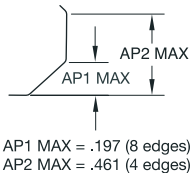
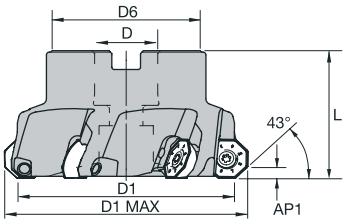
Step 1: Choose the Milling Cutter

NEW!

- .197" depth-of-cut capability.
- Available in diameters of 2.5" to 6".
- Through-coolant standard.
- Three geometries and six grades for use in most workpiece materials.
- Eight cutting edges.



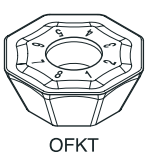


Shell Mills — Medium Pitch

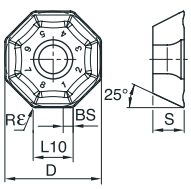
D1	order number	catalog number	Z	D	D1 max	D6	L	Ap1 max	Max Ramp Angle	lbs.	Max RPM
2.500	3093645	KSOM250OF6445M3	4	.750	2.945	1.986	1.750	.197	5.5°	1.47	10100
3.000	3093646	KSOM300OF6445M4	4	1.000	3.441	2.031	1.750	.197	4.2°	1.83	7900
4.000	3093647	KSOM400OF6445M5	5	1.250	4.436	2.722	1.750	.197	2.9°	2.69	6300
5.000	3093648	KSOM500OF6445M6	6	1.500	5.433	3.652	2.380	.197	2.2°	5.54	5000
6.000	3093649	KSOM600OF6445M8	7	2.000	6.431	4.722	2.380	.197	1.8°	8.51	3900

Step 2: Choose the Insert

1) Choose the insert style
2) Find the (hm) value in the chart. This will help you in defining the feed rate per tooth.
3) Determine the workpiece material. See pages 508-513 of this catalog for material descriptions.
4) Determine the insert grade. The black dot in the material grid indicates first-choice grades for machining those materials.



OFKT



● first choice
○ alternate choice

	KC410M	KC520M	KC522M	KC725M	KC915M	KC935M
H			●			
S			●	●		
N	●		○			
K		●	○		●	○
M			●	●		○
P			○	●		●

catalog number	cutting edges	D	S	L10	BS	Rε	hm	KC410M	KC520M	KC522M	KC725M	KC915M	KC935M
OFKT64AFEN6GB	8	.736	.236	.295	—	.047	.004		●	●	●	●	●
OFKT64AFEN6LB	8	.736	.236	.295	.083	.047	.004		●	●	●	●	●
OFKT64AFFN6LNJ	8	.736	.236	.295	—	.047	.004	●					
OFKT64AFSN6HB	8	.736	.236	.295	—	.047	.004		●	●	●	●	●
OFKT64AFSN6LB	8	.736	.236	.295	.083	.047	.004		●	●	●	●	●
OFPT64AFEN6GB	8	.736	.236	.295	—	.047	.003		●	●	●	●	●
OFPT64AFSN6HB	8	.736	.236	.295	—	.047	.005		●	●	●	●	●

Step 3: Determine the Cutting Speed

1) Choose the material group.

2) Choose the grade.

3) To determine the sfm for the chosen grade, go to the bold-type center column for that grade. These are first-choice recommended starting speeds.

4) Move down the bold-type column until you reach the value that is directly in line with the appropriate material in the first column on the left. The bold-type value that corresponds to the material on the left is your starting sfm value.

Recommended Starting Speeds

43° / 45° approach angle

Material Group	KC410M			KC520M			KC522M			KC725M			KC915M			KC935M		
P1										1030	**900**	840				1550	**1360**	1260
P2										640	**580**	520				960	**860**	780
P3										580	**520**	470				860	**780**	710
P4							380	**360**	320	430	**400**	360				650	**600**	540
P5							530	**480**	430	590	**530**	480				890	**790**	720
P6							320	**280**		360	**310**					540	**470**	
M1							600	**530**	490	670	**590**	540				1010	**890**	820
M2							550	**490**	460	610	**550**	500				920	**830**	760
M3							410	**370**		460	**410**					680	**610**	
K1				1060	**960**	850				650	**590**	530	1440	**1310**	1160	1010	**910**	820
K2				830	**740**	700	800	**720**	660	520	**460**	430	1140	**1020**	950	800	**720**	660
K3				700	**620**	560	670	**600**	550	430	**380**	350	960	**850**	780	670	**600**	550
N1	4790	**4260**	3920															
N2																		
S1							130	**110**		140	**120**							
S2							110	**110**		120	**120**							
S3							140	**140**		160	**160**							
S4							180	**170**		200	**180**							
H1							270	**170**										

FIRST choice starting speeds are in bold type.
As the average chip thickness goes lighter the speed should be decreased.

Step 4: Determine the Feed Rate

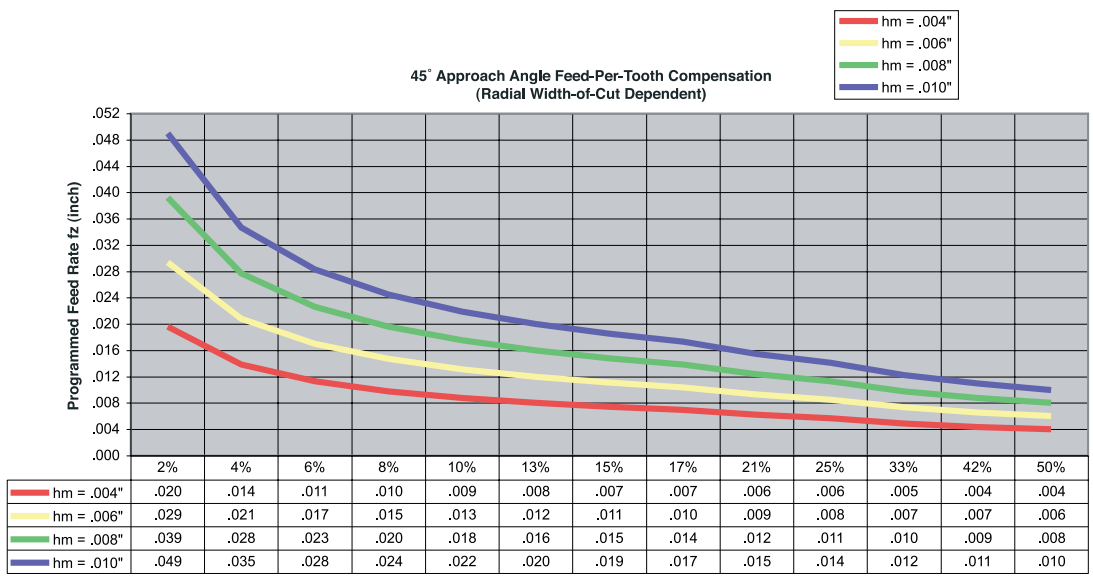
1) Choose the shaded (hm) value in the feed chart that matches the (hm) value in the insert chart you selected in Step 1.

2) Define the radial width of cut as a percentage. To determine this, divide the radial with by the cutter diameter to achieve the percentage.

Example for full-width cutting or slotting:

Example for side or profile milling:

Recommended Starting Feeds



	2%	4%	6%	8%	10%	13%	15%	17%	21%	25%	33%	42%	50%
hm = .004"	.020	.014	.011	.010	.009	.008	.007	.007	.006	.006	.005	.004	.004
hm = .006"	.029	.021	.017	.015	.013	.012	.011	.010	.009	.008	.007	.007	.006
hm = .008"	.039	.028	.023	.020	.018	.016	.015	.014	.012	.011	.010	.009	.008
hm = .010"	.049	.035	.028	.024	.022	.020	.019	.017	.015	.014	.012	.011	.010

Percentage of the Cutter Diameter in Cut