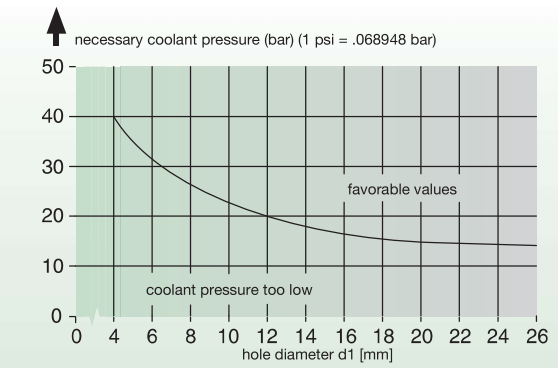


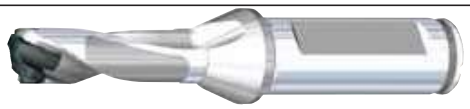
Coolant Pressure

The diagram at left shows the coolant pressure as a function of the hole diameter. The higher the coolant pressure, the better the drilling result. Tool life and hole quality improve with increased coolant flow.

Drilling on Inclined Surfaces

When drilling on inclined or curved surfaces, use a 50% lower feed than the standard value. After the drill margins are fully engaged in the workpiece, increase the feed to the standard value (100%). Premachining is required on surfaces with inclination greater than 3°.

TOP DRILL M1 • UP(M) • WU25PD™ • Speed and Feed Chart • Metric



Material Group		Cutting Speed — vc Range — m/min			Recommended Feed Rate							
		min	Starting Value	max	Tool Diameter (mm)	8,0	10,0	12,0	14,0	16,0	20,0	25,0
P	1	90	**125**	170	mm/r	0,11–0,20	0,13–0,25	0,14–0,31	0,17–0,39	0,19–0,45	0,25–0,48	0,30–0,52
	2	105	**140**	180	mm/r	0,11–0,28	0,12–0,35	0,16–0,37	0,21–0,46	0,23–0,46	0,28–0,50	0,30–0,52
	3	50	**75**	100	mm/r	0,11–0,28	0,12–0,35	0,16–0,37	0,21–0,46	0,23–0,46	0,28–0,50	0,30–0,52
	4	50	**75**	100	mm/r	0,11–0,28	0,12–0,35	0,16–0,37	0,17–0,36	0,19–0,45	0,22–0,48	0,25–0,50
	5	50	**65**	80	mm/r	0,10–0,20	0,10–0,23	0,10–0,25	0,14–0,29	0,16–0,32	0,18–0,36	0,22–0,42
	6	50	**65**	80	mm/r	0,10–0,20	0,10–0,23	0,10–0,25	0,14–0,29	0,16–0,32	0,18–0,36	0,22–0,42
M	1	40	**80**	110	mm/r	0,06–0,22	0,08–0,23	0,09–0,24	0,10–0,25	0,11–0,26	0,13–0,28	0,13–0,32
	2	35	**55**	75	mm/r	0,06–0,22	0,08–0,23	0,09–0,24	0,10–0,25	0,11–0,26	0,13–0,28	0,13–0,32
	3	20	**35**	50	mm/r	0,06–0,22	0,08–0,23	0,09–0,24	0,10–0,25	0,11–0,26	0,13–0,28	0,13–0,32
K	1	60	**95**	170	mm/r	0,15–0,29	0,16–0,32	0,17–0,35	0,21–0,42	0,25–0,48	0,28–0,52	0,32–0,56
	2	60	**75**	90	mm/r	0,15–0,29	0,16–0,30	0,17–0,33	0,21–0,41	0,25–0,48	0,28–0,52	0,32–0,56
	3	40	**65**	90	mm/r	0,16–0,30	0,17–0,33	0,18–0,36	0,20–0,41	0,21–0,44	0,23–0,48	0,25–0,50

NOTE: Through coolant recommended for greater than 3 x D applications.

TOP DRILL M1 • UP(M) • WU25PD • Speed and Feed Chart • Inch

Material Group		Cutting Speed — vc Range — SFM			Recommended Feed Rate							
		min	Starting Value	max	Tool Diameter (inch)	.315	.394	.472	.551	.630	.787	1.000
P	1	262	**410**	558	IPR	.004–.008	.005–.010	.006–.012	.007–.015	.007–.018	.010–.019	.012–.020
	2	345	**459**	591	IPR	.004–.011	.005–.014	.006–.015	.008–.018	.009–.018	.011–.020	.012–.020
	3	164	**246**	328	IPR	.004–.011	.005–.014	.006–.015	.008–.018	.009–.018	.011–.020	.012–.020
	4	164	**246**	328	IPR	.004–.011	.005–.014	.006–.015	.007–.018	.007–.018	.009–.019	.010–.020
	5	160	**210**	260	IPR	.004–.008	.004–.009	.004–.010	.006–0.11	.006–.013	.007–.014	.009–.017
	6	160	**210**	260	IPR	.004–.008	.004–.009	.004–.010	.006–0.11	.006–.013	.007–.014	.009–.017
M	1	130	**260**	360	IPR	.002–.009	.003–.009	.004–.010	.004–.010	.004–.010	.005–.012	.006–.013
	2	110	**180**	250	IPR	.002–.009	.003–.009	.004–.010	.004–.010	.004–.010	.005–.012	.006–.013
	3	70	**110**	160	IPR	.002–.009	.003–.009	.004–.010	.004–.010	.004–.010	.005–.012	.006–.013
K	1	197	**312**	558	IPR	.006–.011	.006–.013	.007–.014	.008–.017	.010–.019	.011–.020	.013–.022
	2	197	**246**	295	IPR	.006–.011	.006–.012	.007–.013	.008–.016	.010–.019	.011–.020	.013–.022
	3	131	**213**	295	IPR	.006–.012	.007–.013	.007–.014	.008–.016	.008–.017	.009–.019	.010–.020

NOTE: Through coolant recommended for greater than 3 x D applications.