



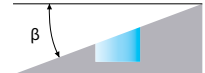
## List 5700 - A Brand ADF: 2D

### 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	
Hardness				28-35 HRC							
Drilling Speed		100-330 SFM		100-300 SFM		35-100 SFM		100-400 SFM		100-260 SFM	
Drill Dia.		Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR
mm	Inch										
0.2	-	25,000	0.00004 - 0.0002	25,000	0.00004 - 0.0002	25,000	0.00004 - 0.00015	25,000	0.00004 - 0.00024	25,000	0.00004 - 0.00024
-	1/64	25,000	0.00004 - 0.0002	25,000	0.00004 - 0.0002	20,000	0.00004 - 0.00015	25,000	0.00004 - 0.00024	25,000	0.00004 - 0.00024
0.5	-	25,000	0.0001 - 0.0006	25,000	0.0001 - 0.0006	15,900	0.00012 - 0.0004	25,000	0.00012 - 0.0006	25,000	0.00012 - 0.0006
-	1/32	22,000	0.0001 - 0.0006	20,200	0.0001 - 0.0006	10,000	0.00012 - 0.0004	25,000	0.00012 - 0.0006	20,100	0.00012 - 0.0006
1	-	17,500	0.0002 - 0.0012	15,900	0.0002 - 0.0012	8,000	0.0002 - 0.0008	22,500	0.0002 - 0.0012	15,900	0.0002 - 0.0012
-	3/64	14,700	0.0002 - 0.0012	13,500	0.0002 - 0.0012	6,700	0.0002 - 0.0008	21,400	0.0002 - 0.0012	14,200	0.0002 - 0.0012
1.5	-	13,800	0.0003 - 0.0018	12,700	0.0003 - 0.0018	5,300	0.0003 - 0.0012	17,000	0.0003 - 0.0018	11,500	0.0003 - 0.0018
-	1/16	13,100	0.0003 - 0.0018	12,200	0.0003 - 0.0018	5,000	0.0003 - 0.0012	16,000	0.0003 - 0.0018	10,700	0.0003 - 0.0018
2	-	12,850	0.0012 - 0.002	9,700	0.0012 - 0.002	3,980	0.0012 - 0.002	14,550	0.0016 - 0.002	10,310	0.0016 - 0.002
-	1/8	8,570	0.002 - 0.003	6,470	0.002 - 0.003	2,650	0.002 - 0.003	9,700	0.002 - 0.004	6,870	0.002 - 0.004
3	-	8,100	0.002 - 0.003	6,110	0.002 - 0.003	2,500	0.002 - 0.003	9,170	0.002 - 0.004	6,500	0.002 - 0.004
-	3/16	6,430	0.002 - 0.004	4,850	0.002 - 0.004	1,990	0.002 - 0.004	7,280	0.003 - 0.005	5,150	0.003 - 0.005
4	-	6,430	0.002 - 0.004	4,850	0.002 - 0.004	1,990	0.002 - 0.004	7,280	0.003 - 0.005	5,150	0.003 - 0.005
-	1/4	5,400	0.002 - 0.004	4,070	0.002 - 0.004	1,670	0.002 - 0.004	6,110	0.003 - 0.005	4,330	0.003 - 0.005
6	-	4,280	0.004 - 0.006	3,230	0.004 - 0.006	1,325	0.004 - 0.006	4,850	0.005 - 0.007	3,440	0.005 - 0.007
-	5/16	4,050	0.004 - 0.006	3,060	0.004 - 0.006	1,250	0.004 - 0.006	4,580	0.005 - 0.007	3,250	0.005 - 0.007
8	-	3,210	0.005 - 0.008	2,430	0.005 - 0.008	995	0.005 - 0.008	3,640	0.006 - 0.009	2,580	0.006 - 0.009
-	3/8	2,700	0.005 - 0.008	2,040	0.005 - 0.008	835	0.005 - 0.008	3,060	0.006 - 0.009	2,160	0.006 - 0.009
10	-	2,570	0.006 - 0.010	1,940	0.006 - 0.010	795	0.006 - 0.010	2,910	0.008 - 0.012	2,060	0.008 - 0.012
-	7/16	2,300	0.006 - 0.010	1,750	0.006 - 0.010	715	0.006 - 0.010	2,620	0.008 - 0.012	1,860	0.008 - 0.012
12	-	2,140	0.007 - 0.012	1,620	0.007 - 0.012	660	0.007 - 0.012	2,430	0.009 - 0.014	1,720	0.009 - 0.014
-	1/2	2,020	0.007 - 0.012	1,530	0.007 - 0.012	625	0.007 - 0.012	2,290	0.009 - 0.014	1,620	0.009 - 0.014
14	-	1,840	0.008 - 0.014	1,390	0.008 - 0.014	570	0.008 - 0.014	2,080	0.011 - 0.017	1,470	0.011 - 0.017
-	5/8	1,620	0.009 - 0.016	1,220	0.009 - 0.016	500	0.009 - 0.016	1,830	0.013 - 0.019	1,300	0.013 - 0.019
16	-	1,610	0.009 - 0.016	1,210	0.009 - 0.016	440	0.009 - 0.016	1,820	0.013 - 0.019	1,290	0.013 - 0.019
18	-	1,430	0.011 - 0.018	1,080	0.011 - 0.018	420	0.011 - 0.018	1,620	0.014 - 0.021	1,150	0.014 - 0.021
-	3/4	1,350	0.012 - 0.020	1,020	0.012 - 0.020	400	0.012 - 0.020	1,530	0.016 - 0.024	1,090	0.016 - 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

#### Note:

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





## General Drilling Operations

Work Material		Aluminum Alloy 5052,7075		Cast Aluminum		Hardened Steel-Pre Hardened Steel		Plastic Mold Steels	
Hardness						Up to 50 HRC		Up to 40 HRC	
Drilling Speed		100-650 SFM		100-650 SFM		65-100 SFM		65-130 SFM	
Drill Dia.		Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR
mm	Inch								
0.2	-	25,000	0.00004 - 0.00024	25,000	0.00004 - 0.00024	25,000	0.00004 - 0.00016	25,000	0.00004 - 0.00016
-	1/64	25,000	0.00004 - 0.00024	25,000	0.00004 - 0.00024	20,000	0.00004 - 0.00016	24,400	0.00004 - 0.00016
0.5	-	25,000	0.00012 - 0.0006	25,000	0.00012 - 0.0006	15,900	0.00012 - 0.0004	19,000	0.00012 - 0.0004
-	1/32	25,000	0.00012 - 0.0006	25,000	0.00012 - 0.0006	10,000	0.00012 - 0.0004	12,200	0.00012 - 0.0004
1	-	25,000	0.0002 - 0.0012	25,000	0.0002 - 0.0012	7,950	0.0002 - 0.0008	9,550	0.0002 - 0.0008
-	3/64	25,000	0.0002 - 0.0012	25,000	0.0002 - 0.0012	6,700	0.0002 - 0.0008	8,150	0.0002 - 0.0008
1.5	-	25,000	0.0003 - 0.0018	25,000	0.0003 - 0.0018	5,300	0.0003 - 0.0012	6,350	0.0003 - 0.0012
-	1/16	25,000	0.0003 - 0.0018	25,000	0.0003 - 0.0018	5,000	0.0003 - 0.0012	6,100	0.0003 - 0.0012
2	-	22,200	0.0004 - 0.002	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	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	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	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	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	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	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	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	4,660	0.002 - 0.009	840	0.003 - 0.006	990	0.005 - 0.006
10	-	4,440	0.002 - 0.012	4,440	0.002 - 0.012	800	0.004 - 0.008	950	0.006 - 0.008
-	7/16	3,990	0.002 - 0.012	3,990	0.002 - 0.012	720	0.004 - 0.008	850	0.006 - 0.008
12	-	3,700	0.002 - 0.014	3,700	0.002 - 0.014	670	0.005 - 0.009	790	0.007 - 0.009
-	1/2	3,500	0.002 - 0.014	3,500	0.002 - 0.014	630	0.005 - 0.009	744	0.007 - 0.009
14	-	3,170	0.003 - 0.017	3,170	0.003 - 0.017	570	0.006 - 0.011	670	0.008 - 0.011
-	5/8	2,800	0.003 - 0.019	2,800	0.003 - 0.019	500	0.006 - 0.013	590	0.009 - 0.013
16	-	2,790	0.003 - 0.019	2,790	0.003 - 0.019	500	0.006 - 0.013	590	0.009 - 0.013
18	-	2,470	0.004 - 0.021	2,470	0.004 - 0.021	450	0.007 - 0.014	520	0.011 - 0.014
-	3/4	2,330	0.004 - 0.024	2,330	0.004 - 0.024	420	0.008 - 0.016	500	0.012 - 0.016
20	-	2,250	0.004 - 0.024	2,250	0.004 - 0.024	400	0.008 - 0.016	470	0.012 - 0.016

ABOUT OSG

DRILLING

THREADING

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