

■ HARVI II • UCDE • Unequal Flute Spacing

Material Group															
	Side Milling (A) and Slotting (B)			KC643M		KCPM15		Recommended feed per tooth (IPT = inch/th) for side milling (A). For slotting (B), reduce IPT by 20%.							
	A		B	Cutting Speed – vc SFM				D1 – Diameter							
	ap	ae	ap	min	max	min	max	frac.	1/4	3/8	1/2	5/8	3/4	1	
P	0	1.5 x D	0.5 x D	1 x D	490	660	490	660	IPT	.0018	.0027	.0034	.0039	.0044	.0049
	1	1.5 x D	0.5 x D	1 x D	490	660	490	660	IPT	.0018	.0027	.0034	.0039	.0044	.0049
	2	1.5 x D	0.5 x D	1 x D	460	620	460	620	IPT	.0018	.0027	.0034	.0039	.0044	.0049
	3	1.5 x D	0.5 x D	1 x D	390	520	390	520	IPT	.0015	.0023	.0029	.0034	.0039	.0045
	4	1.5 x D	0.5 x D	0.75 x D	300	490	300	490	IPT	.0014	.0020	.0026	.0030	.0034	.0039
	5	1.5 x D	0.5 x D	1 x D	200	330	200	330	IPT	.0012	.0018	.0023	.0027	.0031	.0036
M	1	1.5 x D	0.5 x D	1 x D	300	380	300	380	IPT	.0015	.0023	.0029	.0034	.0039	.0045
	2	1.5 x D	0.5 x D	1 x D	200	260	200	260	IPT	.0012	.0018	.0023	.0027	.0031	.0036
	3	1.5 x D	0.5 x D	1 x D	200	230	200	230	IPT	.0010	.0015	.0019	.0022	.0025	.0028
K	1	1.5 x D	0.5 x D	1 x D	390	490	390	490	IPT	.0018	.0027	.0034	.0039	.0044	.0049
	2	1.5 x D	0.5 x D	1 x D	360	460	360	460	IPT	.0015	.0023	.0029	.0034	.0039	.0045
	3	1.5 x D	0.5 x D	1 x D	360	430	360	430	IPT	.0012	.0018	.0023	.0027	.0031	.0036
S	1	1.5 x D	0.3 x D	0.3 x D	160	300	-	-	IPT	.0015	.0023	.0029	.0034	.0039	.0045
	2	1.5 x D	0.3 x D	0.3 x D	80	130	-	-	IPT	.0008	.0012	.0015	.0018	.0021	.0024
	3	1.5 x D	0.3 x D	0.3 x D	80	130	-	-	IPT	.0008	.0012	.0015	.0018	.0021	.0024
	4	1.5 x D	0.5 x D	1 x D	160	200	-	-	IPT	.0011	.0017	.0021	.0025	.0028	.0033
H	1	1.5 x D	0.5 x D	0.75 x D	260	460	260	460	IPT	.0014	.0020	.0026	.0030	.0034	.0039

NOTE: These guidelines may require variations to achieve optimum results.  
 Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.  
 Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.  
 Above parameters are based on ideal conditions. For smaller taper machining centers, please adjust parameters accordingly on >1/2" diameter.

High-Performance Solid Carbide End Mills

**■ HARVI II • UCDE • Unequal Flute Spacing • With Neck**

Material Group															
	Side Milling (A) and Slotting (B)			KC643M		KCPM15		Recommended feed per tooth (IPT = inch/th) for side milling (A). For slotting (B), reduce IPT by 20%.							
	A		B	Cutting Speed – vc SFM				D1 – Diameter							
	ap	ae	ap	min	max	max	max	frac.	1/4	3/8	1/2	5/8	3/4	1	
								dec.	.2500	.3750	.5000	.6250	.7500	1.0000	
P	0	0.75 x D	0.5 x D	0.75 x D	490	660	490	660	IPT	.0018	.0027	.0034	.0039	.0044	.0049
	1	0.75 x D	0.5 x D	0.75 x D	490	660	490	660	IPT	.0018	.0027	.0034	.0039	.0044	.0049
	2	0.75 x D	0.5 x D	0.75 x D	460	620	460	620	IPT	.0018	.0027	.0034	.0039	.0044	.0049
	3	0.75 x D	0.5 x D	0.75 x D	390	520	390	520	IPT	.0015	.0023	.0029	.0034	.0039	.0045
	4	0.75 x D	0.5 x D	0.5 x D	300	490	300	490	IPT	.0014	.0020	.0026	.0030	.0034	.0039
	5	0.75 x D	0.5 x D	0.75 x D	200	330	200	330	IPT	.0012	.0018	.0023	.0027	.0031	.0036
M	6	0.75 x D	0.5 x D	0.5 x D	160	250	160	250	IPT	.0010	.0015	.0019	.0022	.0025	.0028
	1	0.75 x D	0.5 x D	0.75 x D	300	380	300	380	IPT	.0015	.0023	.0029	.0034	.0039	.0045
	2	0.75 x D	0.5 x D	0.75 x D	200	260	200	260	IPT	.0012	.0018	.0023	.0027	.0031	.0036
K	3	0.75 x D	0.5 x D	0.75 x D	200	230	200	230	IPT	.0010	.0015	.0019	.0022	.0025	.0028
	1	0.75 x D	0.5 x D	0.75 x D	390	490	390	490	IPT	.0018	.0027	.0034	.0039	.0044	.0049
	2	0.75 x D	0.5 x D	0.75 x D	360	460	360	460	IPT	.0015	.0023	.0029	.0034	.0039	.0045
S	3	0.75 x D	0.5 x D	0.75 x D	360	430	360	430	IPT	.0012	.0018	.0023	.0027	.0031	.0036
	1	0.75 x D	0.3 x D	0.3 x D	160	300	–	–	IPT	.0015	.0023	.0029	.0034	.0039	.0045
	2	0.75 x D	0.3 x D	0.3 x D	80	130	–	–	IPT	.0008	.0012	.0015	.0018	.0021	.0024
	3	0.75 x D	0.3 x D	0.3 x D	80	130	–	–	IPT	.0008	.0012	.0015	.0018	.0021	.0024
H	4	0.75 x D	0.5 x D	0.75 x D	160	200	–	–	IPT	.0011	.0017	.0021	.0025	.0028	.0033
	1	0.75 x D	0.5 x D	0.5 x D	260	460	260	460	IPT	.0014	.0020	.0026	.0030	.0034	.0039

NOTE: Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.  
Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.  
Above parameters are based on ideal conditions. For smaller taper machining centers, please adjust parameters accordingly on >1/2" diameter.  
Side milling applications — for longest reach (L3) tools, reduce ae by 30%.  
Slot milling applications — for longest reach (L3) tools, reduce ap by 30%.

**■ HARVI II • UDDE • Unequal Flute Spacing**

Material Group															
	Side Milling (A) and Slotting (B)			KC643M		Recommended feed per tooth (IPT = inch/th) for side milling (A). For slotting (B), reduce IPT by 20%.									
	A		B	Cutting Speed – vc SFM				D1 – Diameter							
	ap	ae	ap	min	max	max	max	frac.	1/2	5/8	3/4	1			
								dec.	.500	.625	.750	1.000			
P	5	1.25 x D	0.5 x D	1 x D	200	325	–	–	IPT	.0023	.0027	.0030	.0036		
	6	1.25 x D	0.5 x D	0.75 x D	150	225	–	–	IPT	.0019	.0022	.0024	.0028		
S	2	1.0 x D	0.3 x D	0.3 x D	70	130	–	–	IPT	.0016	.0018	.0020	.0025		
	3	1.25 x D	0.5 x D	1 x D	160	260	–	–	IPT	.0023	.0027	.0030	.0036		
	4	1.25 x D	0.5 x D	1 x D	150	210	–	–	IPT	.0022	.0025	.0028	.0033		

NOTE: These guidelines may require variations to achieve optimum results.  
Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.  
Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.  
Above parameters are based on ideal conditions. For smaller taper machining centers, please adjust parameters accordingly on >1/2" diameter.