0.0036	0.0042	234	322	410	497	585
7/8"	0.875	0.0018	0.0024	0.0031	0.0037	0.0044	234	322	410	497	585
1"	1.000	0.0018	0.0025	0.0032	0.0039	0.0046	234	322	410	497	585
1 1/4"	1.250	0.0020	0.0028	0.0035	0.0043	0.0050	234	322	410	497	585

CALL 800-227-9876 FOR YOUR NEAREST DISTRIBUTOR

SwiftCARB

106

SwiftCARB Speeds & Feeds for Extreme Performance Tools MDC Coated

XM Series		ISO <i>XM5, XM7, XM9, XM11 Feeds and Speeds -MDC Coated-</i>					K				
		Nodular Cast Iron, Grey Cast Iron, Malleable Cast Iron									
Axial Depth		.5x DIA	.75x DIA	1.25x DIA	1.5x DIA	2x DIA					
Radial Engagement		100-85%	85-50%	50-25%	25-10%	10-0%	100-85%	85-50%	50-25%	25-10%	10-0%
Chip Load Range at TEA		Full	Heavy	Medium	Light	Light	Surface Feet Per Min				
Diameter		Slotting	Roughing	Roughing	Roughing	Finishing	MIN		MID		MAX
1/8"	0.125	0.0006	0.0009	0.0011	0.0014	0.0016	255	351	447	543	638
5/32"	0.156	0.0007	0.0010	0.0013	0.0015	0.0018	261	358	456	554	652
3/16"	0.187	0.0008	0.0012	0.0015	0.0018	0.0021	266	366	466	565	665
7/32"	0.218	0.0010	0.0013	0.0017	0.0020	0.0024	271	373	475	577	678
1/4"	0.250	0.0011	0.0015	0.0018	0.0022	0.0026	277	380	484	588	692
9/32"	0.281	0.0012	0.0017	0.0021	0.0026	0.0030	282	388	493	599	705
5/16"	0.312	0.0013	0.0018	0.0022	0.0027	0.0032	287	395	503	610	718
11/32"	0.343	0.0014	0.0019	0.0024	0.0029	0.0034	293	402	512	622	732
3/8"	0.375	0.0014	0.0020	0.0025	0.0031	0.0036	298	410	521	633	745
7/16"	0.437	0.0016	0.0022	0.0028	0.0034	0.0040	303	417	531	644	758
1/2"	0.500	0.0018	0.0025	0.0032	0.0038	0.0045	319	439	559	678	798
5/8"	0.625	0.0022	0.0030	0.0039	0.0047	0.0055	319	439	559	678	798
3/4"	0.750	0.0024	0.0033	0.0042	0.0051	0.0060	319	439	559	678	798
7/8"	0.875	0.0026	0.0036	0.0046	0.0055	0.0065	319	439	559	678	798
1"	1.000	0.0028	0.0039	0.0049	0.0060	0.0070	319	439	559	678	798
1 1/4"	1.250	0.0030	0.0041	0.0052	0.0063	0.0074	319	439	559	678	798

XM Series		ISO <i>XM5, XM7, XM9, XM11 Feeds and Speeds -MDC Coated-</i>					M				
		Stainless Steel (Precipitation) 15-5PH, 17-4PH									
Axial Depth		.5x DIA	.75x DIA	1.25x DIA	1.5x DIA	2x DIA					
Radial Engagement		100-85%	85-50%	50-25%	25-10%	10-0%	100-85%	85-50%	50-25%	25-10%	10-0%
Chip Load Range at TEA		Full	Heavy	Medium	Light	Light	Surface Feet Per Min				
Diameter		Slotting	Roughing	Roughing	Roughing	Finishing	MIN		MID		MAX
1/8"	0.125	0.0005	0.0007	0.0008	0.0010	0.0012	192	263	335	407	479
5/32"	0.156	0.0005	0.0007	0.0009	0.0011	0.0013	198	272	346	421	495
3/16"	0.187	0.0006	0.0009	0.0011	0.0014	0.0016	204	281	358	434	511
7/32"	0.218	0.0008	0.0011	0.0014	0.0017	0.0020	211	290	369	448	527
1/4"	0.250	0.0010	0.0013	0.0017	0.0020	0.0024	217	298	380	461	543
9/32"	0.281	0.0011	0.0015	0.0020	0.0024	0.0028	223	307	391	475	559
5/16"	0.312	0.0012	0.0017	0.0021	0.0026	0.0030	230	316	402	488	575
11/32"	0.343	0.0013	0.0018	0.0022	0.0027	0.0032	236	325	413	502	591
3/8"	0.375	0.0014	0.0019	0.0024	0.0029	0.0034	243	334	425	516	606
7/16"	0.437	0.0015	0.0021	0.0027	0.0032	0.0038	249	342	436	529	622
1/2"	0.500	0.0017	0.0023	0.0029	0.0036	0.0042	255	351	447	543	638
5/8"	0.625	0.0019	0.0026	0.0034	0.0041	0.0048	255	351	447	543	638
3/4"	0.750	0.0021	0.0029	0.0036	0.0044	0.0052	255	351	447	543	638
7/8"	0.875	0.0022	0.0030	0.0038	0.0046	0.0054	255	351	447	543	638
1"	1.000	0.0022	0.0031	0.0039	0.0048	0.0056	255	351	447	543	638
1 1/4"	1.250	0.0023	0.0032	0.0041	0.0049	0.0058	255	351	447	543	638

XM Series		ISO <i>XM5, XM7, XM9, XM11 Feeds and Speeds -MDC Coated-</i>					M				
		Stainless Steels (Austenitic) 303, 304, 304L, 312, 316, 316L									
Axial Depth		.5x DIA	.75x DIA	1.25x DIA	1.5x DIA	2x DIA					
Radial Engagement		100-85%	85-50%	50-25%	25-10%	10-0%	100-85%	85-50%	50-25%	25-10%	10-0%
Chip Load Range at TEA		Full	Heavy	Medium	Light	Light	Surface Feet Per Min				
Diameter		Slotting	Roughing	Roughing	Roughing	Finishing	MIN		MID		MAX
1/8"	0.125	0.0005	0.0007	0.0008	0.0010	0.0012	115	158	201	244	287
5/32"	0.156	0.0005	0.0007	0.0009	0.0011	0.0013	121	167	212	258	303
3/16"	0.187	0.0006	0.0009	0.0011	0.0014	0.0016	128	176	223	271	319
7/32"	0.218	0.0007	0.0010	0.0013	0.0015	0.0018	134	184	235	285	335
1/4"	0.250	0.0010	0.0013	0.0017	0.0020	0.0024	140	193	246	298	351
9/32"	0.281	0.0010	0.0014	0.0018	0.0022	0.0026	147	202	257	312	367
5/16"	0.312	0.0011	0.0015	0.0020	0.0024	0.0028	153	211	268	326	383
11/32"	0.343	0.0012	0.0016	0.0020	0.0025	0.0029	160	219	279	339	399
3/8"	0.375	0.0012	0.0017	0.0021	0.0026	0.0030	166	228	290	353	415
7/16"	0.437	0.0013	0.0018	0.0023	0.0028	0.0033	172	237	302	366	431
1/2"	0.500	0.0014	0.0020	0.0025	0.0031	0.0036	179	246	313	380	447
5/8"	0.625	0.0015	0.0021	0.0027	0.0032	0.0038	179	246	313	380	447
3/4"	0.750	0.0017	0.0023	0.0029	0.0036	0.0042	179	246	313	380	447
7/8"	0.875	0.0018	0.0024	0.0031	0.0037	0.0044	179	246	313	380	447
1"	1.000	0.0018	0.0025	0.0032	0.0039	0.0046	179	246	313	380	447
1 1/4"	1.250	0.0020	0.0028	0.0035	0.0043	0.0050	179	246	313	380	447

SwiftCARB Speeds & Feeds for Extreme Performance Tools MDC Coated

XM Series		ISO XM5, XM7, XM9, XM11 Feeds and Speeds -MDC Coated-										S	
		High Temp Alloys, Titanium Alloys Ti-6AL4V											
Axial Depth		.5x DIA	.75x DIA	1.25x DIA	1.5x DIA	2x DIA							
Radial Engagement		100-85%	85-50%	50-25%	25-10%	10-0%	100-85%	85-50%	50-25%	25-10%	10-0%		
Chip Load Range at TEA		Full	Heavy	Medium	Light	Light	Surface Feet Per Min						
Diameter		Slotting	Roughing	Roughing	Roughing	Finishing	MIN		MID		MAX		
1/8"	0.125	0.0005	0.0007	0.0008	0.0010	0.0012	77	105	134	163	192		
5/32"	0.156	0.0005	0.0007	0.0009	0.0011	0.0013	83	114	145	176	207		
3/16"	0.187	0.0006	0.0009	0.0011	0.0014	0.0016	89	123	156	190	223		
7/32"	0.218	0.0007	0.0010	0.0013	0.0015	0.0018	96	132	168	203	239		
1/4"	0.250	0.0010	0.0013	0.0017	0.0020	0.0024	102	140	179	217	255		
9/32"	0.281	0.0010	0.0014	0.0018	0.0022	0.0026	109	149	190	231	271		
5/16"	0.312	0.0011	0.0015	0.0020	0.0024	0.0028	115	158	201	244	287		
11/32"	0.343	0.0012	0.0016	0.0020	0.0025	0.0029	121	167	212	258	303		
3/8"	0.375	0.0012	0.0017	0.0021	0.0026	0.0030	128	176	223	271	319		
7/16"	0.437	0.0013	0.0018	0.0022	0.0027	0.0032	134	184	235	285	335		
1/2"	0.500	0.0014	0.0020	0.0025	0.0031	0.0036	140	193	246	298	351		
5/8"	0.625	0.0015	0.0020	0.0026	0.0032	0.0038	140	193	246	298	351		
3/4"	0.750	0.0017	0.0023	0.0029	0.0036	0.0042	140	193	246	298	351		
7/8"	0.875	0.0018	0.0024	0.0031	0.0037	0.0044	140	193	246	298	351		
1"	1.000	0.0018	0.0025	0.0032	0.0039	0.0046	140	193	246	298	351		
1 1/4"	1.250	0.0020	0.0028	0.0035	0.0043	0.0050	140	193	246	298	351		

XM Series		ISO XM5, XM7, XM9, XM11 Feeds and Speeds -MDC Coated-										S	
		High Temp Alloys (Nickel and Cobalt Based) Monel 400, Hastelloy, Nimonic 75, Inconel 625, 718											
Axial Depth		.5x DIA	.75x DIA	1.25x DIA	1.5x DIA	2x DIA							
Radial Engagement		100-85%	85-50%	50-25%	25-10%	10-0%	100-85%	85-50%	50-25%	25-10%	10-0%		
Chip Load Range at TEA		Full	Heavy	Medium	Light	Light	Surface Feet Per Min						
Diameter		Slotting	Roughing	Roughing	Roughing	Finishing	MIN		MID		MAX		
1/8"	0.125	0.0005	0.0007	0.0008	0.0010	0.0012	22	31	39	47	56		
5/32"	0.156	0.0005	0.0007	0.0009	0.0011	0.0013	22	31	39	47	56		
3/16"	0.187	0.0006	0.0009	0.0011	0.0014	0.0016	22	31	39	47	56		
7/32"	0.218	0.0007	0.0010	0.0013	0.0015	0.0018	26	35	45	54	64		
1/4"	0.250	0.0010	0.0013	0.0017	0.0020	0.0024	26	35	45	54	64		
9/32"	0.281	0.0010	0.0014	0.0018	0.0022	0.0026	26	35	45	54	64		
5/16"	0.312	0.0011	0.0015	0.0020	0.0024	0.0028	32	44	56	68	80		
11/32"	0.343	0.0012	0.0016	0.0020	0.0025	0.0029	32	44	56	68	80		
3/8"	0.375	0.0012	0.0017	0.0021	0.0026	0.0030	32	44	56	68	80		
7/16"	0.437	0.0013	0.0018	0.0022	0.0027	0.0032	32	44	56	68	80		
1/2"	0.500	0.0014	0.0020	0.0025	0.0031	0.0036	38	53	67	81	96		
5/8"	0.625	0.0015	0.0020	0.0026	0.0032	0.0038	38	53	67	81	96		
3/4"	0.750	0.0017	0.0023	0.0029	0.0036	0.0042	38	53	67	81	96		
7/8"	0.875	0.0018	0.0024	0.0031	0.0037	0.0044	38	53	67	81	96		
1"	1.000	0.0018	0.0024	0.0031	0.0037	0.0044	38	53	67	81	96		
1 1/4"	1.250	0.0020	0.0028	0.0035	0.0043	0.0050	38	53	67	81	96		

XM Series		ISO XM5, XM7, XM9, XM11 Feeds and Speeds -MDC Coated-										H	
		Stainless Steels (Austenitic) 303, 304, 304L, 312, 316, 316L											
Axial Depth		.5x DIA	.75x DIA	1.25x DIA	1.5x DIA	2x DIA							
Radial Engagement		100-85%	85-50%	50-25%	25-10%	10-0%	100-85%	85-50%	50-25%	25-10%	10-0%		
Chip Load Range at TEA		Full	Heavy	Medium	Light	Light	Surface Feet Per Min						
Diameter		Slotting	Roughing	Roughing	Roughing	Finishing	MIN		MID		MAX		
1/8"	0.125	0.0005	0.0007	0.0008	0.0010	0.0012	45	62	78	95	112		
5/32"	0.156	0.0005	0.0007	0.0009	0.0011	0.0013	51	70	90	109	128		
3/16"	0.187	0.0006	0.0009	0.0011	0.0014	0.0016	58	79	101	122	144		
7/32"	0.218	0.0007	0.0010	0.0013	0.0015	0.0018	64	88	112	136	160		
1/4"	0.250	0.0010	0.0013	0.0017	0.0020	0.0024	64	88	112	136	160		
9/32"	0.281	0.0010	0.0014	0.0018	0.0022	0.0026	70	97	123	150	176		
5/16"	0.312	0.0011	0.0015	0.0020	0.0024	0.0028	70	97	123	150	176		
11/32"	0.343	0.0012	0.0016	0.0020	0.0025	0.0029	77	106	134	163	192		
3/8"	0.375	0.0012	0.0017	0.0021	0.0026	0.0030	77	106	134	163	192		
7/16"	0.437	0.0013	0.0018	0.0022	0.0027	0.0032	77	106	134	163	192		
1/2"	0.500	0.0014	0.0020	0.0025	0.0031	0.0036	83	114	146	177	208		
5/8"	0.625	0.0015	0.0020	0.0026	0.0032	0.0038	83	114	146	177	208		
3/4"	0.750	0.0017	0.0023	0.0029	0.0036	0.0042	83	114	146	177	208		
7/8"	0.875	0.0018	0.0024	0.0031	0.0037	0.0044	83	114	146	177	208		
1"	1.000	0.0018	0.0025	0.0032	0.0039	0.0046	83	114	146	177	208		
1 1/4"	1.250	0.0019	0.0026	0.0034	0.0041	0.0048	83	114	146	177	208		

CALL 800-227-9876 FOR YOUR NEAREST DISTRIBUTOR

SwiftCARB

108