

ADVANCED PERFORMANCE

Variable Helix End Mill For Carbon And Alloy Steels



FEATURES/DESCRIPTION		APPLICATION	FEATURES																																								
FUSION Variable Helix HP-Hybrid End Mills - Sub-micron grade carbide substrate for wear resistance - Variable helix, unequal index design for vibration mitigation - Dual edge-prep technology - Excellent cost-to-performance value - Diameter Tol.: +0/-0.002" - Shank Tol.: +0/-0.0004"																																											
<table border="1"> <thead> <tr> <th colspan="3">STEEL</th> <th colspan="2">STAINLESS</th> <th colspan="2">CAST IRON</th> <th colspan="2">NON-FERROUS</th> <th colspan="2">HSSA</th> <th colspan="2">HARDENED STEEL</th> </tr> <tr> <th>P1</th> <th>P2</th> <th>P3</th> <th>M1</th> <th>M2</th> <th>K1</th> <th>K2</th> <th>N1</th> <th>N2</th> <th>S1</th> <th>S2</th> <th>H1</th> <th>H2</th> </tr> </thead> <tbody> <tr> <td>●</td> <td>●</td> <td>●</td> <td>○</td> <td>○</td> <td>●</td> <td>●</td> <td></td> <td></td> <td>○</td> <td>●</td> <td></td> <td></td> </tr> </tbody> </table> ● Best ○ Good					STEEL			STAINLESS		CAST IRON		NON-FERROUS		HSSA		HARDENED STEEL		P1	P2	P3	M1	M2	K1	K2	N1	N2	S1	S2	H1	H2	●	●	●	○	○	●	●			○	●		
STEEL			STAINLESS		CAST IRON		NON-FERROUS		HSSA		HARDENED STEEL																																
P1	P2	P3	M1	M2	K1	K2	N1	N2	S1	S2	H1	H2																															
●	●	●	○	○	●	●			○	●																																	

Series 1130 Fusion 4FL Multi Length Square and Radius						
Diameter(D ₁)	LOC(L ₁)	OAL(L)	Shank(D)	Radius(R)	Bright	FX2
1/8	1/4	1-1/2	1/8	-	284-000058	284-000059
1/8	1/4	1-1/2	1/8	0.010	284-000375	284-000376
1/8	1/4	1-1/2	1/8	0.015	284-000377	284-000378
1/8	1/4	1-1/2	1/8	0.020	284-000379	284-000380
1/8	1/4	1-1/2	1/8	0.030	284-000381	284-000382
1/8	1/2	1-1/2	1/8	-	284-000060	284-000061
1/8	1/2	1-1/2	1/8	0.010	284-000383	284-000384
1/8	1/2	1-1/2	1/8	0.015	284-000385	284-000386
1/8	1/2	1-1/2	1/8	0.020	284-000387	284-000388
1/8	1/2	1-1/2	1/8	0.030	284-000389	284-000390
1/8	3/4	2-1/4	1/8	-	284-000062	284-000063
1/8	3/4	2-1/4	1/8	0.015	284-000391	284-000392
1/8	3/4	2-1/4	1/8	0.020	284-000393	284-000394
1/8	3/4	2-1/4	1/8	0.030	284-000395	284-000396
1/8	1	3	1/8	-	284-000064	284-000065
1/8	1	3	1/8	0.015	284-000397	284-000398
1/8	1	3	1/8	0.020	284-000399	284-000400
1/8	1	3	1/8	0.030	284-000401	284-000402
3/16	3/8	2	3/16	-	284-000088	284-000089
3/16	3/8	2	3/16	0.010	284-000403	284-000404
3/16	3/8	2	3/16	0.015	284-000405	284-000406
3/16	3/8	2	3/16	0.020	284-000407	284-000408
3/16	3/8	2	3/16	0.030	284-000409	284-000410
3/16	3/8	2	3/16	0.045	284-000411	284-000412
3/16	5/8	2	3/16	-	284-000090	284-000091
3/16	5/8	2	3/16	0.010	284-000413	284-000414
3/16	5/8	2	3/16	0.015	284-000415	284-000416
3/16	5/8	2	3/16	0.020	284-000417	284-000418
3/16	5/8	2	3/16	0.030	284-000419	284-000420
3/16	5/8	2	3/16	0.045	284-000421	284-000422
3/16	3/4	2-1/2	3/16	-	284-000092	284-000093
3/16	3/4	2-1/2	3/16	0.015	284-000423	284-000424
3/16	3/4	2-1/2	3/16	0.020	284-000425	284-000426
3/16	3/4	2-1/2	3/16	0.030	284-000427	284-000428
3/16	1	4	3/16	0.015	284-000435	284-000436
3/16	1	4	3/16	0.020	284-000437	284-000438
3/16	1	4	3/16	0.030	284-000439	284-000440
3/16	1-1/8	3	3/16	-	284-000094	284-000095
3/16	1-1/8	3	3/16	0.015	284-000429	284-000430
3/16	1-1/8	3	3/16	0.020	284-000431	284-000432
3/16	1-1/8	3	3/16	0.030	284-000433	284-000434
1/4	1/2	2-1/2	1/4	-	284-000118	284-000119
1/4	1/2	2-1/2	1/4	0.015	284-000441	284-000442
1/4	1/2	2-1/2	1/4	0.020	284-000443	284-000444
1/4	1/2	2-1/2	1/4	0.030	284-000445	284-000446

*bold numbers are EDPs for ordering

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INTRO

MILLING

SPECIALTY

HOLEMAKING

THREADING

INSERTS

Series 1130 Fusion | 4FL | Multi Length | Square and Radius

Diameter(D ₁)	LOC(L ₁)	OAL(L)	Shank(D)	Radius(R)	Bright	FX2
1/4	1/2	2-1/2	1/4	0.045	284-000447	284-000448
1/4	1/2	2-1/2	1/4	0.060	284-000449	284-000450
1/4	3/4	2-1/2	1/4	-	284-000120	284-000121
1/4	3/4	2-1/2	1/4	0.015	284-000451	284-000452
1/4	3/4	2-1/2	1/4	0.020	284-000453	284-000454
1/4	3/4	2-1/2	1/4	0.030	284-000455	284-000456
1/4	3/4	2-1/2	1/4	0.045	284-000457	284-000458
1/4	3/4	2-1/2	1/4	0.060	284-000459	284-000460
1/4	1	4	1/4	0.015	284-000471	284-000472
1/4	1	4	1/4	0.020	284-000473	284-000474
1/4	1	4	1/4	0.030	284-000475	284-000476
1/4	1	4	1/4	0.045	284-000477	284-000478
1/4	1	4	1/4	0.060	284-000479	284-000480
1/4	1-1/8	3	1/4	-	284-000122	284-000123
1/4	1-1/8	3	1/4	0.015	284-000461	284-000462
1/4	1-1/8	3	1/4	0.020	284-000463	284-000464
1/4	1-1/8	3	1/4	0.030	284-000465	284-000466
1/4	1-1/8	3	1/4	0.045	284-000467	284-000468
1/4	1-1/8	3	1/4	0.060	284-000469	284-000470
1/4	1-1/2	4	1/4	-	284-000124	284-000125
1/4	1-1/2	4	1/4	0.015	284-000481	284-000482
1/4	1-1/2	4	1/4	0.020	284-000483	284-000484
1/4	1-1/2	4	1/4	0.030	284-000485	284-000486
1/4	1-1/2	4	1/4	0.045	284-000487	284-000488
1/4	1-1/2	4	1/4	0.060	284-000489	284-000490
1/4	1-1/2	6	1/4	0.015	284-000491	284-000492
1/4	1-1/2	6	1/4	0.020	284-000493	284-000494
1/4	1-1/2	6	1/4	0.030	284-000495	284-000496
1/4	1-1/2	6	1/4	0.045	284-000497	284-000498
1/4	1-1/2	6	1/4	0.060	284-000499	284-000500
5/16	1/2	2-1/2	5/16	-	284-000148	284-000149
5/16	1/2	2-1/2	5/16	0.015	284-000501	284-000502
5/16	1/2	2-1/2	5/16	0.020	284-000503	284-000504
5/16	1/2	2-1/2	5/16	0.030	284-000505	284-000506
5/16	1/2	2-1/2	5/16	0.045	284-000507	284-000508
5/16	1/2	2-1/2	5/16	0.060	284-000509	284-000510
5/16	1/2	2-1/2	5/16	0.090	284-000511	284-000512
5/16	13/16	2-1/2	5/16	-	284-000150	284-000151
5/16	13/16	2-1/2	5/16	0.015	284-000513	284-000514
5/16	13/16	2-1/2	5/16	0.020	284-000515	284-000516
5/16	13/16	2-1/2	5/16	0.030	284-000517	284-000518
5/16	13/16	2-1/2	5/16	0.045	284-000519	284-000520
5/16	13/16	2-1/2	5/16	0.060	284-000521	284-000522
5/16	13/16	2-1/2	5/16	0.090	284-000523	284-000524
5/16	1-1/8	3	5/16	-	284-000152	284-000153
5/16	1-1/8	3	5/16	0.015	284-000525	284-000526
5/16	1-1/8	3	5/16	0.020	284-000527	284-000528
5/16	1-1/8	3	5/16	0.030	284-000529	284-000530
5/16	1-1/8	3	5/16	0.045	284-000531	284-000532
5/16	1-1/8	3	5/16	0.060	284-000533	284-000534
5/16	1-1/2	6	5/16	0.015	284-000545	284-000546
5/16	1-1/2	6	5/16	0.020	284-000547	284-000548
5/16	1-1/2	6	5/16	0.030	284-000549	284-000550
5/16	1-1/2	6	5/16	0.045	284-000551	284-000552
5/16	1-1/2	6	5/16	0.060	284-000553	284-000554
5/16	1-5/8	4	5/16	-	284-000154	284-000155
5/16	1-5/8	4	5/16	0.015	284-000535	284-000536
5/16	1-5/8	4	5/16	0.020	284-000537	284-000538
5/16	1-5/8	4	5/16	0.030	284-000539	284-000540
5/16	1-5/8	4	5/16	0.045	284-000541	284-000542
5/16	1-5/8	4	5/16	0.060	284-000543	284-000544
3/8	5/8	2-1/2	3/8	-	284-000178	284-000179
3/8	5/8	2-1/2	3/8	0.015	284-000555	284-000556
3/8	5/8	2-1/2	3/8	0.020	284-000557	284-000558
3/8	5/8	2-1/2	3/8	0.030	284-000559	284-000560
3/8	5/8	2-1/2	3/8	0.045	284-000561	284-000562
3/8	5/8	2-1/2	3/8	0.060	284-000563	284-000564
3/8	5/8	2-1/2	3/8	0.090	284-000565	284-000566
3/8	1	2-1/2	3/8	-	284-000180	284-000181
3/8	1	2-1/2	3/8	0.015	284-000567	284-000568
3/8	1	2-1/2	3/8	0.020	284-000569	284-000570
3/8	1	2-1/2	3/8	0.030	284-000571	284-000572
3/8	1	2-1/2	3/8	0.045	284-000573	284-000574
3/8	1	2-1/2	3/8	0.060	284-000575	284-000576
3/8	1	2-1/2	3/8	0.090	284-000577	284-000578
3/8	1	4	3/8	0.015	284-000589	284-000590

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Diameter(D ₁)	LOC(L ₁)	OAL(L)	Shank(D)	Radius(R)	Bright	FX2
3/8	1	4	3/8	0.020	284-000591	284-000592
3/8	1	4	3/8	0.030	284-000593	284-000594
3/8	1	4	3/8	0.045	284-000595	284-000596
3/8	1	4	3/8	0.060	284-000597	284-000598
3/8	1-1/8	3	3/8	-	284-000182	284-000183
3/8	1-1/8	3	3/8	0.015	284-000579	284-000580
3/8	1-1/8	3	3/8	0.020	284-000581	284-000582
3/8	1-1/8	3	3/8	0.030	284-000583	284-000584
3/8	1-1/8	3	3/8	0.045	284-000585	284-000586
3/8	1-1/8	3	3/8	0.060	284-000587	284-000588
3/8	1-1/2	6	3/8	0.015	284-000609	284-000610
3/8	1-1/2	6	3/8	0.020	284-000611	284-000612
3/8	1-1/2	6	3/8	0.030	284-000613	284-000614
3/8	1-1/2	6	3/8	0.045	284-000615	284-000616
3/8	1-1/2	6	3/8	0.060	284-000617	284-000618
3/8	1-3/4	4	3/8	-	284-000184	284-000185
3/8	1-3/4	4	3/8	0.015	284-000599	284-000600
3/8	1-3/4	4	3/8	0.020	284-000601	284-000602
3/8	1-3/4	4	3/8	0.030	284-000603	284-000604
3/8	1-3/4	4	3/8	0.045	284-000605	284-000606
3/8	1-3/4	4	3/8	0.060	284-000607	284-000608
7/16	1	2-3/4	7/16	-	284-000210	284-000211
7/16	1	2-3/4	7/16	0.030	284-000619	284-000620
7/16	1	2-3/4	7/16	0.045	284-000621	284-000622
7/16	1	2-3/4	7/16	0.060	284-000623	284-000624
7/16	1	2-3/4	7/16	0.090	284-000625	284-000626
7/16	1	2-3/4	7/16	0.125	284-000627	284-000628
7/16	2	4	7/16	-	284-000212	284-000213
7/16	3	6	7/16	-	284-000214	284-000215
1/2	5/8	3	1/2	-	284-000238	284-000239
1/2	5/8	3	1/2	0.015	284-000629	284-000630
1/2	5/8	3	1/2	0.020	284-000631	284-000632
1/2	5/8	3	1/2	0.030	284-000633	284-000634
1/2	5/8	3	1/2	0.045	284-000635	284-000636
1/2	5/8	3	1/2	0.060	284-000637	284-000638
1/2	5/8	3	1/2	0.090	284-000639	284-000640
1/2	5/8	3	1/2	0.125	284-000641	284-000642
1/2	1	3	1/2	-	284-000240	284-000241
1/2	1	4	1/2	0.015	284-000657	284-000658
1/2	1	4	1/2	0.020	284-000659	284-000660
1/2	1	4	1/2	0.030	284-000661	284-000662
1/2	1	4	1/2	0.045	284-000663	284-000664
1/2	1	4	1/2	0.060	284-000665	284-000666
1/2	1	4	1/2	0.090	284-000667	284-000668
1/2	1	4	1/2	0.125	284-000669	284-000670
1/2	1-1/4	3	1/2	-	284-000242	284-000243
1/2	1-1/4	3	1/2	0.015	284-000643	284-000644
1/2	1-1/4	3	1/2	0.020	284-000645	284-000646
1/2	1-1/4	3	1/2	0.030	284-000647	284-000648
1/2	1-1/4	3	1/2	0.045	284-000649	284-000650
1/2	1-1/4	3	1/2	0.060	284-000651	284-000652
1/2	1-1/4	3	1/2	0.090	284-000653	284-000654
1/2	1-1/4	3	1/2	0.125	284-000655	284-000656
1/2	1-1/2	4	1/2	-	284-000244	284-000245
1/2	1-1/2	4	1/2	0.015	284-000671	284-000672
1/2	1-1/2	4	1/2	0.020	284-000673	284-000674
1/2	1-1/2	4	1/2	0.030	284-000675	284-000676
1/2	1-1/2	4	1/2	0.045	284-000677	284-000678
1/2	1-1/2	4	1/2	0.060	284-000679	284-000680
1/2	1-1/2	4	1/2	0.090	284-000681	284-000682
1/2	1-1/2	4	1/2	0.125	284-000683	284-000684
1/2	1-1/2	6	1/2	0.015	284-000699	284-000700
1/2	1-1/2	6	1/2	0.020	284-000701	284-000702
1/2	1-1/2	6	1/2	0.030	284-000703	284-000704
1/2	1-1/2	6	1/2	0.045	284-000705	284-000706
1/2	1-1/2	6	1/2	0.060	284-000707	284-000708
1/2	1-1/2	6	1/2	0.090	284-000709	284-000710
1/2	1-1/2	6	1/2	0.125	284-000711	284-000712
1/2	2	4	1/2	-	284-000246	284-000247
1/2	2	4	1/2	0.015	284-000685	284-000686
1/2	2	4	1/2	0.020	284-000687	284-000688
1/2	2	4	1/2	0.030	284-000689	284-000690
1/2	2	4	1/2	0.045	284-000691	284-000692
1/2	2	4	1/2	0.060	284-000693	284-000694
1/2	2	4	1/2	0.090	284-000695	284-000696
1/2	2	4	1/2	0.125	284-000697	284-000698

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Diameter(D ₁)	LOC(L ₁)	OAL(L)	Shank(D)	Radius(R)	Bright	FX2
1/2	3	6	1/2	-	284-000248	284-000249
1/2	3	6	1/2	0.015	284-000713	284-000714
1/2	3	6	1/2	0.020	284-000715	284-000716
1/2	3	6	1/2	0.030	284-000717	284-000718
1/2	3	6	1/2	0.045	284-000719	284-000720
1/2	3	6	1/2	0.060	284-000721	284-000722
1/2	3	6	1/2	0.090	284-000723	284-000724
1/2	3	6	1/2	0.125	284-000725	284-000726
5/8	3/4	3-1/2	5/8	-	284-000268	284-000269
5/8	3/4	3-1/2	5/8	0.015	284-000727	284-000728
5/8	3/4	3-1/2	5/8	0.020	284-000729	284-000730
5/8	3/4	3-1/2	5/8	0.030	284-000731	284-000732
5/8	3/4	3-1/2	5/8	0.045	284-000733	284-000734
5/8	3/4	3-1/2	5/8	0.060	284-000735	284-000736
5/8	3/4	3-1/2	5/8	0.090	284-000737	284-000738
5/8	3/4	3-1/2	5/8	0.125	284-000739	284-000740
5/8	1-1/4	3-1/2	5/8	-	284-000270	284-000271
5/8	1-1/4	3-1/2	5/8	0.015	284-000741	284-000742
5/8	1-1/4	3-1/2	5/8	0.020	284-000743	284-000744
5/8	1-1/4	3-1/2	5/8	0.030	284-000745	284-000746
5/8	1-1/4	3-1/2	5/8	0.045	284-000747	284-000748
5/8	1-1/4	3-1/2	5/8	0.060	284-000749	284-000750
5/8	1-1/4	3-1/2	5/8	0.090	284-000751	284-000752
5/8	1-1/4	3-1/2	5/8	0.125	284-000753	284-000754
5/8	1-1/2	6	5/8	0.030	284-000765	284-000766
5/8	1-1/2	6	5/8	0.045	284-000767	284-000768
5/8	1-1/2	6	5/8	0.060	284-000769	284-000770
5/8	1-1/2	6	5/8	0.090	284-000771	284-000772
5/8	1-1/2	6	5/8	0.125	284-000773	284-000774
5/8	2-1/4	5	5/8	-	284-000272	284-000273
5/8	2-1/4	5	5/8	0.030	284-000755	284-000756
5/8	2-1/4	5	5/8	0.045	284-000757	284-000758
5/8	2-1/4	5	5/8	0.060	284-000759	284-000760
5/8	2-1/4	5	5/8	0.090	284-000761	284-000762
5/8	2-1/4	5	5/8	0.125	284-000763	284-000764
5/8	3	6	5/8	-	284-000274	284-000275
5/8	3	6	5/8	0.030	284-000775	284-000776
5/8	3	6	5/8	0.045	284-000777	284-000778
5/8	3	6	5/8	0.060	284-000779	284-000780
5/8	3	6	5/8	0.090	284-000781	284-000782
5/8	3	6	5/8	0.125	284-000783	284-000784
3/4	1	4	3/4	-	284-000298	284-000299
3/4	1	4	3/4	0.030	284-000785	284-000786
3/4	1	4	3/4	0.045	284-000787	284-000788
3/4	1	4	3/4	0.060	284-000789	284-000790
3/4	1	4	3/4	0.090	284-000791	284-000792
3/4	1	4	3/4	0.125	284-000793	284-000794
3/4	1	4	3/4	0.190	284-000795	284-000796
3/4	1	4	3/4	0.250	284-000797	284-000798
3/4	1-1/2	4	3/4	-	284-000300	284-000301
3/4	1-1/2	4	3/4	0.030	284-000799	284-000800
3/4	1-1/2	4	3/4	0.045	284-000801	284-000802
3/4	1-1/2	4	3/4	0.060	284-000803	284-000804
3/4	1-1/2	4	3/4	0.090	284-000805	284-000806
3/4	1-1/2	4	3/4	0.125	284-000807	284-000808
3/4	1-1/2	4	3/4	0.190	284-000809	284-000810
3/4	1-1/2	4	3/4	0.250	284-000811	284-000812
3/4	1-1/2	6	3/4	0.030	284-000825	284-000826
3/4	1-1/2	6	3/4	0.045	284-000827	284-000828
3/4	1-1/2	6	3/4	0.060	284-000829	284-000830
3/4	1-1/2	6	3/4	0.090	284-000831	284-000832
3/4	1-1/2	6	3/4	0.125	284-000833	284-000834
3/4	1-1/2	6	3/4	0.250	284-000835	284-000836
3/4	2-1/4	5	3/4	-	284-000302	284-000303
3/4	2-1/4	5	3/4	0.030	284-000813	284-000814
3/4	2-1/4	5	3/4	0.045	284-000815	284-000816
3/4	2-1/4	5	3/4	0.060	284-000817	284-000818
3/4	2-1/4	5	3/4	0.090	284-000819	284-000820
3/4	2-1/4	5	3/4	0.125	284-000821	284-000822
3/4	2-1/4	5	3/4	0.250	284-000823	284-000824
3/4	3	6	3/4	-	284-000304	284-000305
3/4	3	6	3/4	0.030	284-000837	284-000838
3/4	3	6	3/4	0.045	284-000839	284-000840
3/4	3	6	3/4	0.060	284-000841	284-000842
3/4	3	6	3/4	0.090	284-000843	284-000844
3/4	3	6	3/4	0.125	284-000845	284-000846

*bold numbers are EDPs for ordering

ADVANCED PERFORMANCE

Variable Helix End Mill For Carbon And Alloy Steels



Series 1130 Fusion | 4FL | Multi Length | Square and Radius

Diameter(D ₁)	LOC(L ₁)	OAL(L)	Shank(D)	Radius(R)	Bright	FX2
3/4	3	6	3/4	0.250	284-000847	284-000848
3/4	4	7	3/4	-	284-000306	284-000307
3/4	4	7	3/4	0.030	284-000849	284-000850
3/4	4	7	3/4	0.045	284-000851	284-000852
3/4	4	7	3/4	0.060	284-000853	284-000854
3/4	4	7	3/4	0.090	284-000855	284-000856
3/4	4	7	3/4	0.125	284-000857	284-000858
3/4	4	7	3/4	0.250	284-000859	284-000860
1	1-1/2	4	1	-	284-000330	284-000331
1	1-1/2	4	1	0.030	284-000861	284-000862
1	1-1/2	4	1	0.045	284-000863	284-000864
1	1-1/2	4	1	0.060	284-000865	284-000866
1	1-1/2	4	1	0.090	284-000867	284-000868
1	1-1/2	4	1	0.125	284-000869	284-000870
1	1-1/2	4	1	0.190	284-000871	284-000872
1	1-1/2	4	1	0.250	284-000873	284-000874
1	1-1/2	6	1	0.030	284-000887	284-000888
1	1-1/2	6	1	0.045	284-000889	284-000890
1	1-1/2	6	1	0.060	284-000891	284-000892
1	1-1/2	6	1	0.090	284-000893	284-000894
1	1-1/2	6	1	0.125	284-000895	284-000896
1	1-1/2	6	1	0.250	284-000897	284-000898
1	2-1/4	5	1	-	284-000332	284-000333
1	2-1/4	5	1	0.030	284-000875	284-000876
1	2-1/4	5	1	0.045	284-000877	284-000878
1	2-1/4	5	1	0.060	284-000879	284-000880
1	2-1/4	5	1	0.090	284-000881	284-000882
1	2-1/4	5	1	0.125	284-000883	284-000884
1	2-1/4	5	1	0.250	284-000885	284-000886
1	3	6	1	-	284-000334	284-000335
1	3	6	1	0.030	284-000899	284-000900
1	3	6	1	0.045	284-000901	284-000902
1	3	6	1	0.060	284-000903	284-000904
1	3	6	1	0.090	284-000905	284-000906
1	3	6	1	0.125	284-000907	284-000908
1	3	6	1	0.250	284-000909	284-000910
1	4	7	1	-	284-000336	284-000337
1	4	7	1	0.030	284-000911	284-000912
1	4	7	1	0.045	284-000913	284-000914
1	4	7	1	0.060	284-000915	284-000916
1	4	7	1	0.090	284-000917	284-000918
1	4	7	1	0.125	284-000919	284-000920
1	4	7	1	0.250	284-000921	284-000922

*bold numbers are EDPs for ordering

INTRO

MILLING

SPECIALTY

HOLEMAKING

THREADING

INSERTS

Series 1130

Fusion | 4FL | Square

Profiling				SFM based on RDOC					IPT *(BASELINE)								
				Cutting Diameter Engaged					Cutting Diameter								
Material			Hardness	5%	10%	20%	30%	50%	*1/8	*3/16	*1/4	5/16	3/8	1/2	5/8	3/4	1
P	Steel	Free Machining & Low Carbon: 10XX, 11XX, 12XX, A36	≤ 28 Rc	1050	700	385	375	350	0.00065	0.00097	0.00120	0.032	0.0038	0.0054	0.0065	0.0076	0.0108
	Steel	Medium/High Carbon Steels, Alloy Steels: 13XX, 41XX, 43XX, 86XX	28-38 Rc	630	420	320	250	210	0.00065	0.00097	0.00120	0.0032	0.0038	0.0054	0.0065	0.0076	0.0108
	Die Steels	A2, H13, L6, P20, S7	28-44 Rc	525	350	300	275	250	0.00065	0.00097	0.00120	0.0032	0.0038	0.0054	0.0065	0.0076	0.0108
M	Stainless Steels	Ferritic	≤ 28 Rc	650	600	550	500	450	0.00065	0.00097	0.00120	0.0032	0.0038	0.0054	0.0065	0.0076	0.0108
	Stainless Steels	Martensitic	≤ 28 Rc	525	400	350	300	250	0.00065	0.00097	0.00120	0.0032	0.0038	0.0054	0.0065	0.0076	0.0108
	Stainless Steels	Difficult to Machine, 302B, 304B, 309, 310, 316, 316Ti, PH13-8Mo	> 28 Rc	525	400	350	300	250	0.00065	0.00097	0.00120	0.0032	0.0038	0.0054	0.0065	0.0076	0.0108
S	Super Alloys	High Temp, Nimonic, Inconel, Monel, Hastelloy	≤ 42 Rc	265	200	175	150	100	0.00048	0.00065	0.00096	0.0017	0.0019	0.0028	0.0032	0.0038	0.0054
	Super Alloys	Titanium: Ti 3Al-2.5V, Ti 6Al-4V Ti 10V-2Fe-3Al	≤ 42 Rc	230	200	175	150	125	0.00048	0.00065	0.00096	0.0017	0.0019	0.0028	0.0032	0.0038	0.0054
H	Hardened Steels	Tool Steel, Die Steel: S7, H13, A2	45-55 Rc	250	240	230	210	200	0.00360	0.00432	0.00504	0.0022	0.0025	0.0036	0.0043	0.0050	0.0072
K	Cast-Iron	Gray: SAE J431, ASTM A48	≤ 240 HB	425	400	375	350	300	0.00065	0.00097	0.00120	0.0032	0.0038	0.0054	0.0065	0.0076	0.0108
	Cast-Iron	Ductile & Malleable, ASTM A536, ASTM 897, ASTM A47, ASTM A220 ASTM A602	> 240 HB	320	300	250	225	200	0.00065	0.00097	0.00120	0.0032	0.0038	0.0054	0.0065	0.0076	0.0108
N	Non-Ferrous	Aluminum, Brass, Bronze, Copper, Plastics, Graphite	-	1000	960	920	880	840	0.00048	0.00065	0.00096	0.0032	0.0038	0.0054	0.0065	0.0076	0.0108

Slotting				SFM			IPT *(BASELINE)										
				Cutting Diameter Engaged			Cutting Diameter										
Material			Hardness	25%	50%	100%	*1/8	*3/16	*1/4	5/16	3/8	1/2	5/8	3/4	1		
P	Steel	Free Machining & Low Carbon: 10XX, 11XX, 12XX, A36	≤ 28 Rc	462	444	420	0.00060	0.00084	0.00120	0.0019	0.0023	0.0037	0.00046	0.0046	0.0060		
	Steel	Medium/High Carbon Steels, Alloy Steels: 13XX, 41XX, 43XX, 86XX	28-38 Rc	294	276	2652	0.00048	0.00084	0.00108	0.0019	0.0023	0.0030	0.0037	0.0046	0.0060		
	Die Steels	A2, H13, L6, P20, S7	28-44 Rc	252	234	210	0.00048	0.00072	0.00096	0.0019	0.0023	0.0030	0.0037	0.0046	0.0060		
M	Stainless Steels	Ferritic	≤ 28 Rc	462	444	420	0.00060	0.00084	0.00120	0.0019	0.0023	0.0030	0.0037	0.0046	0.0060		
	Stainless Steels	Martensitic	≤ 28 Rc	294	252	210	0.00048	0.00084	0.00120	0.0019	0.0023	0.0030	0.0037	0.0046	0.0060		
	Stainless Steels	Difficult to Machine, 302B, 304B, 309, 310, 316, 316B, 316L, 316Ti, 317, 317L, 321, PH13-8Mo, Nitronics	> 28 Rc	252	234	210	0.00036	0.00048	0.00060	0.0019	0.0023	0.0030	0.0037	0.0046	0.0060		
S	Super Alloys	High Temp, Nimonic, Inconel, Monel, Hastelloy	≤ 42 Rc	150	126	108	0.00036	0.00048	0.00060	0.0010	0.0012	0.0016	0.0019	0.0020	0.0031		
	Super Alloys	Titanium: Ti 3Al-2.5V, Ti 6Al-4V Ti 10V-2Fe-3Al	≤ 42 Rc	120	108	96	0.00036	0.00048	0.00060	0.0010	0.0012	0.0016	0.0019	0.0020	0.0031		
H	Hardened Steels	Tool Steel, Die Steel: S7, H13, A2	34-45 Rc	294	276	252	0.00024	0.00036	0.00048	0.0019	0.0023	0.0030	0.0037	0.0046	0.0060		
K	Cast Iron	Gray: SAE J431, ASTM A48	≤ 240 HB	540	480	420	0.00060	0.00084	0.00120	0.0019	0.0023	0.0030	0.0037	0.0046	0.0060		
	Cast Iron	Ductile & Malleable, ASTM A536, ASTM 897, ASTM A47, ASTM A220	> 240 HB	360	300	270	0.0048	0.00084	0.00108	0.0019	0.0023	0.0030	0.0037	0.0046	0.0060		
N	Non-Ferrous	Aluminum, Brass, Bronze, Copper, Plastics, Graphite	-	900	720	540	0.00132	0.00204	0.00264	0.0019	0.0023	0.0030	0.0037	0.0046	0.0060		