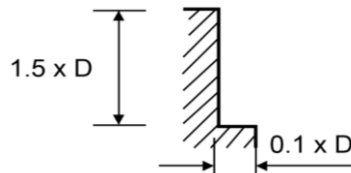


4 Flute Coated - Profiling - (VOR45-S4 / VOR45-EML/ VOR45-C4 / VOR45-CREM / TX304 / ZA504 / TX304H / TX224 / ZE324)



MATERIAL GROUP	HRc		Diameter (mm)											
			2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0	14.0	16.0	20.0	
P	<30	Vc (m/min)	40	40	40	40	40	40	40	40	40	40	40	40
		n	6360	4240	3180	2544	2120	1590	1272	1060	908.6	795	636	
		fz	0.011	0.019	0.025	0.031	0.037	0.05	0.063	0.075	0.085	0.108	0.136	
		f (mm/min)	280	322	318	315	314	318	321	318	309	343	346	
	30-45	Vc (m/min)	35	35	35	35	35	35	35	35	35	35	35	35
		n	5565	3710	2783	2226	1855	1391	1113	928	795	696	557	
		fz	0.01	0.017	0.022	0.028	0.034	0.045	0.056	0.068	0.078	0.111	0.138	
		f (mm/min)	223	252	245	249	252	250	249	252	248	309	307	
M	Vc (m/min)	70	70	70	70	70	70	70	70	70	70	70	70	
	n	11130	7420	5565	4452	3710	2783	2226	1855	1590	1391	1113		
	fz	0.006	0.009	0.013	0.016	0.019	0.025	0.031	0.038	0.045	0.056	0.075		
	f (mm/min)	267	267	289	285	282	278	276	282	286	312	334		
K	Vc (m/min)	55	55	55	55	55	55	55	55	55	55	55	55	
	n	8745	5830	4373	3498	2915	2186	1749	1458	1249	1093	875		
	fz	0.017	0.027	0.035	0.045	0.064	0.089	0.115	0.157	0.184	0.212	0.281		
	f (mm/min)	595	630	612	630	746	778	805	915	919	927	983		
N		Vc (m/min)	105	105	105	105	105	105	105	105	105	105	105	
		n	16695	11130	8348	6678	5565	4174	3339	2783	2385	2087	1670	
		fz	0.015	0.023	0.03	0.036	0.049	0.065	0.081	0.097	0.114	0.13	0.162	
		f (mm/min)	1002	1024	1002	959	1091	1085	1082	1080	1088	1085	1082	
	Si >10%	Vc (m/min)	140	145	140	140	140	140	140	135	140	140	140	
		n	22260	15370	11130	8904	7420	5565	4452	3578	3180	2783	2226	
		fz	0.015	0.012	0.03	0.038	0.048	0.064	0.08	0.098	0.111	0.128	0.16	
		f (mm/min)	1336	750	1336	1353	1425	1425	1425	1402	1412	1425	1425	
S	Vc (m/min)	70	70	70	70	70	70	70	70	70	70	70	70	
	n	11130	7420	5565	4452	3710	2783	2226	1855	1590	1391	1113		
	fz	0.006	0.009	0.013	0.016	0.019	0.025	0.031	0.038	0.045	0.056	0.075		
	f (mm/min)	267	267	289	285	282	278	276	282	286	312	334		



P - Steel	M - Stainless Steel	K - Cast Iron	N - Non-ferrous metals and aluminium	S - Superalloys & titanium
------------------	----------------------------	----------------------	---	---------------------------------------

The feed rate for long and long reach tools should be reduced by up to 50%

To calculate RPM from cutting speed: $n = \frac{v_c \cdot 1000}{\pi \cdot \phi}$

Key	
Vc	Cutting speed (m/min)
n	RPM (rev/min)
Fz	Feed rate (mm/tooth)
f	Feed rate (mm/rev)
z	No. of teeth

To calculate cutting speed from RPM: $v_c = \frac{n \cdot \pi \cdot \phi}{1000}$

All recommendations are based on ideal machining conditions. Adjustments may need to be made according to your set up. The recommendations for speeds, feeds and other parameters presented in this chart are nominal recommendations and should be considered only as good starting points.