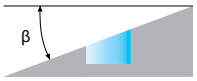
List 5705 - A Brand ADFLS: 2D

General Drilling Operations

Work Material		Carbon Steels, Mild Steels 1010, 1050, 12L14		Alloy Steels 4140, 4130		Stainless Steels 300SS, 400SS, 17-4PH		Cast Iron		Ductile Cast Iron		Aluminum Alloy 5052,7075	
Hardness				28-35 HRC									
Drilling Speed		200-330 SFM		100-300 SFM		65-140 SFM		200-400 SFM		165-260 SFM		265-650 SFM	
Drill Dia.		Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR
mm	Inch												
2	-	12,850	0.0012 - 0.002	9,700	0.0012 - 0.002	4,980	0.0012 - 0.002	14,550	0.0016 - 0.002	10,310	0.0016 - 0.002	22,200	0.0004 - 0.002
3	-	8,570	0.002 - 0.003	6,470	0.002 - 0.003	3,320	0.002 - 0.003	9,700	0.002 - 0.004	6,870	0.002 - 0.004	14,800	0.001 - 0.004
-	1/8	8,100	0.002 - 0.003	6,110	0.002 - 0.003	3,140	0.002 - 0.003	9,170	0.002 - 0.004	6,500	0.002 - 0.004	13,980	0.001 - 0.004
4	-	6,430	0.002 - 0.004	4,850	0.002 - 0.004	2,890	0.002 - 0.004	7,280	0.003 - 0.005	5,150	0.003 - 0.005	11,100	0.001 - 0.005
-	3/16	5,400	0.002 - 0.004	4,070	0.002 - 0.004	2,090	0.002 - 0.004	6,110	0.003 - 0.005	4,330	0.003 - 0.005	9,320	0.001 - 0.005
6	-	4,280	0.004 - 0.006	3,230	0.004 - 0.006	1,660	0.004 - 0.006	4,850	0.005 - 0.007	3,440	0.005 - 0.007	7,400	0.001 - 0.007
-	1/4	4,050	0.004 - 0.006	3,060	0.004 - 0.006	1,570	0.004 - 0.006	4,580	0.005 - 0.007	3,250	0.005 - 0.007	6,990	0.001 - 0.007
8	-	3,210	0.005 - 0.008	2,430	0.005 - 0.008	1,240	0.005 - 0.008	3,640	0.006 - 0.009	2,580	0.006 - 0.009	5,550	0.002 - 0.009
-	3/8	2,700	0.005 - 0.008	2,040	0.005 - 0.008	1,040	0.005 - 0.008	3,060	0.006 - 0.009	2,160	0.006 - 0.009	4,660	0.002 - 0.009
10	-	2,570	0.006 - 0.010	1,940	0.006 - 0.010	1,000	0.006 - 0.010	2,910	0.008 - 0.012	2,060	0.008 - 0.012	4,440	0.002 - 0.012
-	7/16	2,300	0.006 - 0.010	1,750	0.006 - 0.010	900	0.006 - 0.010	2,620	0.008 - 0.012	1,860	0.008 - 0.012	3,990	0.002 - 0.012
12	-	2,140	0.007 - 0.012	1,620	0.007 - 0.012	830	0.007 - 0.012	2,430	0.009 - 0.014	1,720	0.009 - 0.014	3,700	0.002 - 0.014
-	1/2	2,020	0.007 - 0.012	1,530	0.007 - 0.012	780	0.007 - 0.012	2,290	0.009 - 0.014	1,620	0.009 - 0.014	3,500	0.002 - 0.014
14	-	1,840	0.008 - 0.014	1,390	0.008 - 0.014	710	0.008 - 0.014	2,080	0.011 - 0.017	1,470	0.011 - 0.017	3,170	0.003 - 0.017
-	5/8	1,620	0.009 - 0.016	1,220	0.009 - 0.016	630	0.009 - 0.016	1,830	0.013 - 0.019	1,300	0.013 - 0.019	2,800	0.003 - 0.019
16	-	1,610	0.009 - 0.016	1,210	0.009 - 0.016	620	0.009 - 0.016	1,820	0.013 - 0.019	1,290	0.013 - 0.019	2,790	0.003 - 0.019
18	-	1,430	0.011 - 0.018	1,080	0.011 - 0.018	550	0.011 - 0.018	1,620	0.014 - 0.021	1,150	0.014 - 0.021	2,470	0.004 - 0.021
-	3/4	1,350	0.012 - 0.020	1,020	0.012 - 0.020	520	0.012 - 0.020	1,530	0.016 - 0.024	1,090	0.016 - 0.024	2,330	0.004 - 0.024
20	-	1,280	0.012 - 0.020	970	0.012 - 0.020	500	0.012 - 0.020	1,450	0.016 - 0.024	1,030	0.016 - 0.024	2,250	0.004 - 0.024

General Drilling Operations

Work Material		Cast Aluminum		Hardened Steel-Pre Hardened Steel		Plastic Mold Steels	
Hardness				Up to 50 HRC		Up to 40 HRC	
Drilling Speed		265-650 SFM		65-100 SFM		65-130 SFM	
Drill Dia.		Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR
mm	Inch						
2	-	22,200	0.0004 - 0.002	4,000	0.0008 - 0.002	4,720	0.0012 - 0.002
3	-	14,800	0.001 - 0.004	2,660	0.001 - 0.002	3,150	0.0018 - 0.002
-	1/8	13,980	0.001 - 0.004	2,520	0.001 - 0.002	2,980	0.0018 - 0.002
4	-	11,100	0.001 - 0.005	2,000	0.002 - 0.003	2,360	0.002 - 0.003
-	3/16	9,320	0.001 - 0.005	1,680	0.002 - 0.003	1,980	0.002 - 0.003
6	-	7,400	0.001 - 0.007	1,330	0.002 - 0.005	1,570	0.004 - 0.005
-	1/4	6,990	0.001 - 0.007	1,260	0.002 - 0.005	1,490	0.004 - 0.005
8	-	5,550	0.002 - 0.009	1,000	0.003 - 0.006	1,180	0.005 - 0.006
-	3/8	4,660	0.002 - 0.009	840	0.003 - 0.006	990	0.005 - 0.006
10	-	4,440	0.002 - 0.012	800	0.004 - 0.008	950	0.006 - 0.008
-	7/16	3,990	0.002 - 0.012	720	0.004 - 0.008	850	0.006 - 0.008
12	-	3,700	0.002 - 0.014	670	0.005 - 0.009	790	0.007 - 0.009
-	1/2	3,500	0.002 - 0.014	630	0.005 - 0.009	744	0.007 - 0.009
14	-	3,170	0.003 - 0.017	570	0.006 - 0.011	670	0.008 - 0.011
-	5/8	2,800	0.003 - 0.019	500	0.006 - 0.013	590	0.009 - 0.013
16	-	2,790	0.003 - 0.019	500	0.006 - 0.013	590	0.009 - 0.013
18	-	2,470	0.004 - 0.021	450	0.007 - 0.014	520	0.011 - 0.014
-	3/4	2,330	0.004 - 0.024	420	0.008 - 0.016	500	0.012 - 0.016
20	-	2,250	0.004 - 0.024	400	0.008 - 0.016	470	0.012 - 0.016



Note:

1. The speeds and feeds in the table above apply when drilling on a flat surface with water-soluble coolant.
2. When using non-water soluble oil or water-emulsifiable (over 20 times dilution), reduce cutting speed by 30%.
3. Use a rigid and precise machine and holder.
4. Please minimize tool overhang as much as possible during machining.
5. Adjust the rotational speed and the feed rate in accordance with conditions such as the machining shape, machine rigidity, or work holding.
6. Please set up the drill so that the runout of the cutting edge is under 0.0004 in.
7. When machining an inclined plane,adjust the rotational speed and the feed rate in accordance with the angle of the incline (β).
   - When the machining incline angle(β) is less than 30°, please reduce the feed to 40-60%.
   - When the machining incline angle(β) is over 30°, please reduce the speed to 60-80% , the feed to 40-60%.
8. Please use step drilling in pilot holes to improve cutting chip separation.
9. If it is necessary to ensure the locating precision of the hole to be machined, adjust the rotational speed and the feed rate as indicated above (in accordance with the machining precision requirement).