



OSG's A Brand® Drill Lineup

Vol 3

# A-DRILLS

ADO-TRS 3D & 5D • ADFO 3D • ADF 2D • ADFLS 2D  
ADO 3D-30D • AD 2D & 4D • ADO-SUS 3D, 5D & 8D • AD-LDS



# A-Drills

Drills Designed with A Brand Values in Mind

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A Brand® ADO-TRS

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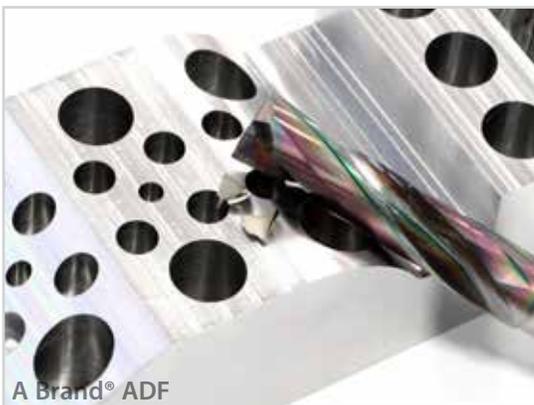
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A Brand® ADF



A Brand® ADF

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A Brand® ADO

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A Brand® ADO-SUS

# The A Brand Story

*The joy of delivering new values*

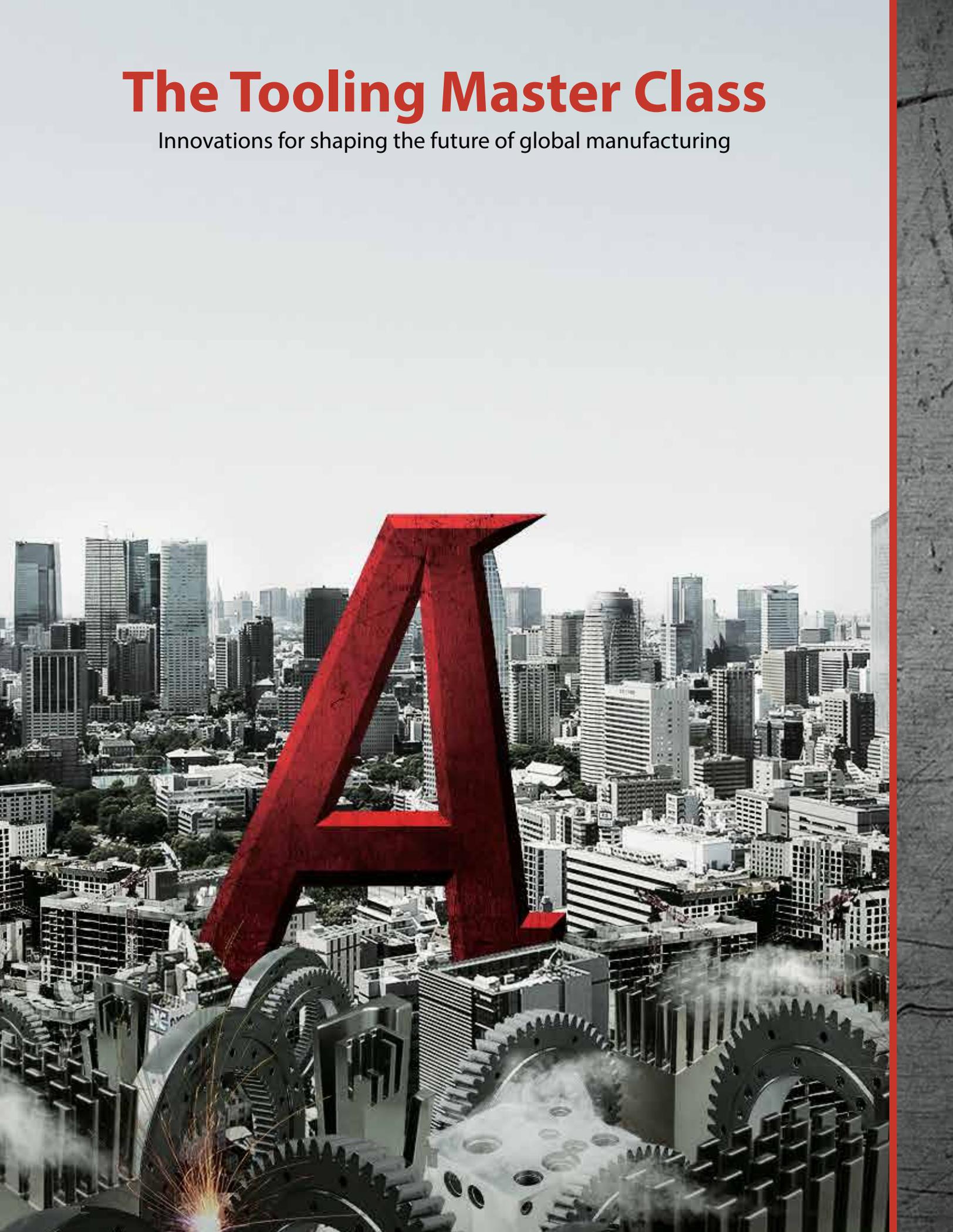
The A Brand represents a new evolution in cutting tool technology. With a commitment to only the best, the A Brand emanates innovations essential for shaping the future of global manufacturing. The A Brand is not only a premium tooling brand, it also represents the quality assurance OSG guarantees to each and every customer. The A Brand is composed of OSG's latest high performance threading, drilling and milling tool innovations. Developed with attention to the finest details, manufacturers will experience the level of quality, reliability and satisfaction that can only be delivered by the A Brand tooling master class.

Advanced tool qualities have been incorporated into the A Brand products, including a versatility that enables a wide range of processing in different work materials, an excellent capability to perform difficult processing tasks, and high efficiency that leads to shortened production time and cost savings. Expectations have risen that the A Brand will bring innovations into the manufacturing field, and pass on OSG's technologies from today to the future. To better understand the concept of the A Brand, interviews were conducted with OSG experts who have devoted their manufacturing careers to the development of A Brand products. They spoke enthusiastically about how their passions underpinned the development process.



# The Tooling Master Class

Innovations for shaping the future of global manufacturing



# The A Brand *The Tooling Master Class*

## LINE-UP

The A Brand is not only a premium tooling brand, it also represents the quality assurance OSG guarantees to each and every customer.

To better accommodate evolving manufacturing needs, the A Brand offering has been expanded. Whether you are looking for better tools or need assistance in choosing the right tool, give one of the A Brand products a try. You will experience a level of quality, reliability and satisfaction that can only be delivered by the A Brand tooling master class.

## A-DRILL



**A Brand® ADO-TRS 3D & 5D**



**A Brand® ADF • ADFO • ADFL**



**A Brand® ADO 3-30D**



**A Brand® AD 2D & 4D**



**A Brand® ADO-SUS 3D & 5D**



**A Brand® AD-LDS**

## A-TAP



**A Brand® AT-1**



**A Brand® A-CSF**



**A Brand® A-CHT**



**A Brand® A-SFT • A-OIL-SFT • A-LT-SFT**

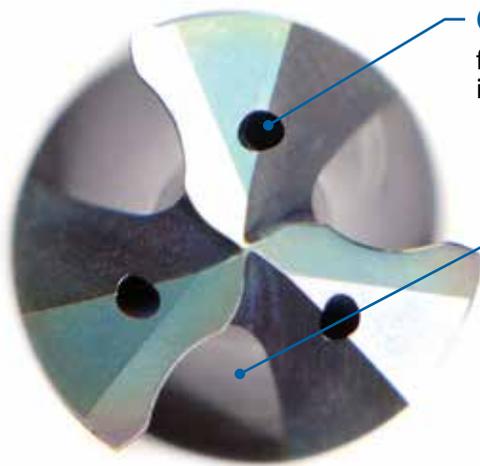


**A Brand® A-POT • A-OIL-POT • A-LT-POT**

## A-END MILL



**A Brand® AE-VMS**



**Coolant-Through**  
for reduced heat and improved chip evacuation.

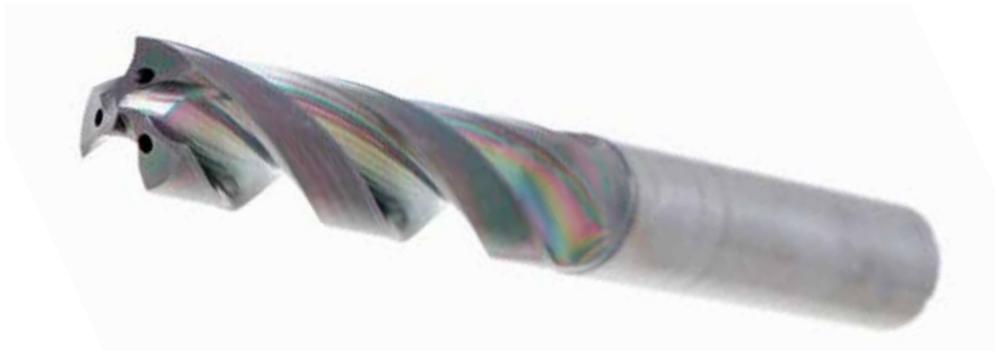
**3 Flute Design**  
for reduced vibration and stable drilling.

**EgiAs Coating**  
for exceptional wear resistance and toughness.



## 3-Flutes vs 2-Flutes

### 3 Advantages of a 3-Flute Design



#### High Feed Rate:

OSG's ADO-TRS drills have a specially shaped flute (PAT.P.) that breaks steel chips into small, manageable pieces for easy evacuation. This allows for increased feed rates up to 1.5 to 2 times faster than 2-fluted drills.



#### High Precision:

The 120° equal spacing margins of the 3-flute design allows for more stable, vibration-free hole processing, thereby increasing hole quality and tolerance.

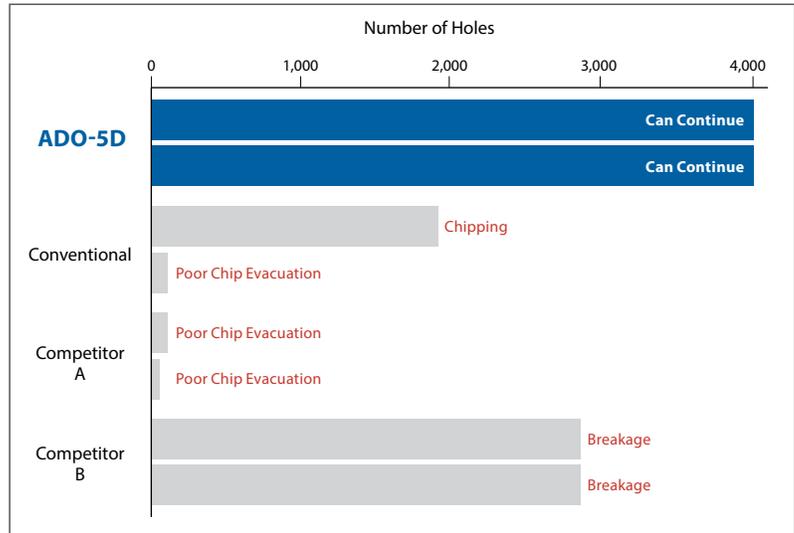
#### Reduced Work Hardening:

The amount of work hardening and depth of work hardening have a tendency to be proportional to the feed per revolution. When compared to conventional 2-flute drills with the same feed per revolution, the 3-flute design has proven to decrease work hardening.

## Tool Life in Carbon Steel

### 1065 Carbon Steel

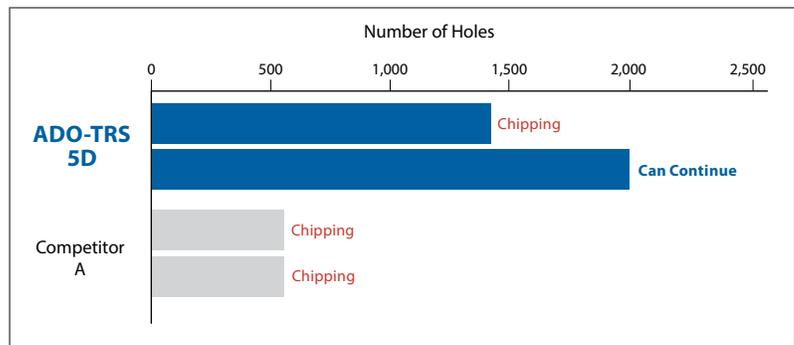
Tool	ADO-TRS	Conventional	Competitors
Drill Size	Ø5mm		
Work Material	1065 Carbon Steel		
Cutting Speed	330 SFM (6,430 RPM)		
Feed Rate	64.3 IPM (0.010 IPR)		
Depth of Hole	25 mm (Through)		
Coolant	MQL		
Machine	Horizontal Machining Center		



## Tool Life in Cast Iron

### Gray Cast Iron

Tool	ADO-TRS 5D	Competitor A
Drill Size	Ø8.5mm	
Work Material	Gray Cast Iron	
Cutting Speed	230 SFM (2,625 RPM)	
Feed Rate	44.6 IPM (0.017 IPR)	
Depth of Hole	43 mm	
Coolant	Water Soluble	
Machine	Vertical Machining Center	



## List 6600

ADO-TRS-3D, 3 Flute, Coolant-Through

**NEW** **SPEED FEED** P15 **CARBIDE** **EgiAs** **30°** **SHANK** h6



Cutting Diameter Tolerance (h8)		
Size	mm	inch
4≤D≤6	+0 / -0.018	+0 / -0.0007
6<D≤10	+0 / -0.022	+0 / -0.0009
10<D≤18	+0 / -0.027	+0 / -0.0011
18<D≤20	+0 / -0.033	+0 / -0.0013

EDP Number	Diameter					Flute Length	Overall Length	Shank Diameter
	Fractional Size	Wire Gage	Letter Size	mm	Inch			
8720400	-	-	-	4.00	0.1575	24	74	4
660015917	-	-	-	4.05	0.1594	25	80	6
660016117	-	20	-	4.09	0.1610			
8720410	-	-	-	4.10	0.1614			
660016317	-	-	-	4.16	0.1638			
8720420	-	-	-	4.20	0.1654			
660016817	-	-	-	4.27	0.1681			
8720430	-	-	-	4.30	0.1693			
660017217	11/64	-	-	4.37	0.1720			
8720440	-	-	-	4.40	0.1732			
660017517	-	-	-	4.46	0.1756			
8720450	-	-	-	4.50	0.1772			
8720460	-	-	-	4.60	0.1811			
660018317	-	-	-	4.66	0.1835			
8720470	-	13	-	4.70	0.1850			
660018717	3/16	-	-	4.76	0.1874			
8720480	-	12	-	4.80	0.1890			
8720490	-	-	-	4.90	0.1929			
8720500	-	-	-	5.00	0.1969			
8720510	-	-	-	5.10	0.2008			
660020317	13/64	-	-	5.16	0.2031			
8720520	-	-	-	5.20	0.2047			
8720530	-	-	-	5.30	0.2087			
8720540	-	-	-	5.40	0.2126			
660021317	-	3	-	5.41	0.2130			
8720550	-	-	-	5.50	0.2165			
660021817	7/32	-	-	5.56	0.2189			
8720560	-	-	-	5.60	0.2205			
8720570	-	-	-	5.70	0.2244			
8720580	-	-	-	5.80	0.2283			
8720590	-	-	-	5.90	0.2323			
660023417	15/64	-	-	5.95	0.2343			
8720600	-	-	-	6.00	0.2362			
8720610	-	-	-	6.10	0.2402			
8720620	-	-	-	6.20	0.2441			
8720630	-	-	-	6.30	0.2480			
660025017	1/4	-	E	6.35	0.2500			
8720640	-	-	-	6.40	0.2520			
8720650	-	-	-	6.50	0.2559			
660025717	-	-	F	6.53	0.2571			
8720660	-	-	-	6.60	0.2598			
8720670	-	-	-	6.70	0.2638			
660026517	17/64	-	-	6.75	0.2657			
8720680	-	-	-	6.80	0.2677			
8720690	-	-	I	6.90	0.2717			
8720700	-	-	-	7.00	0.2756			
8720710	-	-	-	7.10	0.2795			
660028117	9/32	-	-	7.14	0.2811			
8720720	-	-	-	7.20	0.2835			
8720730	-	-	-	7.30	0.2874			
8720738	-	-	-	7.38	0.2905			
8720740	-	-	-	7.40	0.2913			

Packed: 1 pc.  
Available EgiAs Coating Only.

[continued on next page](#) **ADR**

List No.	Work Material																	
	P					M			K	N		S		H				
	Carbon Steels			Alloy Steels	Die Steels	Stainless Steels			Cast Iron	Aluminum		Nickel Alloy	Titanium	Hardened Steels				
	Low	Med.	High			300	400	17-4 PH		6061	Casting			Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC
6600	☐	☐	☐	☐	☐		☐	☐	☐		☐		☐	☐	☐	☐	☐	☐

☐ good ☐ best



# A Brand® ADO-TRS

Advanced Performance High Feed 3-Flute Carbide Drills

## List 6600 (Continued)

ADO-TRS-3D, 3 Flute, Coolant-Through



<b>NEW</b>	<b>SPEED FEED</b> P15	<b>CARBIDE</b>	<b>EgiAs</b>		<b>30°</b>	<b>SHANK</b> h6
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Cutting Diameter Tolerance (h8)		
Size	mm	inch
4 ≤ D ≤ 6	+0 / -0.018	+0 / -0.0007
6 < D ≤ 10	+0 / -0.022	+0 / -0.0009
10 < D ≤ 18	+0 / -0.027	+0 / -0.0011
18 < D ≤ 20	+0 / -0.033	+0 / -0.0013

EDP Number	Diameter					Flute Length FL	Overall Length L	Shank Diameter d
	Fractional Size	Wire Gage	Letter Size	mm	Inch			
8720750	-	-	-	7.50	0.2953	38	94	8
660029617	19/64	-	-	7.54	0.2969			5/16
8720760	-	-	-	7.60	0.2992	39		8
8720770	-	-	-	7.70	0.3031			
8720780	-	-	-	7.80	0.3071	40	5/16	
8720790	-	-	-	7.90	0.3110		8	
660031217	5/16	-	-	7.94	0.3126	41	5/16	
8720800	-	-	-	8.00	0.3150		8	
8720810	-	-	-	8.10	0.3189	42	10	
8720820	-	-	P	8.20	0.3228		10	
8720830	-	-	-	8.30	0.3268	43	3/8	
660032817	21/64	-	-	8.33	0.3280		10	
8720840	-	-	-	8.40	0.3307	44	3/8	
660033217	-	-	Q	8.43	0.3319		10	
8720850	-	-	-	8.50	0.3346	45	3/8	
8720860	-	-	-	8.60	0.3386		10	
8720870	-	-	-	8.70	0.3425	46	3/8	
660034317	11/32	-	-	8.73	0.3437		10	
8720880	-	-	-	8.80	0.3465	47	3/8	
8720890	-	-	-	8.90	0.3504		10	
8720900	-	-	-	9.00	0.3543	48	3/8	
8720910	-	-	-	9.10	0.3583		10	
660035917	23/64	-	-	9.13	0.3594	49	3/8	
8720920	-	-	-	9.20	0.3622		10	
8720925	-	-	-	9.25	0.3642	50	3/8	
8720930	-	-	-	9.30	0.3661		10	
8720938	-	-	-	9.38	0.3693	51	3/8	
8720940	-	-	-	9.40	0.3701		10	
8720950	-	-	-	9.50	0.3740	52	3/8	
660037517	3/8	-	-	9.53	0.3752		10	
8720960	-	-	-	9.60	0.3780	53	3/8	
8720970	-	-	-	9.70	0.3819		10	
8720980	-	-	W	9.80	0.3858	54	3/8	
8720990	-	-	-	9.90	0.3898		10	
660039017	25/64	-	-	9.92	0.3906	55	7/16	
8721000	-	-	-	10.00	0.3937		10	
8721010	-	-	-	10.10	0.3976	56	7/16	
8721020	-	-	-	10.20	0.4016		12	
8721030	-	-	-	10.30	0.4055	57	7/16	
660040617	13/32	-	-	10.32	0.4063		12	
8721040	-	-	-	10.40	0.4094	58	7/16	
8721050	-	-	-	10.50	0.4134		12	
8721060	-	-	-	10.60	0.4173	59	7/16	
8721070	-	-	-	10.70	0.4213		12	
660042217	27/64	-	-	10.72	0.4220	60	7/16	
8721080	-	-	-	10.80	0.4252		12	
8721090	-	-	-	10.90	0.4291	61	7/16	
8721100	-	-	-	11.00	0.4331		12	

Packed: 1 pc.  
Available EgiAs Coating Only.



## List 6600 (Continued)

ADO-TRS-3D, 3 Flute, Coolant-Through



EDP Number	Diameter					Flute Length FL	Overall Length L	Shank Diameter d	
	Fractional Size	Wire Gage	Letter Size	mm	Inch				
8721110	-	-	-	11.10	0.4370	56	120	12	
660043717	7/16	-	-	11.11	0.4374			7/16	
8721120	-	-	-	11.20	0.4409	57		12	
8721125	-	-	-	11.25	0.4429				
8721130	-	-	-	11.30	0.4449				
8721138	-	-	-	11.38	0.4480				
8721140	-	-	-	11.40	0.4488				
8721150	-	-	-	11.50	0.4528				
660045317	29/64	-	-	11.51	0.4531	58		1/2	
8721160	-	-	-	11.60	0.4567	59		12	
8721170	-	-	-	11.70	0.4606				
8721180	-	-	-	11.80	0.4646				
8721190	-	-	-	11.90	0.4685	60	1/2		
660046817	15/32	-	-	11.91	0.4689				
8721200	-	-	-	12.00	0.4724	62	128	12	
660048417	31/64	-	-	12.30	0.4843			1/2	
8721250	-	-	-	12.50	0.4921			63	14
660050017	1/2	-	-	12.70	0.5000			64	1/2
8721300	-	-	-	13.00	0.5118	65	134	14	
8721325	-	-	-	13.25	0.5216				
8721330	-	-	-	13.30	0.5236				
8721338	-	-	-	13.38	0.5268				
660053117	17/32	-	-	13.49	0.5311	68			
8721350	-	-	-	13.50	0.5315	70			14
8721400	-	-	-	14.00	0.5512				
8721410	-	-	-	14.10	0.5551	71	16		
8721420	-	-	-	14.20	0.5591				
660056217	9/16	-	-	14.29	0.5626	72	140	5/8	
8721430	-	-	-	14.30	0.5630	73		16	
8721450	-	-	-	14.50	0.5709				
8721500	-	-	-	15.00	0.5906	75	145	5/8	
660059317	19/32	-	-	15.08	0.5937	76			
8721520	-	-	-	15.20	0.5984	77			16
8721530	-	-	-	15.30	0.6024				
8721550	-	-	-	15.50	0.6102	78	150	18	
660062517	5/8	-	-	15.88	0.6252	80			5/8
8721600	-	-	-	16.00	0.6299	83			16
8721650	-	-	-	16.50	0.6496				
660065617	21/32	-	-	16.67	0.6563	85	155	3/4	
660066317	-	-	-	16.84	0.6630			87	18
8721700	-	-	-	17.00	0.6693				
8721725	-	-	-	17.25	0.6791	88	160	3/4	
660068717	11/16	-	-	17.46	0.6874			90	18
8721750	-	-	-	17.50	0.6890				
660070317	45/64	-	-	17.86	0.7031			92	3/4
8721800	-	-	-	18.00	0.7087				
660071817	23/32	-	-	18.26	0.7189	93	165	3/4	
8721850	-	-	-	18.50	0.7283			95	20
8721900	-	-	-	19.00	0.7480				
660075017	3/4	-	-	19.05	0.7500	97	3/4		
8721925	-	-	-	19.25	0.7579				
8721950	-	-	-	19.50	0.7677	98	20		
8722000	-	-	-	20.00	0.7874				

Packed: 1 pc.  
Available EgiAs Coating Only.



List No.	Work Material																
	P					M			K	N		S		H			
	Carbon Steels			Alloy Steels	Die Steels	Stainless Steels			Cast Iron	Aluminum		Nickel Alloy	Titanium	Hardened Steels			
	Low	Med.	High	4140		300	400	17-4 PH		6061	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
6600	1010	1035	1045	1065	4340					7075							
	1018	1045	1065	4340													

good  best



# A Brand® ADO-TRS

Advanced Performance High Feed 3-Flute Carbide Drills

## List 6610

ADO-TRS-5D, 3 Flute, Coolant-Through



<b>NEW</b>	<b>SPEED FEED</b> P15	<b>CARBIDE</b>	<b>EgiAs</b>		<b>30°</b>	<b>SHANK</b> h6
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Cutting Diameter Tolerance (h8)		
Size	mm	inch
4 ≤ D ≤ 6	+0 / -0.018	+0 / -0.0007
6 < D ≤ 10	+0 / -0.022	+0 / -0.0009
10 < D ≤ 18	+0 / -0.027	+0 / -0.0011
18 < D ≤ 20	+0 / -0.033	+0 / -0.0013

EDP Number	Diameter					Flute Length FL	Overall Length L	Shank Diameter d
	Fractional Size	Wire Gage	Letter Size	mm	Inch			
8722400	-	-	-	4.00	0.1575	36	86	4
661016117	-	20	-	4.09	0.1610	37	95	6
8722410	-	-	-	4.10	0.1614	38		
8722420	-	-	-	4.20	0.1654	39		
8722430	-	-	-	4.30	0.1693	40		
661017217	11/64	-	-	4.37	0.1720	41		
8722440	-	-	-	4.40	0.1732	42		
8722450	-	-	-	4.50	0.1772	43		
8722460	-	-	-	4.60	0.1811	44		
8722470	-	13	-	4.70	0.1850	45		
661018717	3/16	-	-	4.76	0.1874	44		3/16
8722480	-	12	-	4.80	0.1890	45	6	
8722490	-	-	-	4.90	0.1929	41		
8722500	-	-	-	5.00	0.1969	42	100	1/4
8722510	-	-	-	5.10	0.2008	43		
661020317	13/64	-	-	5.16	0.2031	44		
8722520	-	-	-	5.20	0.2047	45		
8722530	-	-	-	5.30	0.2087	46		6
8722540	-	-	-	5.40	0.2126	47		
661021317	-	3	-	5.41	0.2130	48		1/4
8722550	-	-	-	5.50	0.2165	49		
661021817	7/32	-	-	5.56	0.2189	50		1/4
8722560	-	-	-	5.60	0.2205	51		6
8722570	-	-	-	5.70	0.2244	52		
8722580	-	-	-	5.80	0.2283	53	109	8
8722590	-	-	-	5.90	0.2323	54		
661023417	15/64	-	-	5.95	0.2343	55		1/4
8722600	-	-	-	6.00	0.2362	56		
8722610	-	-	-	6.10	0.2402	57		8
8722620	-	-	-	6.20	0.2441	58		
8722630	-	-	-	6.30	0.2480	59		5/16
661025017	1/4	-	E	6.35	0.2500	60		
8722640	-	-	-	6.40	0.2520	61		8
8722650	-	-	-	6.50	0.2559	62		
661025717	-	-	F	6.53	0.2571	63	118	8
8722660	-	-	-	6.60	0.2598	64		
8722670	-	-	-	6.70	0.2638	61		5/16
661026517	17/64	-	-	6.75	0.2657	62		
8722680	-	-	-	6.80	0.2677	63		8
8722690	-	-	I	6.90	0.2717	64		
8722700	-	-	-	7.00	0.2756	61		5/16
8722710	-	-	-	7.10	0.2795	62		
661028117	9/32	-	-	7.14	0.2811	63		8
8722720	-	-	-	7.20	0.2835	64		
8722730	-	-	-	7.30	0.2874	61	118	8
8722738	-	-	-	7.38	0.2905	62		
8722740	-	-	-	7.40	0.2913	63		5/16
8722750	-	-	-	7.50	0.2953	64		
661029617	19/64	-	-	7.54	0.2969	61		8
8722760	-	-	-	7.60	0.2992	62		
8722770	-	-	-	7.70	0.3031	63		5/16
8722780	-	-	-	7.80	0.3071	64		
8722790	-	-	-	7.90	0.3110	61		8
661031217	5/16	-	-	7.94	0.3126	62		
8722800	-	-	-	8.00	0.3150	63	8	

Packed: 1 pc.  
Available EgiAs Coating Only.



## List 6610 (Continued)

ADO-TRS-5D, 3 Flute, Coolant-Through



EDP Number	Diameter					Flute Length FL	Overall Length L	Shank Diameter d
	Fractional Size	Wire Gage	Letter Size	mm	Inch			
8722810	-	-	-	8.10	0.3189	65	128	10
8722820	-	-	P	8.20	0.3228	66		
8722830	-	-	-	8.30	0.3268	67		
661032817	21/64	-	-	8.33	0.3280	68		3/8
8722840	-	-	-	8.40	0.3307			
661033217	-	-	Q	8.43	0.3319	69		10
8722850	-	-	-	8.50	0.3346			
8722860	-	-	-	8.60	0.3386	70		3/8
8722870	-	-	-	8.70	0.3425			
661034317	11/32	-	-	8.73	0.3437	71		10
8722880	-	-	-	8.80	0.3465			
8722890	-	-	-	8.90	0.3504	72		3/8
8722900	-	-	-	9.00	0.3543			
8722910	-	-	-	9.10	0.3583	73	10	
661035917	23/64	-	-	9.13	0.3594			
8722920	-	-	-	9.20	0.3622	74	3/8	
8722925	-	-	-	9.25	0.3642			
8722930	-	-	-	9.30	0.3661	75	10	
8722938	-	-	-	9.38	0.3693			
8722940	-	-	-	9.40	0.3701	76	3/8	
8722950	-	-	-	9.50	0.3740			
661037517	3/8	-	-	9.53	0.3752	77	10	
8722960	-	-	-	9.60	0.3780			
8722970	-	-	-	9.70	0.3819	78	3/8	
8722980	-	-	W	9.80	0.3858			
8722990	-	-	-	9.90	0.3898	79	10	
661039017	25/64	-	-	9.92	0.3906			
8723000	-	-	-	10.00	0.3937	80	7/16	
8723010	-	-	-	10.10	0.3976			
8723020	-	-	-	10.20	0.4016	81	10	
8723030	-	-	-	10.30	0.4055			
661040617	13/32	-	-	10.32	0.4063	82	12	
8723040	-	-	-	10.40	0.4094			
8723050	-	-	-	10.50	0.4134	83	7/16	
8723060	-	-	-	10.60	0.4173			
8723070	-	-	-	10.70	0.4213	84	12	
661042217	27/64	-	-	10.72	0.4220			
8723080	-	-	-	10.80	0.4252	85	7/16	
8723090	-	-	-	10.90	0.4291			
8723100	-	-	-	11.00	0.4331	86	12	
8723110	-	-	-	11.10	0.4370			
661043717	7/16	-	-	11.11	0.4374	87	7/16	
8723120	-	-	-	11.20	0.4409			
8723125	-	-	-	11.25	0.4429	88	12	
8723130	-	-	-	11.30	0.4449			
8723138	-	-	-	11.38	0.4480	89	7/16	
8723140	-	-	-	11.40	0.4488			
8723150	-	-	-	11.50	0.4528	90	12	
661045317	29/64	-	-	11.51	0.4531			
8723160	-	-	-	11.60	0.4567	91	7/16	
8723170	-	-	-	11.70	0.4606			
8723180	-	-	-	11.80	0.4646	92	12	
8723190	-	-	-	11.90	0.4685			
661046817	15/32	-	-	11.91	0.4689	93	7/16	
8723200	-	-	-	12.00	0.4724			

Packed: 1 pc.  
Available EgiAs Coating Only.

▶ continued on next page ▶

List No.	Work Material																
	P					M			K	N		S		H			
	Carbon Steels			Alloy Steels 4140 4340	Die Steels	Stainless Steels			Cast Iron	Aluminum		Nickel Alloy Inconel	Titanium 6Al4V (30 HRC)	Hardened Steels			
	Low 1010 1018	Med. 1035 1045	High 1065			300	400	17-4 PH		6061 7075	Casting			~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
6610	☐	☐	☐	☐	☐		☐	☐	☐		☐	☐	☐	☐	☐	☐	☐

☐ good ☐ best



# A Brand ADO-TRS

Advanced Performance High Feed 3-Flute Carbide Drills

## List 6610 (Continued)

ADO-TRS-5D, 3 Flute, Coolant-Through



<b>NEW</b>	<b>SPEED FEED</b> P15	<b>CARBIDE</b>	<b>EgiAs</b>		<b>30°</b>	<b>SHANK</b> h6
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Cutting Diameter Tolerance (h8)		
Size	mm	inch
4 ≤ D ≤ 6	+0 / -0.018	+0 / -0.0007
6 < D ≤ 10	+0 / -0.022	+0 / -0.0009
10 < D ≤ 18	+0 / -0.027	+0 / -0.0011
18 < D ≤ 20	+0 / -0.033	+0 / -0.0013

EDP Number	Diameter					Flute Length FL	Overall Length L	Shank Diameter d
	Fractional Size	Wire Gage	Letter Size	mm	Inch			
661048417	31/64	-	-	12.30	0.4843	99	167	1/2
8723250	-	-	-	12.50	0.4921	100		14
661050017	1/2	-	-	12.70	0.5000	102		1/2
8723300	-	-	-	13.00	0.5118	104	176	14
8723325	-	-	-	13.25	0.5216	106		
8723330	-	-	-	13.30	0.5236	107		
8723338	-	-	-	13.38	0.5268	108		
661053117	17/32	-	-	13.49	0.5311			
8723350	-	-	-	13.50	0.5315	185	5/8	
8723400	-	-	-	14.00	0.5512		14	
8723410	-	-	-	14.10	0.5551		112	
8723420	-	-	-	14.20	0.5591		113	
661056217	9/16	-	-	14.29	0.5626	114	193	16
8723430	-	-	-	14.30	0.5630	115		5/8
8723450	-	-	-	14.50	0.5709	116		16
8723500	-	-	-	15.00	0.5906	120		201
661059317	19/32	-	-	15.08	0.5937	121		
8723520	-	-	-	15.20	0.5984	122		
8723530	-	-	-	15.30	0.6024	123		
8723550	-	-	-	15.50	0.6102	124		
661062517	5/8	-	-	15.88	0.6252	128	209	5/8
8723600	-	-	-	16.00	0.6299	132		16
8723650	-	-	-	16.50	0.6496			18
661065617	21/32	-	-	16.67	0.6563	134		3/4
661066317	-	-	-	16.84	0.6630	135	217	20
8723700	-	-	-	17.00	0.6693	136		
8723725	-	-	-	17.25	0.6791	138		
661068717	11/16	-	-	17.46	0.6874	140		
8723750	-	-	-	17.50	0.6890	143	3/4	
661070317	45/64	-	-	17.86	0.7031		144	3/4
8723800	-	-	-	18.00	0.7087		147	18
661071817	23/32	-	-	18.26	0.7189	148	225	20
8723850	-	-	-	18.50	0.7283	152		
8723900	-	-	-	19.00	0.7480	154		
661075017	3/4	-	-	19.05	0.7500	156		
8723925	-	-	-	19.25	0.7579	160		
8723950	-	-	-	19.50	0.7677			
8724000	-	-	-	20.00	0.7874			

Packed: 1 pc.  
Available EgiAs Coating Only.



Work Material																		
List No.	P					Die Steels	M			K Cast Iron	N		S		H			
	Carbon Steels			Alloy Steels 4140 4340	Stainless Steels		Aluminum 6061 7075 Casting	Nickel Alloy Inconel	Titanium 6Al4V (30 HRC)		Hardened Steels							
	Low 1010 1018	Med. 1035 1045	High 1065								300	400	17-4 PH	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC	
6610	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

good  best



## List 6600 - A Brand® ADO-TRS: 3D

## List 6610 - A Brand® ADO-TRS: 5D

### General Drilling Operations

Work Material		Carbon Steels, Mild Steels 1010, 1050, 12L14		Alloy Steels 4140, 4130		Stainless Steels 400SS, 17-4PH		Cast Iron		Ductile Cast Iron	
Drilling Speed		260-395 SFM		260-395 SFM		130-200 SFM		260-395 SFM		195-330 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										
4	-	8,000	0.005 - 0.009	8,000	0.005 - 0.009	4,000	0.005 - 0.007	8,000	0.005 - 0.009	6,300	0.005 - 0.009
6	-	5,300	0.007 - 0.013	5,300	0.007 - 0.013	2,700	0.007 - 0.009	5,300	0.008 - 0.014	4,200	0.007 - 0.013
-	1/4	5,000	0.007 - 0.014	5,000	0.007 - 0.014	2,500	0.007 - 0.010	5,000	0.009 - 0.015	4,000	0.007 - 0.014
8	-	4,000	0.009 - 0.017	4,000	0.009 - 0.017	2,000	0.009 - 0.013	4,000	0.011 - 0.019	3,200	0.009 - 0.017
-	3/8	3,300	0.012 - 0.021	3,300	0.012 - 0.021	1,700	0.011 - 0.015	3,300	0.013 - 0.023	2,700	0.012 - 0.021
10	-	3,200	0.012 - 0.022	3,200	0.012 - 0.022	1,600	0.012 - 0.016	3,200	0.014 - 0.024	2,500	0.012 - 0.022
-	7/16	2,900	0.013 - 0.023	2,900	0.013 - 0.023	1,400	0.013 - 0.017	2,900	0.015 - 0.026	2,300	0.013 - 0.023
12	-	2,700	0.014 - 0.024	2,700	0.014 - 0.024	1,300	0.014 - 0.019	2,700	0.017 - 0.028	2,100	0.014 - 0.024
-	1/2	2,500	0.015 - 0.025	2,500	0.015 - 0.025	1,300	0.015 - 0.020	2,500	0.018 - 0.028	2,000	0.015 - 0.025
14	-	2,300	0.017 - 0.028	2,300	0.017 - 0.028	1,100	0.017 - 0.022	2,300	0.019 - 0.030	1,800	0.017 - 0.028
-	5/8	2,000	0.019 - 0.031	2,000	0.019 - 0.031	1,000	0.019 - 0.025	2,000	0.022 - 0.034	1,600	0.019 - 0.031
18	-	1,800	0.021 - 0.032	1,800	0.021 - 0.032	900	0.021 - 0.028	1,800	0.025 - 0.035	1,400	0.021 - 0.032
-	3/4	1,700	0.023 - 0.034	1,700	0.023 - 0.034	800	0.023 - 0.030	1,700	0.026 - 0.037	1,300	0.023 - 0.034
20	-	1,600	0.024 - 0.035	1,600	0.024 - 0.035	800	0.024 - 0.031	1,600	0.028 - 0.039	1,300	0.024 - 0.035

### General Drilling Operations

Work Material		Cast Aluminum		Special Alloy Steels, Hardened Steels					
Hardness				26-30 HRC		30-34 HRC		34-43 HRC	
Drilling Speed		260-660 SFM		195-295 SFM		160-230 SFM		130-160 SFM	
Drill Dia.		Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR
mm	Inch								
4	-	11,100	0.006 - 0.012	6,000	0.005 - 0.008	4,800	0.005 - 0.008	3,600	0.005 - 0.007
6	-	7,400	0.009 - 0.019	4,000	0.007 - 0.012	3,200	0.007 - 0.012	2,400	0.007 - 0.009
-	1/4	7,000	0.010 - 0.020	3,700	0.007 - 0.012	3,000	0.007 - 0.012	2,200	0.007 - 0.010
8	-	5,600	0.013 - 0.025	3,000	0.009 - 0.016	2,400	0.009 - 0.016	1,800	0.009 - 0.013
-	3/8	4,700	0.015 - 0.030	2,500	0.011 - 0.019	2,000	0.011 - 0.019	1,500	0.011 - 0.015
10	-	4,500	0.016 - 0.031	2,400	0.012 - 0.020	1,900	0.012 - 0.020	1,400	0.012 - 0.016
-	7/16	4,000	0.017 - 0.035	2,100	0.013 - 0.022	1,700	0.013 - 0.022	1,300	0.013 - 0.017
12	-	3,700	0.019 - 0.038	2,000	0.014 - 0.024	1,600	0.014 - 0.024	1,200	0.014 - 0.019
-	1/2	3,500	0.020 - 0.040	1,900	0.015 - 0.024	1,500	0.015 - 0.024	1,100	0.015 - 0.020
14	-	3,200	0.022 - 0.044	1,700	0.017 - 0.025	1,400	0.017 - 0.025	1,000	0.017 - 0.022
-	5/8	2,800	0.025 - 0.050	1,500	0.019 - 0.025	1,200	0.019 - 0.025	900	0.019 - 0.025
18	-	2,500	0.028 - 0.057	1,300	0.021 - 0.028	1,100	0.021 - 0.028	800	0.021 - 0.028
-	3/4	2,300	0.030 - 0.060	1,200	0.023 - 0.030	1,000	0.023 - 0.030	700	0.023 - 0.030
20	-	2,200	0.031 - 0.063	1,200	0.024 - 0.031	1,000	0.024 - 0.031	700	0.024 - 0.031



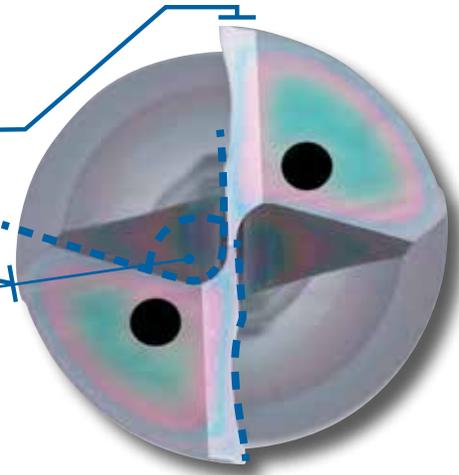
# A Brand® ADFO & ADF

Features & Benefits



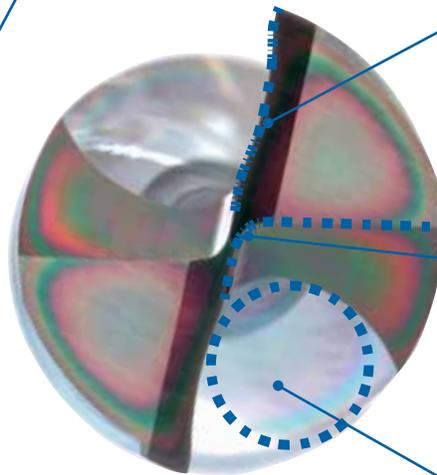
**Double Margin**  
for high rigidity.

**Sharp Gash Angle**  
produces chips with fine curl.



**20° Helix**  
for high rigidity.

**Improved Cutting Edge**  
for reduced cutting forces and smaller chip size.



**Balanced Point Form**  
for stable hole entry.

**Wide Flute Room**  
facilitates stable chip evacuation.

**EgiAs Coating**  
for exceptional wear resistance and toughness.

## EgiAs Coating

### Exceptional Wear Resistance & Toughness

Constructed with extreme toughness, high wear and heat resistance characteristics to ensure stable and consistent tool life. Suppresses friction with the wear resistance layer; prevents breakage with the nano periodical layer.

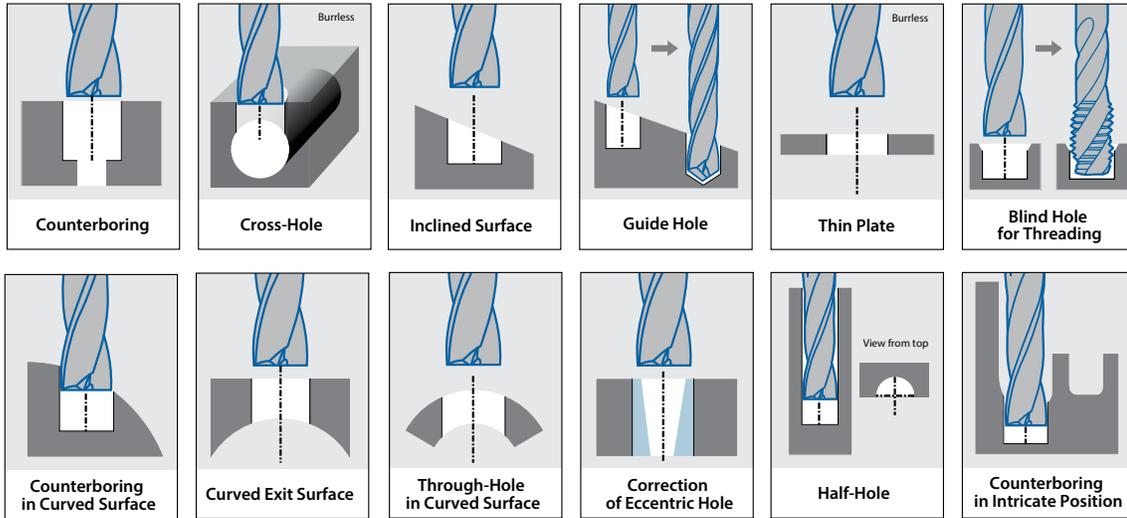
A Brand® ADF After drilling 1,620 holes (Still good)	Competitor After drilling 660 holes (Chipping)
Material: Carbon Steel (1050) Cutting Speed: 246 SFM (3,981 RPM) • Feed Rate: 9.4 IPM (0.002 IPR)	



## Multi-Purpose Flat Drills

The ADFO and ADF are Suitable for a Wide Variety of Applications

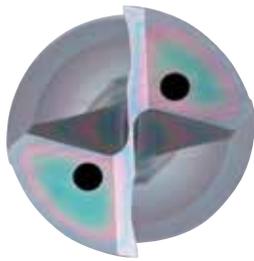
The ADFO & ADF drills are capable of drilling in numerous applications such as inclined surfaces, curved surfaces, flat-bottom holes and more.



## Application Guide

Exceptional Wear Resistance & Toughness

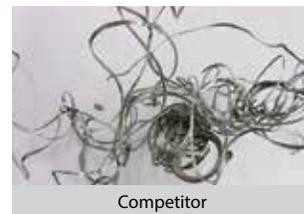
Constructed with extreme toughness, high wear and heat resistance characteristics to ensure stable and consistent tool life. Suppresses friction with the wear resistance layer; prevents breakage with the nano periodical layer.

ADF 2D & ADFLS 2D	ADFO 3D
 <ul style="list-style-type: none"> <li>• General purpose</li> <li>• Suitable up to 2D</li> <li>• Suitable for a wide variety of applications</li> </ul>	 <ul style="list-style-type: none"> <li>• Up to 3D Drilling</li> <li>• Suitable for stainless steel applications</li> </ul>

When machining stainless steel, the ADFO breaks chips into small, manageable pieces



ADFO 3D

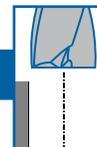


Competitor

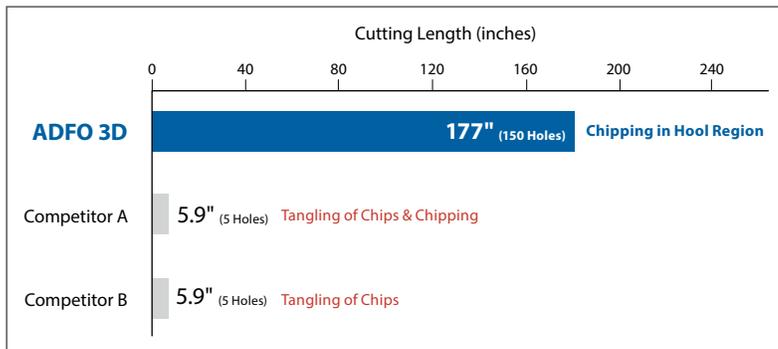
## Superior Performance in Stainless Steel

### 304 Stainless Steel

The ADFO demonstrated exceptional results in stainless steel against its competitors, machining over 100 holes while the competitor tooling failed at just 5 holes.

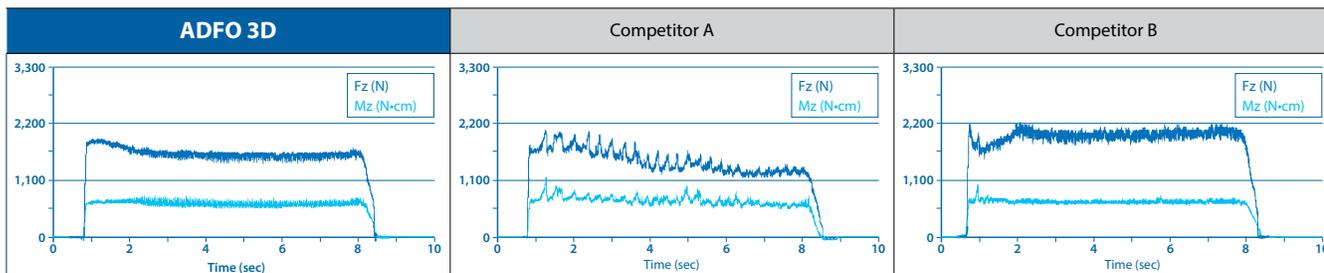


Tool	ADFO 3D	Competitors
Drill Size	Ø10mm	
Machined Surface	Flat Surface	
Work Material	304 Stainless Steel	
Cutting Speed	164 SFM (1,592 RPM)	
Feed Rate	9.4 IPM (0.006 IPR)	
Depth of Hole	30 mm (Through)	
Coolant	Water Soluble	
Machine	Horizontal Machining Center	



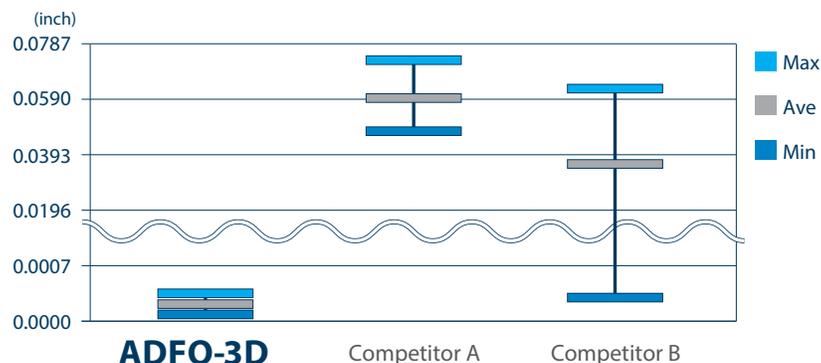
### Cutting Resistance Waveform

With its 20° helica grooves, the ADFO maintained stable thrust and torque throughout the machining process.



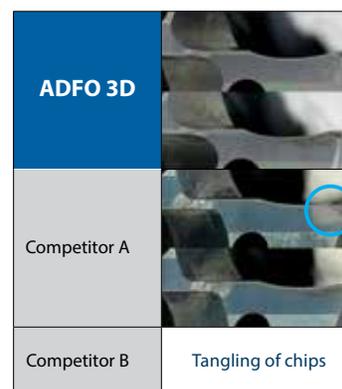
### Hole Expansion Comparison

ADFO 3D has minimal hole expansion variation when compared to the competitors.



### Durability

The ADFO showed minimal wear after 5 holes, while the competitors showed chipping and tangling of chips.

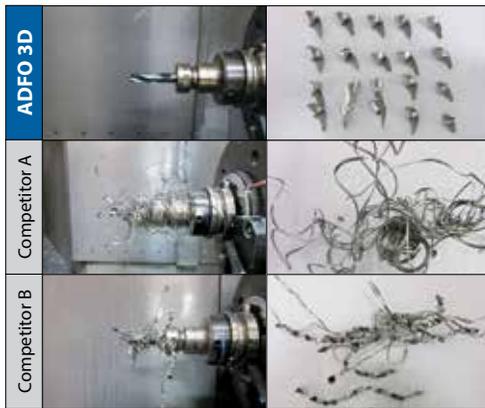
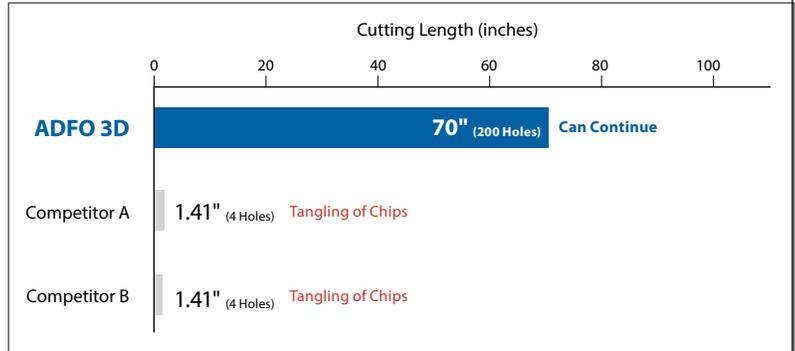


## Stable Processing of Stainless in Small Diameter

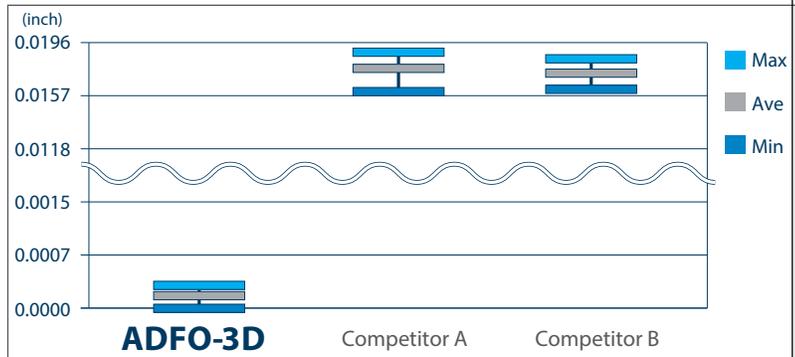
### 304 Stainless Steel

Even at smaller diameters, the ADFO demonstrated controlled hole expansion and exceptional durability.

Tool	ADFO 3D	Competitors
Drill Size	Ø3mm	
Machined Surface	Flat Surface	
Work Material	304 Stainless Steel	
Cutting Speed	164 SFM (5,305 RPM)	
Feed Rate	9.4 IPM (0.002 IPR)	
Depth of Hole	9 mm (Through)	
Coolant	Water Soluble	
Machine	Horizontal Machining Center	



### Hole Expansion Comparison



## Burrs Suppression

### 400 Stainless Steel

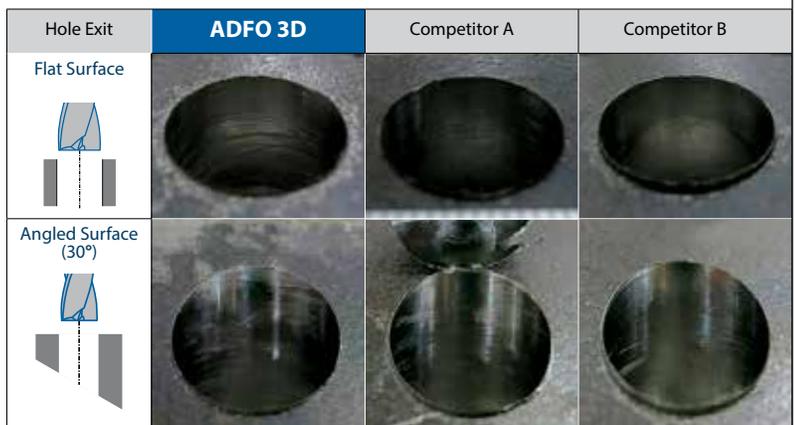
The ADFO's proprietary cutting edge geometry suppresses burrs when machining through holes.

Tool	ADFO 3D	
Drill Size	Ø16mm	
Machined Surface	Flat Surface	Angled Surface
Work Material	400 Stainless Steel	
Cutting Speed	328 SFM (1,989 RPM)	
Feed Rate	25 IPM (0.013 IPR)	12.5 IPM (0.006 IPR)
Depth of Hole	10 mm (Through)	16.5 mm (Through)
Coolant	Water Soluble	
Machine	Horizontal Machining Center	

Note: All tooling for this test was ran at the same parameters as the ADFO.

### Exit Hole Comparison

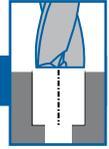
ADFO suppresses burrs on exit of the material.



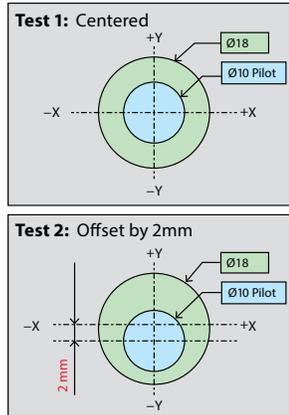
## Counterboring

### Grey Cast Iron

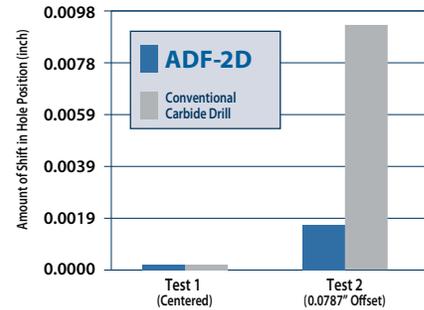
Both A Brand® ADF Drills and conventional drills show little to no positional inaccuracies when processed over the center of a pre-existing hole. However, when it is necessary to process the drill off-center over a pre-existing hole, the position and straightness of the hole made with the ADF is **5 times more accurate** than the conventional drill.



Tool	ADF-2D	Conventional Carbide Drill
Drill Size	Ø18	
Machined Surface	Flat Surface	
Work Material	Grey Cast Iron	
Cutting Speed	246 SFM (1,327 RPM)	
Feed Rate	5.2 IPM (0.004 IPR)	
Depth of Hole	34 mm (Blind)	
Coolant	Water Soluble	
Machine	Horizontal Machining Center	



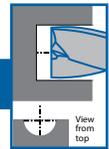
Shift Amount in Hole Position Centered vs Offset



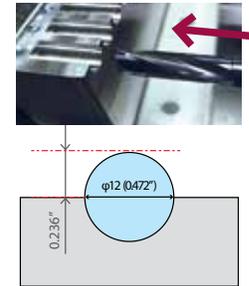
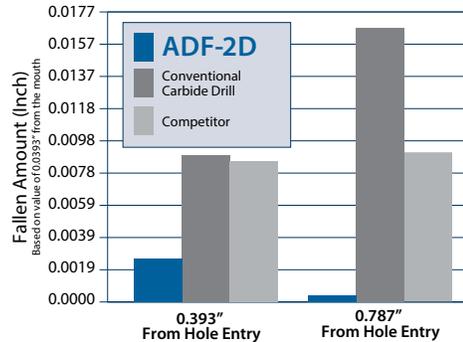
## Half-Hole

### Carbon Steel (1050)

The ADF minimized the amount of shift when drilling a half-hole as compared to both the conventional and competitor drills.



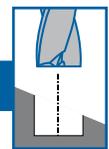
Tool	ADF-2D	Conventional Carbide Drill	Competitor
Drill Size	Ø12		
Machined Surface	Flat Surface		
Work Material	Carbon Steel (1050)		
Cutting Speed	121 SFM (979 RPM)		
Feed Rate	5.9 IPM (0.006 IPR)		
Depth of Hole	24 mm (Blind)		
Coolant	Water Soluble		
Machine	Horizontal Machining Center		



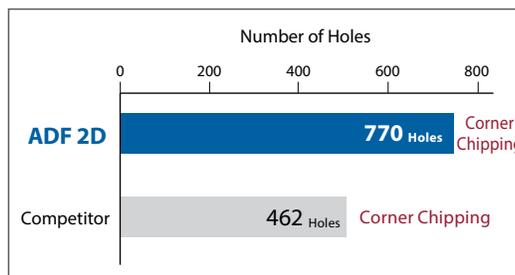
## Inclined Surface

### Alloy Steel (4140)

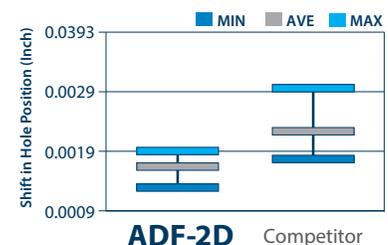
The ADF maintained accurate hole position and resisted chipping while drilling on an inclined surface.



Tool	ADF-2D	Competitor
Drill Size	Ø10	
Machined Surface	Angled Surface (30°)	
Work Material	Alloy Steel (4140)	
Cutting Speed	200 SFM (1,944 RPM)	
Feed Rate	7.7 IPM (0.004 IPR)	
Depth of Hole	20 mm (Blind)	
Coolant	Water Soluble	
Machine	Horizontal Machining Center	



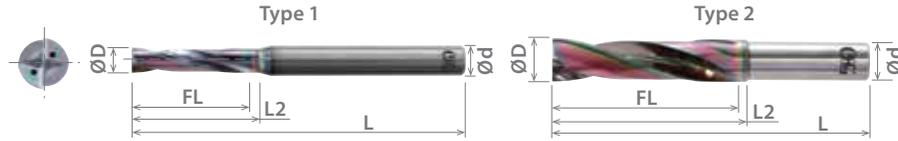
Shift in Hole Position ADF vs Competitor



## List 5720

ADFO-3D, Coolant-Through, Flat Drill

**NEW** SPEED FEED P30 CARBIDE EgiAs 20° SHANK h6



Cutting Diameter Tolerance (h8)		
Size	mm	inch
3 ≤ D ≤ 6	+0 / -0.018	+0 / -0.0007
6 < D ≤ 10	+0 / -0.022	+0 / -0.0009
10 < D ≤ 18	+0 / -0.027	+0 / -0.0011
18 < D ≤ 20	+0 / -0.033	+0 / -0.0013

EDP Number	Diameter					Flute Length FL	Neck Length L2	Overall Length L	Shank Diameter d	Type
	Fractional Size	Wire Gage	Letter Size	mm	Inch					
3334300	-	-	-	3.00	0.1181	15	16	55	4	1
3334302	-	-	-	3.10	0.1220					
572012517	1/8	-	-	3.18	0.1250					
3334304	-	-	-	3.20	0.1260	16	17	60	4	1
3334305	-	-	-	3.30	0.1299					
3334306	-	-	-	3.40	0.1339					
3334307	-	-	-	3.50	0.1378	19	20	65	4	2
3334309	-	-	-	3.60	0.1417					
3334312	-	-	-	3.70	0.1457					
3334313	-	-	-	3.80	0.1496	21	22	70	6	1
3334314	-	-	-	3.90	0.1535					
572015617	5/32	-	-	3.97	0.1563					
3334315	-	-	-	4.00	0.1575	24	25	75	6	2
3334317	-	-	-	4.10	0.1614					
3334318	-	-	-	4.20	0.1654					
3334319	-	-	-	4.30	0.1693	27	28	80	6	1
3334320	-	-	-	4.40	0.1732					
3334321	-	-	-	4.50	0.1772					
3334323	-	-	-	4.60	0.1811	30	31	85	8	1
3334326	-	-	-	4.70	0.1850					
572018717	3/16	-	-	4.76	0.1875					
3334327	-	-	-	4.80	0.1890	32	32	90	8	2
3334328	-	-	-	4.90	0.1929					
3334329	-	-	-	5.00	0.1969					
3334331	-	-	-	5.10	0.2008	31	31	95	8	1
3334332	-	-	-	5.20	0.2047					
3334333	-	-	-	5.30	0.2087					
3334334	-	-	-	5.40	0.2126	33	32	100	1/4	2
3334335	-	-	-	5.50	0.2165					
572021817	7/32	-	-	5.56	0.2188					
3334338	-	-	-	5.60	0.2205	34	32	105	1/4	2
3334339	-	-	-	5.70	0.2244					
3334340	-	-	-	5.80	0.2283					
3334341	-	-	-	5.90	0.2323	35	32	110	1/4	2
3334342	-	-	-	6.00	0.2362					
3334344	-	-	-	6.10	0.2402					
3334345	-	-	-	6.20	0.2441	36	32	115	1/4	2
3334346	-	-	-	6.30	0.2480					
572025017	1/4	-	E	6.35	0.2500					
3334347	-	-	-	6.40	0.2520	37	32	120	1/4	2
3334348	-	-	-	6.50	0.2559					
3334350	-	-	-	6.60	0.2598					
3334351	-	-	-	6.70	0.2638					

Packed: 1 pc.  
Available EgiAs Coating Only.

continued on next page

List No.	Work Material																
	P					M			K	N		S		H			
	Carbon Steels			Alloy Steels 4140 4340	Die Steels	Stainless Steels			Cast Iron	Aluminum		Nickel Alloy Inconel	Titanium 6Al4V (30 HRC)	Hardened Steels			
	Low 1010 1018	Med. 1035 1045	High 1065			300	400	17-4 PH		6061 7075	Casting			~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
5720	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

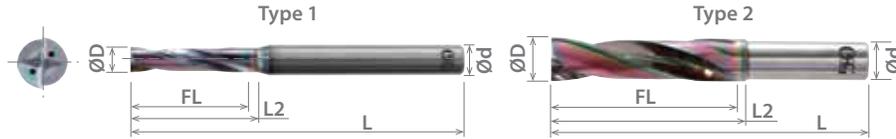
☐ good ☐ best



## List 5720 (Continued)

ADFO-3D, Coolant-Through, Flat Drill

**NEW** SPEED FEED P30 CARBIDE EgiAs 20° SHANK h6



Cutting Diameter Tolerance (h8)		
Size	mm	inch
3≤D≤6	+0 / -0.018	+0 / -0.0007
6<D≤10	+0 / -0.022	+0 / -0.0009
10<D≤18	+0 / -0.027	+0 / -0.0011
18<D≤20	+0 / -0.033	+0 / -0.0013

EDP Number	Diameter					Flute Length FL	Neck Length L2	Overall Length L	Shank Diameter d	Type
	Fractional Size	Wire Gage	Letter Size	mm	Inch					
3334352	-	-	-	6.80	0.2677	30	31	70	8	1
3334353	-	-	-	6.90	0.2717					
3334354	-	-	-	7.00	0.2756					
3334356	-	-	-	7.10	0.2795					
572028117	9/32	-	-	7.15	0.2813					
3334357	-	-	-	7.20	0.2835					
3334358	-	-	-	7.30	0.2874					
3334359	-	-	-	7.40	0.2913					
3334360	-	-	-	7.50	0.2953					
3334361	-	-	-	7.60	0.2992					
3334362	-	-	-	7.70	0.3031					
3334363	-	-	-	7.80	0.3071					
3334364	-	-	-	7.90	0.3110					
572031217	5/16	-	-	7.94	0.3125					
3334365	-	-	-	8.00	0.3150					
3334367	-	-	-	8.10	0.3189					
3334368	-	-	-	8.20	0.3228					
3334369	-	-	-	8.30	0.3268					
572032817	21/64	-	-	8.33	0.3281					
3334370	-	-	-	8.40	0.3307					
3334371	-	-	-	8.50	0.3346					
3334373	-	-	-	8.60	0.3386					
3334374	-	-	-	8.70	0.3425					
3334375	-	-	-	8.80	0.3465					
3334376	-	-	-	8.90	0.3504					
3334377	-	-	-	9.00	0.3543					
3334379	-	-	-	9.10	0.3583					
572035917	23/64	-	-	9.13	0.3594					
3334380	-	-	-	9.20	0.3622					
3334381	-	-	-	9.30	0.3661					
3334382	-	-	-	9.40	0.3701					
3334383	-	-	-	9.50	0.3740					
572037517	3/8	-	-	9.53	0.3750					
3334384	-	-	-	9.60	0.3780					
3334385	-	-	-	9.70	0.3819					
3334386	-	-	-	9.80	0.3858					
3334387	-	-	-	9.90	0.3898					
3334388	-	-	-	10.00	0.3937					
3334390	-	-	-	10.10	0.3976					
3334391	-	-	-	10.20	0.4016					
3334392	-	-	-	10.30	0.4055					
572040617	13/32	-	-	10.32	0.4063					
3334393	-	-	-	10.40	0.4094					
3334394	-	-	-	10.50	0.4134					
3334395	-	-	-	10.60	0.4173					
3334396	-	-	-	10.70	0.4213					
3334397	-	-	-	10.80	0.4252					
3334398	-	-	-	10.90	0.4291					
3334399	-	-	-	11.00	0.4331					
3334401	-	-	-	11.10	0.4370					
572043717	7/16	-	-	11.11	0.4374					
3334402	-	-	-	11.20	0.4409					
3334403	-	-	-	11.30	0.4449					
3334404	-	-	-	11.40	0.4488					
3334405	-	-	-	11.50	0.4528					
572045317	29/64	-	-	11.51	0.4531					
3334406	-	-	-	11.60	0.4567					
3334407	-	-	-	11.70	0.4606					
3334408	-	-	-	11.80	0.4646					
3334409	-	-	-	11.90	0.4685					
572046817	15/32	-	-	11.91	0.4688					
3334410	-	-	-	12.00	0.4724					

Packed: 1 pc.  
Available EgiAs Coating Only.



## List 5720 (Continued)

ADFO-3D, Coolant-Through, Flat Drill

NEW
SPEED FEED P30
CARBIDE
EgiAs
20°
SHANK h6

EDP Number	Diameter					Flute Length FL	Neck Length L2	Overall Length L	Shank Diameter d	Type
	Fractional Size	Wire Gage	Letter Size	mm	Inch					
3334412	-	-	-	12.10	0.4764	56	57	100	14	1
3334413	-	-	-	12.20	0.4803					
3334414	-	-	-	12.30	0.4843					
3334415	-	-	-	12.40	0.4882					
3334416	-	-	-	12.50	0.4921					
3334417	-	-	-	12.60	0.4961					
3334418	1/2	-	-	12.70	0.5000					
3334419	-	-	-	12.80	0.5039					
3334420	-	-	-	12.90	0.5079					
3334421	-	-	-	13.00	0.5118					
3334422	-	-	-	13.10	0.5157	60	61	105	16	1
3334423	-	-	-	13.20	0.5197					
3334424	-	-	-	13.30	0.5236					
3334425	-	-	-	13.40	0.5276					
3334426	-	-	-	13.50	0.5315					
3334427	-	-	-	13.60	0.5354					
3334428	-	-	-	13.70	0.5394					
3334429	-	-	-	13.80	0.5433					
3334430	-	-	-	13.90	0.5472					
3334431	-	-	-	14.00	0.5512					
3334432	-	-	-	14.10	0.5551	64	65	110	16	1
3334433	-	-	-	14.20	0.5591					
572056217	9/16	-	-	14.29	0.5626					
3334434	-	-	-	14.30	0.5630					
3334435	-	-	-	14.40	0.5669					
3334436	-	-	-	14.50	0.5709					
3334437	-	-	-	14.60	0.5748					
3334438	-	-	-	14.70	0.5787					
3334439	-	-	-	14.80	0.5827					
3334440	-	-	-	14.90	0.5866					
3334441	-	-	-	15.00	0.5906	68	69	115	16	1
3334442	-	-	-	15.10	0.5945					
3334443	-	-	-	15.20	0.5984					
3334444	-	-	-	15.30	0.6024					
3334445	-	-	-	15.40	0.6063					
3334446	-	-	-	15.50	0.6102					
3334447	-	-	-	15.60	0.6142					
3334448	-	-	-	15.70	0.6181					
3334449	-	-	-	15.80	0.6220					
572062517	5/8	-	-	15.88	0.6250					
3334450	-	-	-	15.90	0.6260					
3334451	-	-	-	16.00	0.6299					
3334452	-	-	-	16.50	0.6496					
3334453	-	-	-	17.00	0.6693					
572068717	11/16	-	-	17.46	0.6874					
3334454	-	-	-	17.50	0.6890					
3334455	-	-	-	18.00	0.7087					
3334456	-	-	-	18.50	0.7283					
3334457	-	-	-	19.00	0.7480					
572075017	3/4	-	-	19.05	0.7500	88	89	140	20	2
3334458	-	-	-	19.50	0.7677					
3334459	-	-	-	20.00	0.7874					

Packed: 1 pc.  
Available EgiAs Coating Only.



List No.	Work Material																
	P					M			K	N		S		H			
	Carbon Steels			Alloy Steels	Die Steels	Stainless Steels			Cast Iron	Aluminum		Nickel Alloy	Titanium	Hardened Steels			
	Low	Med.	High				300	400		17-4 PH				6061	Casting	Inconel	6AlV (30 HRC)
5720	1010	1035	1065	4140					7075								
	1018	1045		4340													

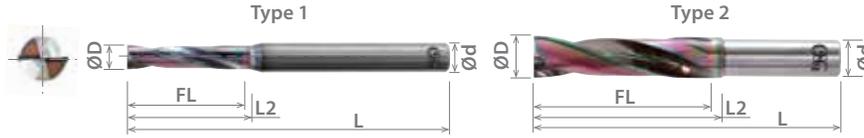
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## List 5700

ADF-2D, Flat Drill

<b>SPEED FEED</b> P31	<b>CARBIDE</b>	<b>EgiAs</b>	<b>20°</b>	<b>SHANK</b> h6
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Cutting Diameter Tolerance (h8)		
Size	mm	inch
2 ≤ D ≤ 3	+0 / -0.014	+0 / -0.0006
3 < D ≤ 6	+0 / -0.018	+0 / -0.0007
6 < D ≤ 10	+0 / -0.022	+0 / -0.0009
10 < D ≤ 18	+0 / -0.027	+0 / -0.0011
18 < D ≤ 20	+0 / -0.033	+0 / -0.0013

EDP Number	Diameter					Flute Length FL	Neck Length L2	Overall Length L	Shank Diameter d	Type
	Fractional Size	Wire Gage	Letter Size	mm	Inch					
3330200	-	-	-	2.00	0.0787	10	10.3	50	4	1
3330210	-	-	-	2.10	0.0827					
3330220	-	-	-	2.20	0.0866	11	10.6			
3330230	-	-	-	2.30	0.0906		10.8			
570009311	3/32	-	-	2.38	0.0937	12	11.0			
3330240	-	-	-	2.40	0.0945		11.2			
3330250	-	-	-	2.50	0.0984	13	11.4			
3330260	-	-	-	2.60	0.1024		11.6			
3330270	-	-	-	2.70	0.1063	14	11.8			
3330280	-	-	-	2.80	0.1102		11.9			
3330290	-	-	-	2.90	0.1142	15	11.4			
3330300	-	-	-	3.00	0.1181		11.6			
3330310	-	-	-	3.10	0.1220	15	17.0			
570012511	1/8	-	-	3.18	0.1250		11.8			
3330320	-	-	-	3.20	0.1260	16	12.0			
3330330	-	-	-	3.30	0.1299		12.1			
3330340	-	-	-	3.40	0.1339	16	12.3			
3330350	-	-	-	3.50	0.1378		12.5			
3330360	-	-	-	3.60	0.1417	19	12.7			
3330370	-	-	-	3.70	0.1457		17.9			
3330380	-	-	-	3.80	0.1496	19	18.1			
3330390	-	-	-	3.90	0.1535		20.5			
570015611	5/32	-	-	3.97	0.1563	21	18.3			
3330400	-	-	-	4.00	0.1575		18.5			
3330410	-	-	-	4.10	0.1614	21	18.6			
3330420	-	-	-	4.20	0.1654		18.8			
3330430	-	-	-	4.30	0.1693	24	19.0			
3330440	-	-	-	4.40	0.1732		19.2			
3330450	-	-	-	4.50	0.1772	24	19.4			
3330460	-	-	-	4.60	0.1811		19.6			
3330470	-	-	-	4.70	0.1850	27	27.0			
570018711	3/16	-	-	4.76	0.1875		24.8			
3330480	-	-	-	4.80	0.1890	27	24.9			
3330490	-	-	-	4.90	0.1929		25.1			
3330500	-	-	-	5.00	0.1969	27	25.3			
3330510	-	-	-	5.10	0.2008		25.5			
3330520	-	-	-	5.20	0.2047	30	25.7			
3330530	-	-	-	5.30	0.2087		25.9			
3330540	-	-	-	5.40	0.2126	30	26.1			
3330550	-	-	-	5.50	0.2165		25.5			
570021811	7/32	-	-	5.56	0.2188	30	26.3			
3330560	-	-	-	5.60	0.2205		26.4			
3330570	-	-	-	5.70	0.2244	30	26.6			
3330580	-	-	-	5.80	0.2283		26.8			
3330590	-	-	-	5.90	0.2323	30	27.0			
3330600	-	-	-	6.00	0.2362		6.0			
3330610	-	-	-	6.10	0.2402	30	6.20			
3330620	-	-	-	6.20	0.2441		6.30			
3330630	-	-	-	6.30	0.2480	30	6.40			
570025011	1/4	-	E	6.35	0.2500		6.50			
3330640	-	-	-	6.40	0.2520	30	6.60			
3330650	-	-	-	6.50	0.2559		6.70			
3330660	-	-	-	6.60	0.2598	30	6.80			
3330670	-	-	-	6.70	0.2638		6.90			
3330680	-	-	-	6.80	0.2677	30	7.00			
3330690	-	-	-	6.90	0.2717		7.00			
3330700	-	-	-	7.00	0.2756	7.00				

Packed: 1 pc.  
Available EgiAs Coating Only.



## List 5700 (Continued)

ADF-2D, Flat Drill



EDP Number	Diameter					Flute Length FL	Neck Length L2	Overall Length L	Shank Diameter d	Type			
	Fractional Size	Wire Gage	Letter Size	mm	Inch								
3330710	-	-	-	7.10	0.2795	34	36.0	75	6	2			
570028111	9/32	-	-	7.14	0.2813		34.5		5/16	1			
3330720	-	-	-	7.20	0.2835		36.0		6	2	2		
3330730	-	-	-	7.30	0.2874								
3330740	-	-	-	7.40	0.2913								
3330750	-	-	-	7.50	0.2953								
3330760	-	-	-	7.60	0.2992								
3330770	-	-	-	7.70	0.3031								
3330780	-	-	-	7.80	0.3071								
3330790	-	-	-	7.90	0.3110								
570031211	5/16	-	-	7.94	0.3125	40.0		80				5/16	2
3330800	-	-	-	8.00	0.3150								
3330810	-	-	-	8.10	0.3189								
3330820	-	-	-	8.20	0.3228								
3330830	-	-	-	8.30	0.3268								
570032811	21/64	-	-	8.33	0.3281		37.8		3/8	1			
3330840	-	-	-	8.40	0.3307		40.0		8	2	2		
3330850	-	-	-	8.50	0.3346								
3330860	-	-	-	8.60	0.3386								
3330870	-	-	-	8.70	0.3425								
3330880	-	-	-	8.80	0.3465								
3330890	-	-	-	8.90	0.3504								
3330900	-	-	-	9.00	0.3543								
3330910	-	-	-	9.10	0.3583								
570035911	23/64	-	-	9.13	0.3594	44.0		3/8				1	
3330920	-	-	-	9.20	0.3622	43.3		85				8	2
3330930	-	-	-	9.30	0.3661								
3330940	-	-	-	9.40	0.3701								
3330950	-	-	-	9.50	0.3740								
570037511	3/8	-	-	9.53	0.3750	44.0	3/8		2	2			
3330960	-	-	-	9.60	0.3780								
3330970	-	-	-	9.70	0.3819								
3330980	-	-	-	9.80	0.3858								
3330990	-	-	-	9.90	0.3898								
3331000	-	-	-	10.00	0.3937								
3331010	-	-	-	10.10	0.3976								
3331020	-	-	-	10.20	0.4016								
3331030	-	-	-	10.30	0.4055		48.0	10			2	2	
570040611	13/32	-	-	10.32	0.4063			46.5					7/16
3331040	-	-	-	10.40	0.4094								
3331050	-	-	-	10.50	0.4134								
3331060	-	-	-	10.60	0.4173								
3331070	-	-	-	10.70	0.4213								
3331080	-	-	-	10.80	0.4252								
3331090	-	-	-	10.90	0.4291								
3331100	-	-	-	11.00	0.4331								

Packed: 1 pc.  
Available EgiAs Coating Only.

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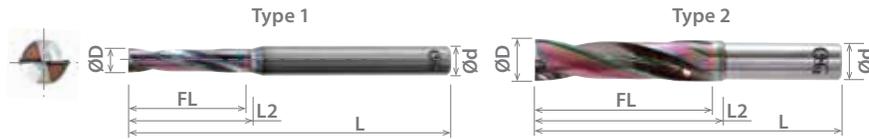
Work Material																	
List No.	P					M			K	N		S		H			
	Carbon Steels			Alloy Steels 4140 4340	Die Steels	Stainless Steels			Cast Iron	Aluminum		Nickel Alloy Inconel	Titanium 6Al4V (30 HRC)	Hardened Steels			
	Low 1010 1018	Med. 1035 1045	High 1065			300	400	17-4 PH		6061 7075	Casting			~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
5700	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

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## List 5700 (Continued)

ADF 2D



SPEED FEED P31	CARBIDE	EgiAs	20°	SHANK h6
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Size	Tolerance (h8)	
	mm	inch
2≤D≤3	+0 / -0.014	+0 / -0.0006
3<D≤6	+0 / -0.018	+0 / -0.0007
6<D≤10	+0 / -0.022	+0 / -0.0009
10<D≤18	+0 / -0.027	+0 / -0.0011
18<D≤20	+0 / -0.033	+0 / -0.0013

EDP Number	Diameter					Flute Length FL	Neck Length L2	Overall Length L	Shank Diameter d	Type	
	Fractional Size	Wire Gage	Letter Size	mm	Inch						
3331110	-	-	-	11.10	0.4370	50	52.0	95	10	2	
570043711	7/16	-	-	11.11	0.4374				7/16		
3331120	-	-	-	11.20	0.4409				10		
3331130	-	-	-	11.30	0.4449				10		
3331140	-	-	-	11.40	0.4488				10		
3331150	-	-	-	11.50	0.4528		10				
570045311	29/64	-	-	11.51	0.4531		49.8	1/2	1		
3331160	-	-	-	11.60	0.4567		52.0	10	2		
3331170	-	-	-	11.70	0.4606						
3331180	-	-	-	11.80	0.4646						
3331190	-	-	-	11.90	0.4685						
570046811	15/32	-	-	11.91	0.4688	50.5				1/2	1
3331200	-	-	-	12.00	0.4724	52.0	12	2			
3331210	-	-	-	12.10	0.4764	56			58.0	100	
3331220	-	-	-	12.20	0.4803						
3331230	-	-	-	12.30	0.4843						
3331240	-	-	-	12.40	0.4882						
3331250	-	-	-	12.50	0.4921						
3331260	-	-	-	12.60	0.4961						
3331270	1/2	-	-	12.70	0.5000						
3331280	-	-	-	12.80	0.5039						
3331290	-	-	-	12.90	0.5079						
3331300	-	-	-	13.00	0.5118		60	62.0			105
3331310	-	-	-	13.10	0.5157						
3331320	-	-	-	13.20	0.5197						
3331330	-	-	-	13.30	0.5236						
3331340	-	-	-	13.40	0.5276						
3331350	-	-	-	13.50	0.5315						
3331360	-	-	-	13.60	0.5354						
3331370	-	-	-	13.70	0.5394						
3331380	-	-	-	13.80	0.5433						
3331390	-	-	-	13.90	0.5472						
3331400	-	-	-	14.00	0.5512	64	66.0	110			
3331410	-	-	-	14.10	0.5551						
3331420	-	-	-	14.20	0.5591						
570056211	9/16	-	-	14.29	0.5625				63.0	5/8	1
3331430	-	-	-	14.30	0.5630						
3331440	-	-	-	14.40	0.5669	68	70.0	115			
3331450	-	-	-	14.50	0.5709						
3331460	-	-	-	14.60	0.5748						
3331470	-	-	-	14.70	0.5787						
3331480	-	-	-	14.80	0.5827						
3331490	-	-	-	14.90	0.5866						
3331500	-	-	-	15.00	0.5906						
3331510	-	-	-	15.10	0.5945						
3331520	-	-	-	15.20	0.5984						
3331530	-	-	-	15.30	0.6024						
3331540	-	-	-	15.40	0.6063	74	76.0	125			
3331550	-	-	-	15.50	0.6102						
3331560	-	-	-	15.60	0.6142						
3331570	-	-	-	15.70	0.6181						
3331580	-	-	-	15.80	0.6220						
570062511	5/8	-	-	15.88	0.6250	16					
3331590	-	-	-	15.90	0.6260						
3331600	-	-	-	16.00	0.6299						
3331650	-	-	-	16.50	0.6496						
3331700	-	-	-	17.00	0.6693						

Packed: 1 pc.  
Available EgiAs Coating Only.



## List 5700 (Continued)

ADF 2D

<b>SPEED FEED</b> P31	<b>CARBIDE</b>	<b>EgiAs</b>	<b>20°</b>	<b>SHANK</b> h6
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EDP Number	Diameter					Flute Length FL	Neck Length L2	Overall Length L	Shank Diameter d	Type
	Fractional Size	Wire Gage	Letter Size	mm	Inch					
570068711	11/16	-	-	17.46	0.6875	78	77.1	130	3/4	1
3331750	-	-	-	17.50	0.6890		80.0			
3331800	-	-	-	18.00	0.7087	84	86.0	16		
3331850	-	-	-	18.50	0.7283					
3331900	-	-	-	19.00	0.7480	88	90.0	3/4		
570075011	3/4	-	-	19.05	0.7500					
3331950	-	-	-	19.50	0.7677	140	16			
3332000	-	-	-	20.00	0.7874		20			

Packed: 1 pc.  
Available EgiAs Coating Only.



Work Material																	
List No.	P					M			K	N		S	H				
	Carbon Steels			Alloy Steels	Die Steels	Stainless Steels			Cast Iron	Aluminum		Nickel Alloy	Titanium	Hardened Steels			
	Low	Med.	High	4140 4340	400	300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
5700	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		

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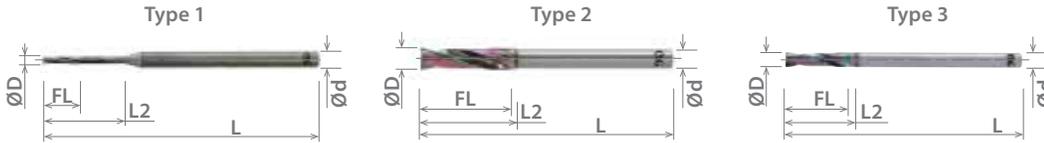
# A Brand® ADFLS

Advanced Performance Long Shank Flat Drill

## List 5705

ADFLS-2D, Long Shank, Flat Drill

**NEW** **SPEED FEED** P32 **CARBIDE** **EgiAs** **20°** **SHANK** h6



Cutting Diameter Tolerance (h8)		
Size	mm	inch
3≤D≤6	+0 / -0.018	+0 / -0.0007
6<D≤10	+0 / -0.022	+0 / -0.0009
10<D≤18	+0 / -0.027	+0 / -0.0011
18<D≤20	+0 / -0.033	+0 / -0.0013

EDP Number	Diameter					Flute Length FL	Neck Length L2	Overall Length L	Shank Diameter d	Type
	Fractional Size	Wire Gage	Letter Size	mm	Inch					
3332300	-	-	-	3.00	0.1181	15	30	100	6	1
3332310	-	-	-	3.10	0.1220					
570512517	1/8	-	-	3.18	0.1250	16	32	100	1/8	2
3332320	-	-	-	3.20	0.1260					
3332330	-	-	-	3.30	0.1299	19	33	100	6	1
3332340	-	-	-	3.40	0.1339					
3332350	-	-	-	3.50	0.1378	21	34	100	6	1
3332360	-	-	-	3.60	0.1417					
3332370	-	-	-	3.70	0.1457	24	35	100	6	1
3332380	-	-	-	3.80	0.1496					
3332390	-	-	-	3.90	0.1535	27	36	100	6	1
570515617	5/32	-	-	3.97	0.1563					
3332400	-	-	-	4.00	0.1575	30	37	100	6	1
3332410	-	-	-	4.10	0.1614					
3332420	-	-	-	4.20	0.1654	34	38	100	6	1
3332430	-	-	-	4.30	0.1693					
3332440	-	-	-	4.40	0.1732	38	39	100	6	1
3332450	-	-	-	4.50	0.1772					
3332460	-	-	-	4.60	0.1811	42	40	100	6	1
3332470	-	-	-	4.70	0.1850					
570518717	3/16	-	-	4.76	0.1875	47	41	100	3/16	2
3332480	-	-	-	4.80	0.1890					
3332490	-	-	-	4.90	0.1929	51	42	100	6	1
3332500	-	-	-	5.00	0.1969					
3332510	-	-	-	5.10	0.2008	55	43	100	6	1
3332520	-	-	-	5.20	0.2047					
3332530	-	-	-	5.30	0.2087	59	44	100	6	1
3332540	-	-	-	5.40	0.2126					
3332550	-	-	-	5.50	0.2165	63	45	100	6	1
570521817	7/32	-	-	5.56	0.2188					
3332560	-	-	-	5.60	0.2205	67	46	100	6	1
3332570	-	-	-	5.70	0.2244					
3332580	-	-	-	5.80	0.2283	71	47	100	6	1
3332590	-	-	-	5.90	0.2323					
3332600	-	-	-	6.00	0.2362	75	48	100	6	1
3334060	-	-	-	6.00	0.2362					
570525017	1/4	-	E	6.35	0.2500	79	49	100	1/4	2
3332650	-	-	-	6.50	0.2559					
3332680	-	-	-	6.80	0.2677	83	32	120	6	2
3332700	-	-	-	7.00	0.2756					
570528117	9/32	-	-	7.15	0.2813	87	72	130	5/16	1
3332750	-	-	-	7.50	0.2953					
3332780	-	-	-	7.80	0.3071	91	36	130	6	2
570531217	5/16	-	-	7.94	0.3125					
3332800	-	-	-	8.00	0.3150	95	79	130	5/16	2
3334080	-	-	-	8.00	0.3150					
570532817	21/64	-	-	8.33	0.3281	99	36	140	8	3
3332850	-	-	-	8.50	0.3346					
3332880	-	-	-	8.80	0.3465	103	80	140	8	3
3332900	-	-	-	9.00	0.3543					
570535917	23/64	-	-	9.13	0.3594	107	83	140	3/8	1
3332950	-	-	-	9.50	0.3740					
570537517	3/8	-	-	9.53	0.3750	111	40	150	8	2
3332980	-	-	-	9.80	0.3858					
3333000	-	-	-	10.00	0.3937	115	44	150	8	2
3334100	-	-	-	10.00	0.3937					
						100			10	3

Packed: 1 pc.  
Available EgiAs Coating Only.



## List 5705 (Continued)

ADFLS-2D, Long Shank, Flat Drill



EDP Number	Diameter					Flute Length FL	Neck Length L2	Overall Length L	Shank Diameter d	Type		
	Fractional Size	Wire Gage	Letter Size	mm	Inch							
570540617	13/32	-	-	10.32	0.4063	46	103	160	7/16	1		
3333050	-	-	-	10.50	0.4134		48		10	2		
3333080	-	-	-	10.80	0.4252							
3333100	-	-	-	11.00	0.4331							
570543717	7/16	-	-	11.11	0.4374	50	111	170	7/16	2		
570545317	29/64	-	-	11.51	0.4531		115		1/2			
3333180	-	-	-	11.80	0.4646		52		10			
570546817	15/32	-	-	11.91	0.4688		119		1/2			
3333200	-	-	-	12.00	0.4724		52		12		2	
3334120	-	-	-	12.50	0.4921		120				3	
3333250	-	-	-	12.70	0.5000		58		180		1/2	2
570550017	1/2	-	-	13.00	0.5118		127					
3333300	-	-	-	13.50	0.5315	58						
3333350	-	-	-	14.00	0.5512	60	62	190	12	2		
3333400	-	-	-	14.29	0.5625	64	143	200	5/8			
570556217	9/16	-	-	15.00	0.5906		66		12	210	5/8	2
3333500	-	-	-	15.88	0.6250	68	159	210	16		3	
570562517	5/8	-	-	16.00	0.6299		70					
3333600	-	-	-	17.00	0.6693		160					
3334160	-	-	-	17.46	0.6875	74	76	220	3/4	1		
3333700	-	-	-	17.50	0.6890	78	175	230	16	2		
570568717	11/16	-	-	17.80	0.7087		80					
3333750	-	-	-	18.00	0.7087		88				191	250
3333800	-	-	-	19.05	0.7500	90						
570575017	3/4	-	-	20.00	0.7874	200	20	250	20	3		
3334000	-	-	-									
3334200	-	-	-									

Packed: 1 pc.  
Available EgiAs Coating Only.



Work Material																	
List No.	P					M			K	N		S		H			
	Carbon Steels			Alloy Steels	Die Steels	Stainless Steels			Cast Iron	Aluminum		Nickel Alloy	Titanium	Hardened Steels			
	Low	Med.	High			300	400	17-4 PH		6061	Casting			Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC
5705	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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## List 5720 - A Brand<sup>®</sup> ADFO: 3D

### 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		130-200 SFM		200-400 SFM		165-260 SFM		265-650 SFM	
Drill Dia.		Speed	Feed	Speed	Feed	Speed	Feed	Speed	Feed	Speed	Feed	Speed	Feed
mm	Inch	RPM	IPR	RPM	IPR	RPM	IPR	RPM	IPR	RPM	IPR	RPM	IPR
2	-	10,600	0.002 - 0.004	7,450	0.002 - 0.004	5,300	0.002 - 0.004	10,600	0.002 - 0.004	8,500	0.002 - 0.004	17,000	0.002 - 0.004
3	-	10,080	0.002 - 0.004	7,030	0.002 - 0.004	5,040	0.002 - 0.004	10,080	0.002 - 0.004	8,100	0.002 - 0.004	16,050	0.002 - 0.004
-	1/8	8,000	0.002 - 0.005	5,550	0.002 - 0.005	4,000	0.002 - 0.005	8,000	0.002 - 0.005	6,350	0.002 - 0.005	12,750	0.002 - 0.005
4	-	6,720	0.002 - 0.006	4,690	0.002 - 0.006	3,360	0.002 - 0.006	6,720	0.002 - 0.006	5,400	0.002 - 0.006	10,700	0.002 - 0.006
-	3/16	5,300	0.002 - 0.007	3,700	0.002 - 0.007	2,650	0.002 - 0.007	5,300	0.002 - 0.007	4,250	0.002 - 0.007	8,500	0.002 - 0.007
6	-	5,040	0.003 - 0.008	3,510	0.003 - 0.008	2,520	0.003 - 0.008	5,040	0.003 - 0.008	4,050	0.003 - 0.008	8,020	0.003 - 0.008
-	1/4	4,000	0.003 - 0.009	2,800	0.003 - 0.009	2,000	0.003 - 0.009	4,000	0.003 - 0.009	3,200	0.003 - 0.009	6,350	0.003 - 0.009
8	-	3,360	0.004 - 0.011	2,340	0.004 - 0.011	1,680	0.004 - 0.011	3,360	0.004 - 0.011	2,700	0.004 - 0.011	5,350	0.004 - 0.011
-	3/8	3,200	0.004 - 0.012	2,250	0.004 - 0.012	1,600	0.004 - 0.012	3,200	0.004 - 0.012	2,550	0.004 - 0.012	5,100	0.004 - 0.012
10	-	2,880	0.004 - 0.013	2,010	0.004 - 0.013	1,440	0.004 - 0.013	2,880	0.004 - 0.013	2,310	0.004 - 0.013	4,580	0.004 - 0.013
-	7/16	2,650	0.005 - 0.014	1,850	0.005 - 0.014	1,350	0.005 - 0.014	2,650	0.005 - 0.014	2,100	0.005 - 0.014	4,250	0.005 - 0.014
12	-	2,520	0.005 - 0.015	1,760	0.005 - 0.015	1,260	0.005 - 0.015	2,520	0.005 - 0.015	2,020	0.005 - 0.015	4,010	0.005 - 0.015
-	1/2	2,250	0.006 - 0.017	1,600	0.006 - 0.017	1,150	0.006 - 0.017	2,250	0.006 - 0.017	1,800	0.006 - 0.017	3,650	0.006 - 0.017
14	-	2,010	0.006 - 0.019	1,410	0.006 - 0.019	1,010	0.006 - 0.019	2,010	0.006 - 0.019	1,620	0.006 - 0.019	3,210	0.006 - 0.019
-	5/8	2,000	0.006 - 0.019	1,400	0.006 - 0.019	1,000	0.006 - 0.019	2,000	0.006 - 0.019	1,600	0.006 - 0.019	3,200	0.006 - 0.019
18	-	1,750	0.007 - 0.021	1,250	0.007 - 0.021	900	0.007 - 0.021	1,750	0.007 - 0.021	1,400	0.007 - 0.021	2,850	0.007 - 0.021
-	3/4	1,680	0.008 - 0.023	1,170	0.008 - 0.023	840	0.008 - 0.023	1,680	0.008 - 0.023	1,350	0.008 - 0.023	2,670	0.008 - 0.023
20	-	1,600	0.008 - 0.024	1,100	0.008 - 0.024	800	0.008 - 0.024	1,600	0.008 - 0.024	1,250	0.008 - 0.024	2,550	0.008 - 0.024

### General Drilling Operations

Work Material		Cast Aluminum		Hardened Steel-Pre Hardened Steels		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	Feed	Speed	Feed	Speed	Feed
mm	Inch	RPM	IPR	RPM	IPR	RPM	IPR
2	-	17,000	0.002 - 0.004	2,650	0.001 - 0.004	3,200	0.002 - 0.004
3	-	16,050	0.002 - 0.004	2,500	0.001 - 0.004	3,050	0.002 - 0.004
-	1/8	12,750	0.002 - 0.005	2,000	0.002 - 0.005	2,400	0.002 - 0.005
4	-	10,700	0.002 - 0.006	1,670	0.002 - 0.006	2,040	0.002 - 0.006
-	3/16	8,500	0.002 - 0.007	1,350	0.002 - 0.007	1,600	0.002 - 0.007
6	-	8,020	0.003 - 0.008	1,250	0.003 - 0.008	1,530	0.003 - 0.008
-	1/4	6,350	0.003 - 0.009	1,000	0.003 - 0.009	1,200	0.003 - 0.009
8	-	5,350	0.004 - 0.011	840	0.004 - 0.011	1,020	0.004 - 0.011
-	3/8	5,100	0.004 - 0.012	800	0.004 - 0.012	950	0.004 - 0.012
10	-	4,580	0.004 - 0.013	720	0.004 - 0.013	880	0.004 - 0.013
-	7/16	4,250	0.005 - 0.014	650	0.005 - 0.014	800	0.005 - 0.014
12	-	4,010	0.005 - 0.015	630	0.005 - 0.015	770	0.005 - 0.015
-	1/2	3,650	0.006 - 0.017	550	0.006 - 0.017	700	0.006 - 0.017
14	-	3,210	0.006 - 0.019	500	0.006 - 0.019	610	0.006 - 0.019
-	5/8	3,200	0.006 - 0.019	500	0.006 - 0.019	600	0.006 - 0.019
18	-	2,850	0.007 - 0.021	450	0.007 - 0.021	550	0.007 - 0.021
-	3/4	2,670	0.008 - 0.023	420	0.008 - 0.023	510	0.008 - 0.023
20	-	2,550	0.008 - 0.024	400	0.008 - 0.024	500	0.008 - 0.024



**Note:**

- Water-soluble coolant may be applied as noted in the above table only under the premise that the work surface has been flattened by milling.
- Use a rigid and precise machine and holder.
- Please minimize overhang length as much as possible during machining.
- Adjust the rotational speed and feed 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 0.0008".
- Please select a cutting fluid that is most suitable for the work material with minimal smoke formation.
- In the case of dry machining, please use air blow to remove chips to prevent clogging.
  - Please do not machine stainless steel dry.
- When machining an inclined plane, adjust the rotational speed and feed 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 20-40%.
- 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 feed as indicated above (in accordance with the machining precision requirement).
- Please always use the appropriate cutting fluid recommended by the cutting fluid manufacturer in the machining of magnesium alloys. Be cautious with the cutting chips as they are highly flammable and may pose a serious fire risk if not properly handled.



# List 5700 - EXOCARB® 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		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		Feed		Speed		Feed		Speed		Feed		
	mm	Inch	RPM	IPR	RPM	IPR	RPM	IPR	RPM	IPR	RPM	IPR	
2	-	12,700	0.0004-0.002	9,550	0.0004-0.002	6,310	0.0004 - 0.002	14,300	0.0004-0.002	10,350	0.0004-0.002	22,300	0.0004-0.002
3	-	8,500	0.001-0.004	6,350	0.001-0.004	4,250	0.001 - 0.004	9,550	0.001-0.004	6,900	0.001-0.004	14,850	0.001-0.004
-	1/8	8,000	0.001-0.004	6,020	0.001-0.004	3,970	0.001 - 0.004	9,020	0.001-0.004	6,570	0.001-0.004	14,060	0.001-0.004
4	-	6,350	0.001-0.005	4,750	0.001-0.005	3,200	0.001 - 0.005	7,150	0.001-0.005	5,150	0.001-0.005	11,150	0.001-0.005
-	3/16	5,300	0.001-0.006	4,020	0.001-0.006	2,650	0.001 - 0.006	6,010	0.001-0.006	4,380	0.001-0.006	9,370	0.001-0.006
6	-	4,250	0.001-0.007	3,200	0.001-0.007	2,100	0.001 - 0.007	4,750	0.001-0.007	3,450	0.001-0.007	7,450	0.001-0.007
-	1/4	4,000	0.001-0.008	3,010	0.001-0.008	1,990	0.001 - 0.008	4,510	0.001-0.008	3,290	0.001-0.008	7,030	0.001-0.008
8	-	3,200	0.002-0.009	2,400	0.002-0.009	1,600	0.002 - 0.009	3,600	0.002-0.009	2,600	0.002-0.009	5,550	0.001-0.009
-	3/8	2,650	0.002-0.011	2,010	0.002-0.011	1,320	0.002 - 0.011	3,010	0.002-0.011	2,190	0.002-0.011	4,690	0.002-0.011
10	-	2,550	0.002-0.012	1,900	0.002-0.012	1,260	0.002 - 0.012	2,850	0.002-0.012	2,050	0.002-0.012	4,450	0.002-0.012
-	7/16	2,300	0.002-0.012	1,720	0.002-0.012	1,140	0.002 - 0.012	2,580	0.002-0.012	1,880	0.002-0.012	4,020	0.002-0.013
12	-	2,100	0.002-0.012	1,600	0.002-0.012	1,050	0.002 - 0.012	2,400	0.002-0.012	1,700	0.002-0.012	3,700	0.002-0.014
-	1/2	2,000	0.002-0.013	1,510	0.002-0.013	990	0.002 - 0.013	2,250	0.002-0.013	1,650	0.002-0.013	3,520	0.002-0.016
14	-	1,800	0.003-0.014	1,350	0.003-0.014	910	0.003 - 0.014	2,050	0.003-0.014	1,500	0.003-0.014	3,200	0.003-0.017
-	5/8	1,600	0.003-0.015	1,210	0.003-0.014	790	0.003 - 0.015	1,800	0.003-0.014	1,310	0.003-0.014	2,820	0.003-0.019
18	-	1,400	0.004-0.015	1,050	0.004-0.015	700	0.004 - 0.015	1,600	0.004-0.015	1,150	0.004-0.015	2,500	0.004-0.021
-	3/4	1,350	0.004-0.016	1,000	0.004-0.015	660	0.004 - 0.016	1,500	0.004-0.016	1,100	0.004-0.016	2,350	0.004-0.023
20	-	1,250	0.004-0.016	950	0.004-0.016	635	0.004 - 0.016	1,450	0.004-0.016	1,050	0.004-0.016	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		Feed		Speed		Feed	
	mm	Inch	RPM	IPR	RPM	IPR	RPM	IPR
2	-	22,300	0.0004-0.002	4,000	0.0004-0.001	4,750	0.0004-0.002	
3	-	14,850	0.001-0.004	2,650	0.001-0.002	3,200	0.001-0.002	
-	1/8	14,060	0.001-0.004	2,500	0.001-0.002	3,050	0.001-0.002	
4	-	11,150	0.001-0.005	2,000	0.001-0.002	2,400	0.001-0.003	
-	3/16	9,370	0.001-0.006	1,670	0.001-0.003	2,040	0.001-0.004	
6	-	7,450	0.001-0.007	1,350	0.001-0.004	1,600	0.001-0.005	
-	1/4	7,030	0.001-0.008	1,250	0.001-0.004	1,530	0.001-0.005	
8	-	5,550	0.001-0.009	1,000	0.002-0.005	1,200	0.002-0.006	
-	3/8	4,690	0.002-0.011	840	0.002-0.005	1,020	0.002-0.007	
10	-	4,450	0.002-0.012	800	0.002-0.006	950	0.002-0.008	
-	7/16	4,020	0.002-0.013	720	0.002-0.006	880	0.002-0.009	
12	-	3,700	0.002-0.014	650	0.002-0.007	800	0.002-0.009	
-	1/2	3,520	0.002-0.016	630	0.002-0.007	770	0.002-0.010	
14	-	3,200	0.003-0.017	550	0.003-0.008	700	0.003-0.011	
-	5/8	2,820	0.003-0.019	500	0.003-0.009	610	0.003-0.013	
18	-	2,500	0.004-0.021	450	0.004-0.011	550	0.004-0.014	
-	3/4	2,350	0.004-0.023	420	0.004-0.012	510	0.004-0.015	
20	-	2,250	0.004-0.024	400	0.004-0.012	500	0.004-0.016	



**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 hang over 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 0.01 mm.
- 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%.
- 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).



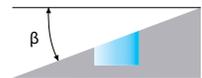
## List 5705 - A Brand® ADFLS: 2D

### 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	Feed	Speed	Feed	Speed	Feed	Speed	Feed	Speed	Feed	Speed	Feed	
	RPM	IPR	RPM	IPR	RPM	IPR	RPM	IPR	RPM	IPR	RPM	IPR	
mm	Inch												
2	-	12,700	0.0012 - 0.002	9,550	0.0012 - 0.002	6,310	0.0012 - 0.002	14,300	0.0016 - 0.002	10,350	0.0016 - 0.002	22,300	0.0004 - 0.002
3	-	8,500	0.002 - 0.003	6,350	0.002 - 0.003	4,250	0.002 - 0.003	9,550	0.002 - 0.004	6,900	0.002 - 0.004	14,850	0.001 - 0.004
-	1/8	8,000	0.002 - 0.003	6,020	0.002 - 0.003	3,970	0.002 - 0.003	9,020	0.002 - 0.004	6,570	0.002 - 0.004	14,060	0.001 - 0.004
4	-	6,350	0.002 - 0.004	4,750	0.002 - 0.004	3,200	0.002 - 0.004	7,150	0.003 - 0.005	5,150	0.003 - 0.005	11,150	0.001 - 0.005
-	3/16	5,300	0.002 - 0.004	4,020	0.002 - 0.004	2,650	0.002 - 0.004	6,010	0.003 - 0.005	4,380	0.003 - 0.005	9,370	0.001 - 0.005
6	-	4,250	0.004 - 0.006	3,200	0.004 - 0.006	2,100	0.004 - 0.006	4,750	0.005 - 0.007	3,450	0.005 - 0.007	7,450	0.001 - 0.007
-	1/4	4,000	0.004 - 0.006	3,010	0.004 - 0.006	1,990	0.004 - 0.006	4,510	0.005 - 0.007	3,290	0.005 - 0.007	7,030	0.001 - 0.007
8	-	3,200	0.005 - 0.008	2,400	0.005 - 0.008	1,600	0.005 - 0.008	3,600	0.006 - 0.009	2,600	0.006 - 0.009	5,550	0.002 - 0.009
-	3/8	2,650	0.005 - 0.008	2,010	0.005 - 0.008	1,320	0.005 - 0.008	3,010	0.006 - 0.009	2,190	0.006 - 0.009	4,690	0.002 - 0.009
10	-	2,550	0.006 - 0.010	1,900	0.006 - 0.010	1,260	0.006 - 0.010	2,850	0.008 - 0.012	2,050	0.008 - 0.012	4,450	0.002 - 0.012
-	7/16	2,300	0.006 - 0.010	1,720	0.006 - 0.010	1,140	0.006 - 0.010	2,580	0.008 - 0.012	1,880	0.008 - 0.012	4,020	0.002 - 0.012
12	-	2,100	0.007 - 0.012	1,600	0.007 - 0.012	1,050	0.007 - 0.012	2,400	0.009 - 0.014	1,700	0.009 - 0.014	3,700	0.002 - 0.014
-	1/2	2,000	0.007 - 0.012	1,510	0.007 - 0.012	990	0.007 - 0.012	2,250	0.009 - 0.014	1,650	0.009 - 0.014	3,520	0.002 - 0.014
14	-	1,800	0.008 - 0.014	900	0.008 - 0.014	910	0.008 - 0.014	2,050	0.011 - 0.017	1,500	0.011 - 0.017	3,200	0.003 - 0.017
-	5/8	1,600	0.009 - 0.016	800	0.009 - 0.016	790	0.009 - 0.016	1,800	0.013 - 0.019	1,300	0.013 - 0.019	2,800	0.003 - 0.019
		1,600	0.009 - 0.016	800	0.009 - 0.016	790	0.009 - 0.016	1,800	0.013 - 0.019	1,300	0.013 - 0.019	2,800	0.003 - 0.019
18	-	1,400	0.011 - 0.018	700	0.011 - 0.018	700	0.011 - 0.018	1,600	0.014 - 0.021	1,150	0.014 - 0.021	2,500	0.004 - 0.021
-	3/4	1,350	0.012 - 0.020	660	0.012 - 0.020	660	0.012 - 0.020	1,500	0.016 - 0.024	1,100	0.016 - 0.024	2,350	0.004 - 0.024
20	-	1,250	0.012 - 0.020	650	0.012 - 0.020	635	0.012 - 0.020	1,450	0.016 - 0.024	1,050	0.016 - 0.024	2,250	0.004 - 0.024

### General Drilling Operations

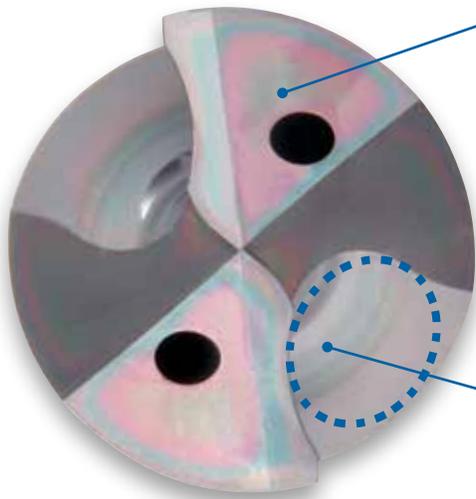
Work Material	Cast Aluminum		Hardened Steel-Pre Hardened Steel		Plastic Mold Steels		
	Hardness		Up to 50 HRC		Up to 40 HRC		
Drilling Speed	265-650 SFM		65-100 SFM		65-130 SFM		
Drill Dia.	Speed	Feed	Speed	Feed	Speed	Feed	
	RPM	IPR	RPM	IPR	RPM	IPR	
mm	Inch						
2	-	22,300	0.0004 - 0.002	4,000	0.0008 - 0.002	4,750	0.0012 - 0.002
3	-	14,850	0.001 - 0.004	2,650	0.001 - 0.002	3,200	0.0018 - 0.002
-	1/8	14,060	0.001 - 0.004	2,500	0.001 - 0.002	3,050	0.0018 - 0.002
4	-	11,150	0.001 - 0.005	2,000	0.002 - 0.003	2,400	0.002 - 0.003
-	3/16	9,370	0.001 - 0.005	1,670	0.002 - 0.003	2,040	0.002 - 0.003
6	-	7,450	0.001 - 0.007	1,350	0.002 - 0.005	1,600	0.004 - 0.005
-	1/4	7,030	0.001 - 0.007	1,250	0.002 - 0.005	1,530	0.004 - 0.005
8	-	5,550	0.002 - 0.009	1,000	0.003 - 0.006	1,200	0.005 - 0.006
-	3/8	4,690	0.002 - 0.009	840	0.003 - 0.006	1,020	0.005 - 0.006
10	-	4,450	0.002 - 0.012	800	0.004 - 0.008	950	0.006 - 0.008
-	7/16	4,020	0.002 - 0.012	720	0.004 - 0.008	880	0.006 - 0.008
12	-	3,700	0.002 - 0.014	650	0.005 - 0.009	800	0.007 - 0.009
-	1/2	3,520	0.002 - 0.014	630	0.005 - 0.009	770	0.007 - 0.009
14	-	3,200	0.003 - 0.017	550	0.006 - 0.011	700	0.008 - 0.011
-	5/8	2,800	0.003 - 0.019	500	0.006 - 0.013	600	0.009 - 0.013
16	-	2,800	0.003 - 0.019	500	0.006 - 0.013	600	0.009 - 0.013
18	-	2,500	0.004 - 0.021	450	0.007 - 0.014	550	0.011 - 0.014
-	3/4	2,350	0.004 - 0.024	420	0.008 - 0.016	510	0.012 - 0.016
20	-	2,250	0.004 - 0.024	400	0.008 - 0.016	500	0.012 - 0.016



**Note:**

- To process flat surfaces, prior center-drilling with a larger diameter is required.
- 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%. (Less than 5% oil)
- Use a rigid and precise machine and holder.
- Please minimize tool hang over 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".
- 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 for hard to break materials.
- 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).





## EgiAs Coating

for exceptional wear resistance and toughness.

## Middle Margin

for improved stability in deep-hole applications. (8D & up)

## Wide Flute Room

facilitates stable chip evacuation.

## Two Point Forms Based on Length

Wavy Point Form (3D-8D) or Straight Point Form (10D-30D)

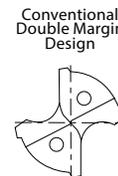
Wavy point form improves the sharpness of the cutting edge at various areas where the cutting force fluctuates with the cutting speed, thereby achieving low thrust, stable torque, and longer tool life.

Straight point form offers superior point strength with low cutting forces for long drills even with long overhang length.

## Middle Margin Design 8D & Up

More Stability than Conventional Double Margin Designs

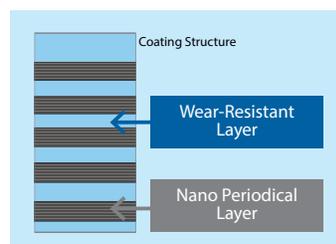
Unlike the conventional double margin, the second margin has been placed in the center of the peripheral land. This has shortened the time from the start of engagement to the four-point restraint by the double margin. Furthermore, it has improved stability during intermittent cutting such as cross-drilling or when penetrating an angled surface.



## EgiAs<sup>™</sup> Coating

Exceptional Wear Resistance & Toughness

Constructed with extreme toughness, high wear and heat resistance characteristics that ensures stable and consistent tool life. Suppresses friction with the wear resistance layer; prevents breakage with the nano periodical layer.



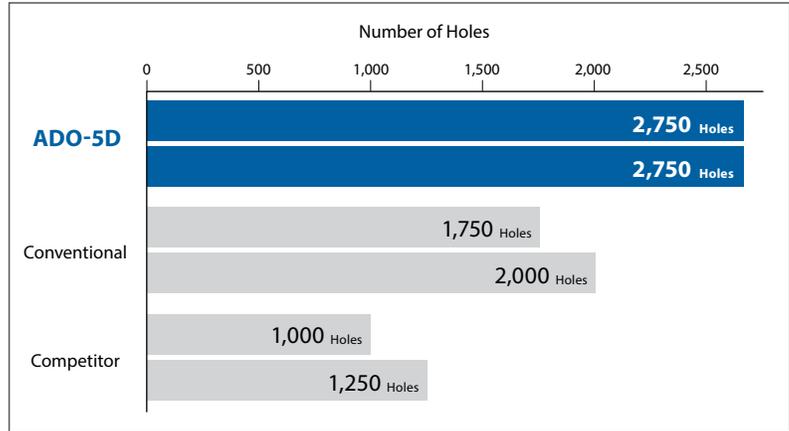
Coating Color	Coating Structure	Hardness (Hv)	Oxidation Temperature (°C)	Heat Resistance	Adhesion Strength	Wear Resistance	Welding Resistance	Toughness
Iridescent Color	Periodic Nano-layer and wear resistance layer	3,200	1,100	☐	☐	☐	☐	☐

## Enhanced Durability

### EgiAs Coating Provides Superior Durability

With the protection of OSG's EgiAs coating, the A Brand<sup>®</sup> ADO outperforms against competitors and conventional drills.

Tool	ADO 5D	Conventional	Competitor
Drill Size	Ø10		
Work Material	1050 Carbon Steel		
Cutting Speed	328 SFM (3,188 RPM)		
Feed Rate	31.2 IPM (0.0098 IPR)		
Depth of Hole	50 mm (Blind)		
Coolant	Water Soluble (Internal)		
Machine	Horizontal Machining Center		



After drilling 500 holes

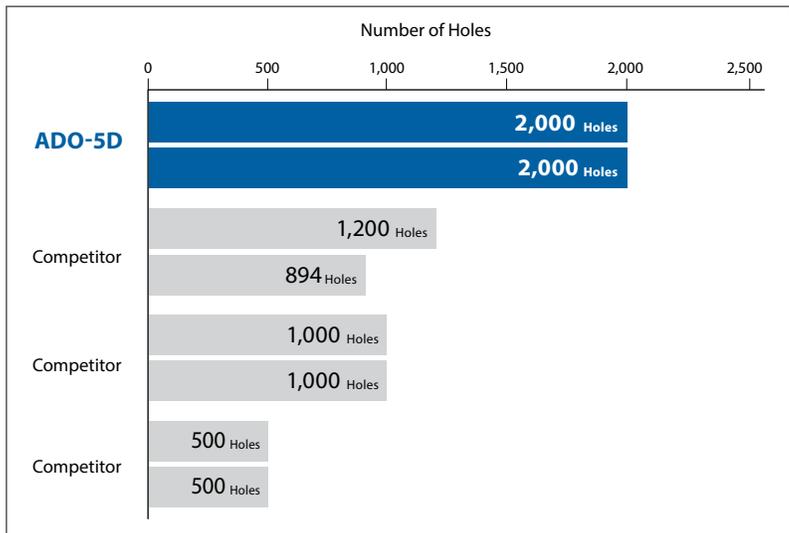


## Longer Tool Life

### Achieve Longer Tool Life at Faster Feeds

Long tool life can be achieved even at high feed rates with OSG's EgiAs coating.

Tool	ADO 5D	Competitors
Drill Size	Ø10	
Work Material	1050 Carbon Steel	
Cutting Speed	524 SFM (4,373 RPM)	328 SFM (2,737 RPM)
Feed Rate	42.8 IPM (0.0098 IPR)	26.8 IPM (0.0098 IPR)
Depth of Hole	50 mm (Blind)	
Coolant	Water Soluble (Internal)	
Machine	Horizontal Machining Center	

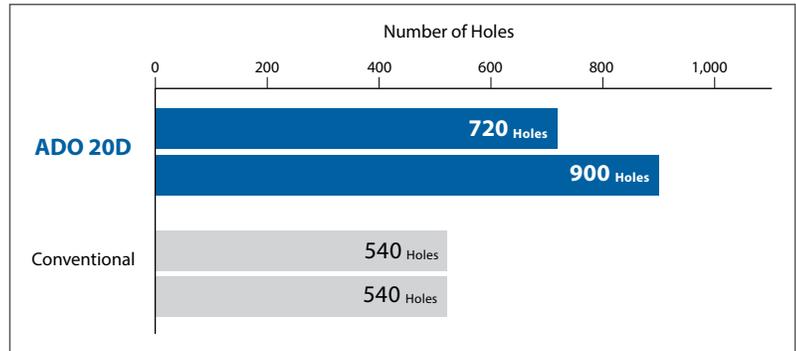


## Efficient Deep-Hole Drilling

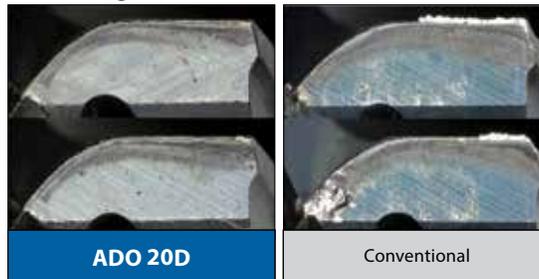
### Wide Chip Room and Middle Margin Design Provide Efficient Drilling

With the A Brand® ADO's unique design allowing for stable chip evacuation, a middle margin design that provides additional stability when drilling in deep-hole applications, and the EgiAs coating the ADO is able to achieve longer tool life than conventional drills.

Tool	ADO 20D	Conventional
Drill Size	Ø6	
Work Material	4140 Alloy Steel	
Cutting Speed	197 SFM (3,188 RPM)	
Feed Rate	22.3 IPM (0.007 IPR)	
Depth of Hole	120 mm (Blind)	
Coolant	Water Soluble (Internal)	
Machine	Horizontal Machining Center	



After drilling 540 holes

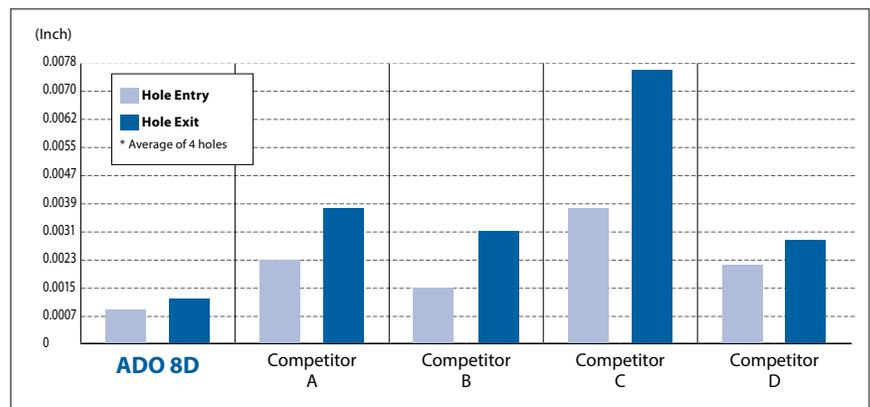


## Designed Based on Depth

### Tool Features Designed for Each Drilling Depth

Improved hole accuracy can be achieved with the middle margin and hook tooth geometry.

Tool	ADO 8D	Competitors
Drill Size	Ø10	
Work Material	1050 Carbon Steel	
Cutting Speed	328 SFM (3,188 RPM)	
Feed Rate	37.6 IPM (0.0118 IPR)	
Depth of Hole	80 mm (Through)	
Coolant	Water Soluble (Internal)	
Machine	Vertical Machining Center	



## List 6500

ADO-3D, Coolant-Through



<b>NEW</b>	<b>SPEED FEED</b> P58	<b>CARBIDE</b>	<b>EgiAs</b>		<b>30°</b>	<b>SHANK</b> h6
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Cutting Diameter Tolerance (h8)		
Size	mm	inch
2 ≤ D ≤ 3	+0 / -0.014	+0 / -0.0006
3 < D ≤ 6	+0 / -0.018	+0 / -0.0007
6 < D ≤ 10	+0 / -0.022	+0 / -0.0009
10 < D ≤ 18	+0 / -0.027	+0 / -0.0011
18 < D ≤ 20	+0 / -0.033	+0 / -0.0013

EDP Number	Diameter					Flute Length FL	Overall Length L	Shank Diameter d
	Fractional Size	Wire Gage	Letter Size	mm	Inch			
650007812	-	-	-	2.00	0.0787	12	66	3
650008212	-	-	-	2.10	0.0827	13		
650008612	-	-	-	2.20	0.0866	14		
8690230	-	-	-	2.30	0.0906			
650009312	3/32	-	-	2.38	0.0937	15		
650009412	-	-	-	2.40	0.0945			
8690250	-	-	-	2.50	0.0984	16		
8690260	-	-	-	2.60	0.1024			
650010612	-	-	-	2.70	0.1063	17		
650010912	7/64	-	-	2.78	0.1094			
8690280	-	-	-	2.80	0.1102	18		
650011161	-	-	-	2.83	0.1116			
8690290	-	-	-	2.90	0.1142	19		
650011631	-	-	-	2.95	0.1163			
8690300	-	-	-	3.00	0.1181	20		
8690310	-	-	-	3.10	0.1220			
650012511	1/8	-	-	3.18	0.1252	74	4	
8690320	-	-	-	3.20	0.1260		1/8	
8690330	-	-	-	3.30	0.1299		21	
650013231	-	-	-	3.36	0.1323			
8690340	-	-	-	3.40	0.1339		22	
650013561	-	-	-	3.44	0.1356			
8690350	-	-	-	3.50	0.1378		23	
650013871	-	-	-	3.52	0.1387			
650014051	-	-	-	3.57	0.1405		24	
8690360	-	-	-	3.60	0.1417			
8690370	-	-	-	3.70	0.1457		25	
650014841	-	-	-	3.77	0.1484			
8690380	-	-	-	3.80	0.1496	26		
650015211	-	-	-	3.86	0.1521			
8690390	-	-	-	3.90	0.1535	27		
650015511	5/32	-	-	3.97	0.1562			
8690400	-	-	-	4.00	0.1575	28		
650015911	-	-	-	4.05	0.1596			
650016011	-	19	-	4.09	0.1610	29		
8690410	-	-	-	4.10	0.1614			
8700410	-	-	-	4.16	0.1636	30		
650016311	-	-	-	4.20	0.1654			
8690420	-	-	-	4.27	0.1681	31		
8700420	-	-	-	4.30	0.1693			
650016711	-	-	-	4.37	0.1719	32		
8690430	-	-	-	4.40	0.1732			
8700430	-	-	-	4.46	0.1754	33		
650017111	11/64	-	-	4.50	0.1772			
8690440	-	-	-	4.60	0.1811	34		
8700440	-	-	-	4.66	0.1835			
650017511	-	-	-	4.70	0.1850	35		
8690450	-	-	-	4.76	0.1874			
8700450	-	-	-	4.80	0.1890	36		
8690460	-	-	-	4.90	0.1929			
8700460	-	-	-	5.00	0.1969	37		
650018311	-	-	-	5.10	0.2008			
8690470	-	-	-	5.15	0.2029	38		
8700470	-	-	-					
650018711	3/16	-	-			39		
8690480	-	-	-					
8700480	-	-	-			40		
8690490	-	-	-					
8700490	-	-	-			41		
8690500	-	-	-					
8700500	-	-	-			42		
8690510	-	-	-					
650020291	-	-	-			43		

Packed: 1 pc.  
Available EgiAs Coating Only.



## List 6500 (Continued)

ADO-3D, Coolant-Through



EDP Number	Diameter					Flute Length FL	Overall Length L	Shank Diameter d
	Fractional Size	Wire Gage	Letter Size	mm	Inch			
650020211	13/64	-	-	5.18	0.2039	26	82	1/4
8690520	-	-	-	5.20	0.2047			
650020701	-	-	-	5.26	0.2070	27		6
8690530	-	-	-	5.30	0.2087			
8690540	-	-	-	5.40	0.2126	28		1/4
650021211	-	3	-	5.41	0.2130			
650021521	-	-	-	5.47	0.2152			
8690550	-	-	-	5.50	0.2165	29		6
650021711	7/32	-	-	5.56	0.2189			
8690560	-	-	-	5.60	0.2205	30		1/4
8690570	-	-	-	5.70	0.2244			
8690580	-	-	-	5.80	0.2283	31	6	
8690590	-	-	-	5.90	0.2323			
650023311	15/64	-	-	5.95	0.2344	32	7	
8690600	-	-	-	6.00	0.2362			
8690610	-	-	-	6.10	0.2402	33	8	
8700610	-	-	-	6.15	0.2422			
650024211	-	-	-	6.20	0.2441	34	7	
8690620	-	-	-	6.20	0.2441			
8700620	-	-	-	6.30	0.2480	35	8	
8690630	-	-	-	6.30	0.2480			
650025011	1/4	-	E	6.35	0.2500	36	1/4	
8690640	-	-	-	6.40	0.2520			
8700640	-	-	-	6.50	0.2559	37	7	
8690650	-	-	-	6.50	0.2559			
8700650	-	-	-	6.53	0.2571	38	8	
650025611	-	-	F	6.53	0.2571			
8690660	-	-	-	6.60	0.2598	39	7	
8700660	-	-	-	6.65	0.2620			
650026211	-	-	-	6.70	0.2638	40	8	
8690670	-	-	-	6.70	0.2638			
8700670	-	-	-	6.75	0.2657	41	5/16	
650026411	17/64	-	-	6.75	0.2657			
8690680	-	-	-	6.80	0.2677	42	7	
8700680	-	-	-	6.80	0.2677			
650026911	-	-	-	6.86	0.2701	43	8	
8690690	-	-	-	6.90	0.2717			
8700690	-	-	-	7.00	0.2756	44	7	
8690700	-	-	-	7.00	0.2756			
650027701	-	-	-	7.04	0.2770	45	8	
8690710	-	-	-	7.10	0.2795			
650028011	9/32	-	-	7.14	0.2811	46	5/16	
8690720	-	-	-	7.20	0.2835			
8690730	-	-	-	7.30	0.2874	47	8	
8690740	-	-	-	7.40	0.2913			
8690750	-	-	-	7.50	0.2953	48	5/16	
650029611	19/64	-	-	7.54	0.2969			
8690760	-	-	-	7.60	0.2992	49	8	
8690770	-	-	-	7.70	0.3031			
8690780	-	-	-	7.80	0.3071	50	5/16	
8690790	-	-	-	7.90	0.3110			
650031211	5/16	-	-	7.94	0.3126	51	8	
8690800	-	-	-	8.00	0.3150			
8690810	-	-	-	8.10	0.3189	52	9	
8700810	-	-	-	8.10	0.3189			
650032111	-	-	-	8.15	0.3210	41	101	10

Packed: 1 pc.  
Available EgiAs Coating Only.

continued on next page

List No.	Work Material																
	P					M			K	N		S		H			
	Carbon Steels			Alloy Steels	Die Steels	Stainless Steels			Cast Iron	Aluminum		Nickel Alloy	Titanium	Hardened Steels			
	Low	Med.	High			300	400	17-4 PH		6061	Casting			Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC
6500	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

good  best



## List 6500 (Continued)

ADO-3D, Coolant-Through



<b>NEW</b>	<b>SPEED FEED</b> P58	<b>CARBIDE</b>	<b>EgiAs</b>		<b>30°</b>	<b>SHANK</b> h6
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Cutting Diameter Tolerance (h8)		
Size	mm	inch
2 ≤ D ≤ 3	+0 / -0.014	+0 / -0.0006
3 < D ≤ 6	+0 / -0.018	+0 / -0.0007
6 < D ≤ 10	+0 / -0.022	+0 / -0.0009
10 < D ≤ 18	+0 / -0.027	+0 / -0.0011
18 < D ≤ 20	+0 / -0.033	+0 / -0.0013

EDP Number	Diameter					Flute Length FL	Overall Length L	Shank Diameter d	
	Fractional Size	Wire Gage	Letter Size	mm	Inch				
8690820	-	-	-	8.20	0.3228	41	101	9	
8700820	-	-	-	8.20	0.3228	41		10	
8690830	-	-	-	8.30	0.3268	42		9	
8700830	-	-	-	8.30	0.3268			10	
650032711	21/64	-	-	8.33	0.3281	42		3/8	
8690840	-	-	-	8.40	0.3307			9	
8700840	-	-	-	8.40	0.3307	43		10	
650033011	-	-	Q	8.43	0.3319			43	9
8690850	-	-	-	8.50	0.3346				10
8700850	-	-	-	8.50	0.3346			43	9
650033611	-	-	-	8.56	0.3371		43		10
8690860	-	-	-	8.60	0.3386			9	
8700860	-	-	-	8.60	0.3386		44	10	
650034011	-	-	-	8.64	0.3402			44	9
650034111	-	-	-	8.68	0.3416				44
8690870	-	-	-	8.70	0.3425			44	
8700870	-	-	-	8.70	0.3425	44			9
650034211	11/32	-	-	8.73	0.3437			44	10
8690880	-	-	-	8.80	0.3465	45			9
8700880	-	-	-	8.80	0.3465			45	10
650034811	-	-	-	8.86	0.3488				45
8690890	-	-	-	8.90	0.3504			45	
8700890	-	-	-	8.90	0.3504		45		9
8690900	-	-	-	9.00	0.3543			46	10
8700900	-	-	-	9.00	0.3543		46		3/8
8690910	-	-	-	9.10	0.3583				46
650035811	23/64	-	-	9.13	0.3594		46		
8690920	-	-	-	9.20	0.3622				47
8690930	-	-	-	9.30	0.3661	47	3/8		
8690940	-	-	-	9.40	0.3701		47		
8690950	-	-	-	9.50	0.3740	47			
650037511	3/8	-	-	9.53	0.3752		48		
650037601	-	-	-	9.55	0.3760	48			
8690960	-	-	-	9.60	0.3780		49	11	
8690970	-	-	-	9.70	0.3819	49		12	
8690980	-	-	-	9.80	0.3858			49	
8690990	-	-	-	9.90	0.3898	49			
650038911	25/64	-	-	9.92	0.3906			50	11
8691000	-	-	-	10.00	0.3937	50			12
8691010	-	-	-	10.10	0.3976			51	11
8701010	-	-	-	10.10	0.3976	51			12
8691020	-	-	-	10.20	0.4016				51
8701020	-	-	-	10.20	0.4016	51			
8691030	-	-	-	10.30	0.4055		52		11
8701030	-	-	-	10.30	0.4055	52			12
650040511	13/32	-	-	10.32	0.4062				52
8691040	-	-	-	10.40	0.4094	52			
8701040	-	-	-	10.40	0.4094				53
650041011	-	-	-	10.44	0.4111	53			
8691050	-	-	-	10.50	0.4134			53	
8701050	-	-	-	10.50	0.4134	53			
8691060	-	-	-	10.60	0.4173			54	
8701060	-	-	-	10.60	0.4173	54			
8691070	-	-	-	10.70	0.4213		54		
8701070	-	-	-	10.70	0.4213	54			
650042111	27/64	-	-	10.72	0.4220		54		
8691080	-	-	-	10.80	0.4252	55			
8701080	-	-	-	10.80	0.4252		55		11
650042661	-	-	-	10.86	0.4276				55
8691090	-	-	-	10.90	0.4291		55		
8701090	-	-	-	10.90	0.4291				55
8691100	-	-	-	11.00	0.4331		55	11	
8701100	-	-	-	11.00	0.4331			12	

Packed: 1 pc.  
Available EgiAs Coating Only.



## List 6500 (Continued)

ADO-3D, Coolant-Through

NEW SPEED FEED P58 CARBIDE EgiAs 30° SHANK h6

EDP Number	Diameter					Flute Length FL	Overall Length L	Shank Diameter d
	Fractional Size	Wire Gage	Letter Size	mm	Inch			
8691110	-	-	-	11.10	0.4370	56	120	12
650043711	7/16	-	-	11.11	0.4374			7/16
8691120	-	-	-	11.20	0.4409			57
8691130	-	-	-	11.30	0.4449			
8691140	-	-	-	11.40	0.4488	58	1/2	
8691150	-	-	-	11.50	0.4528			
650045211	29/64	-	-	11.51	0.4531	59	12	
8691160	-	-	-	11.60	0.4567			
8691170	-	-	-	11.70	0.4606			
8691180	-	-	-	11.80	0.4646	60	1/2	
8691190	-	-	-	11.90	0.4685			
650046711	15/32	-	-	11.91	0.4688	61	128	1/2
8691200	-	-	-	12.00	0.4724			12
8691210	-	-	-	12.10	0.4764			13
8701210	-	-	-	12.20	0.4803	61	14	
8691220	-	-	-				13	
8701220	-	-	-	12.30	0.4844	62	14	
650048411	31/64	-	-				1/2	
8691230	-	-	-	12.40	0.4882	62	13	
8701230	-	-	-				14	
8691240	-	-	-	12.45	0.4900	63	13	
8701240	-	-	-				14	
650049011	-	-	-	12.50	0.4921	63	13	
8691250	-	-	-				14	
8701250	-	-	-	12.60	0.4961	63	13	
8691260	-	-	-				14	
8701260	-	-	-	12.68	0.4991	64	14	
650049811	-	-	-				1/2	
650050011	1/2	-	-	12.70	0.5000	64	13	
8691270	-	-	-				14	
8701270	-	-	-	12.80	0.5039	65	13	
8691280	-	-	-				14	
8701280	-	-	-	12.90	0.5079	65	13	
8691290	-	-	-				14	
8701290	-	-	-	13.00	0.5118	66	13	
8691300	-	-	-				14	
8701300	-	-	-	13.08	0.5150	66	14	
650051501	-	-	-					13.10
8691310	-	-	-	13.20	0.5197	67	5/8	
8691320	-	-	-	13.30	0.5236			
8691330	-	-	-	13.40	0.5276	67	14	
8691340	-	-	-					13.49
650053011	17/32	-	-	13.50	0.5315	68	14	
8691350	-	-	-					13.60
8691360	-	-	-	13.70	0.5394	69	14	
8691370	-	-	-					13.80
8691380	-	-	-	13.87	0.5460	70	14	
650054601	-	-	-					13.90
8691390	-	-	-	14.00	0.5512	71	15	
8691400	-	-	-					14.10
8691410	-	-	-	14.20	0.5591	71	16	
8701410	-	-	-				15	
8691420	-	-	-	14.29	0.5626	72	16	
8701420	-	-	-				5/8	
650056111	9/16	-	-	14.30	0.5630	72	15	
8691430	-	-	-				16	
8701430	-	-	-	14.40	0.5669	72	15	
8691440	-	-	-				16	
8701440	-	-	-				16	

Packed: 1 pc.  
Available EgiAs Coating Only.

continued on next page

List No.	Work Material																
	P					M			K	N		S		H			
	Carbon Steels			Alloy Steels	Die Steels	Stainless Steels			Cast Iron	Aluminum		Nickel Alloy	Titanium	Hardened Steels			
	Low	Med.	High			300	400	17-4 PH		6061	Casting			Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC
6500	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

good  best



## List 6500 (Continued)

ADO-3D, Coolant-Through



**NEW** SPEED FEED P58 CARBIDE EgiAs 30° SHANK h6

Cutting Diameter Tolerance (h8)		
Size	mm	inch
2 ≤ D ≤ 3	+0 / -0.014	+0 / -0.0006
3 < D ≤ 6	+0 / -0.018	+0 / -0.0007
6 < D ≤ 10	+0 / -0.022	+0 / -0.0009
10 < D ≤ 18	+0 / -0.027	+0 / -0.0011
18 < D ≤ 20	+0 / -0.033	+0 / -0.0013

EDP Number	Diameter					Flute Length FL	Overall Length L	Shank Diameter d
	Fractional Size	Wire Gage	Letter Size	mm	Inch			
8691450	-	-	-	14.50	0.5709	73	140	15
8701450	-	-	-	14.50	0.5709			16
8691460	-	-	-	14.60	0.5748	74		15
8701460	-	-	-	14.60	0.5748			16
650057711	37/64	-	-	14.68	0.5778	75		5/8
8691470	-	-	-	14.70	0.5787			15
8701470	-	-	-	14.70	0.5787	76	16	
8691480	-	-	-	14.80	0.5827		15	
8701480	-	-	-	14.80	0.5827	77	16	
8691490	-	-	-	14.90	0.5866		15	
8701490	-	-	-	14.90	0.5866	78	16	
8691500	-	-	-	15.00	0.5906		15	
8701500	-	-	-	15.00	0.5906	79	145	
8691510	-	-	-	15.10	0.5945			16
8691520	-	-	-	15.20	0.5984	80		16
8691530	-	-	-	15.30	0.6024			16
8691540	-	-	-	15.40	0.6063	81		150
8691550	-	-	-	15.50	0.6102			
8691560	-	-	-	15.60	0.6142	82	16	
8691570	-	-	-	15.70	0.6181		16	
8691580	-	-	-	15.80	0.6220	83	16	
650062511	5/8	-	-	15.88	0.6252		84	
8691590	-	-	-	15.90	0.6260	85		16
8691600	-	-	-	16.00	0.6299		86	155
650063311	-	-	-	16.10	0.6339	16		
8691650	-	-	-	16.50	0.6496	87	16	
8701650	-	-	-	16.50	0.6496		16	
650065511	21/32	-	-	16.67	0.6563	88	16	
650066311	-	-	-	16.84	0.6630		89	
8691700	-	-	-	17.00	0.6693	90		16
8701700	-	-	-	17.00	0.6693		91	16
8691750	-	-	-	17.50	0.6890	92		16
650069321	-	-	-	17.61	0.6932		93	16
650069601	-	-	-	17.68	0.6960	94		16
650069801	-	-	-	17.73	0.6980		95	16
8691800	-	-	-	18.00	0.7087	96		16
8691850	-	-	-	18.50	0.7283		97	16
8701850	-	-	-	18.50	0.7283	98		16
650073311	-	-	-	18.64	0.7339		99	16
8691900	-	-	-	19.00	0.7480	100		16
8701900	-	-	-	19.00	0.7480		101	16
650075011	3/4	-	-	19.05	0.7500	102		16
650075711	-	-	-	19.25	0.7579		103	16
8691950	-	-	-	19.50	0.7677	104		16
650077401	-	-	-	19.66	0.7740		105	16
650077661	-	-	-	19.73	0.7766	106		16
650077801	-	-	-	19.76	0.7780		107	16
8692000	-	-	-	20.00	0.7874	107		16

Packed: 1 pc.  
Available EgiAs Coating Only.



List No.	Work Material																		
	P					M			K	N		S		H					
	Carbon Steels			Alloy Steels	Die Steels	Stainless Steels			Cast Iron	Aluminum		Nickel Alloy	Titanium	Hardened Steels					
	Low	Med.	High			300	400	17-4 PH		6061	Casting			Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
6500	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

☐ good ☐ best



## List 6510

ADO-5D, Coolant-Through

**NEW** SPEED FEED P58 CARBIDE EgiAs 30° SHANK h6



Cutting Diameter Tolerance (h8)		
Size	mm	inch
2 ≤ D ≤ 3	+0 / -0.014	+0 / -0.0006
3 < D ≤ 6	+0 / -0.018	+0 / -0.0007
6 < D ≤ 10	+0 / -0.022	+0 / -0.0009
10 < D ≤ 18	+0 / -0.027	+0 / -0.0011
18 < D ≤ 20	+0 / -0.033	+0 / -0.0013

EDP Number	Diameter					Flute Length FL	Overall Length L	Shank Diameter d
	Fractional Size	Wire Gage	Letter Size	mm	Inch			
651007812	-	-	-	2.00	0.0787	18	70	3
651008212	-	-	-	2.10	0.0827	19		
651008612	-	-	-	2.20	0.0866	20		
8692230	-	-	-	2.30	0.0906	21		
651009312	3/32	-	-	2.38	0.0937	22		
651009412	-	-	-	2.40	0.0945	23		
8692250	-	-	-	2.50	0.0984	24		
8692260	-	-	-	2.60	0.1024	25		
651010612	-	-	-	2.70	0.1063	26		
8692278	7/64	-	-	2.78	0.1094	27		
8692280	-	-	-	2.80	0.1102	28		
8692290	-	-	-	2.90	0.1142	29		
8692300	-	-	-	3.00	0.1181	30		
8692310	-	-	-	3.10	0.1220	31		
651012511	1/8	-	-	3.18	0.1252	32		
8692320	-	-	-	3.20	0.1260	33		
8692330	-	-	-	3.30	0.1299	34		
8692340	-	-	-	3.40	0.1339	35		
8692350	-	-	-	3.50	0.1378	36		
8692360	-	-	-	3.60	0.1417	37		
8692370	-	-	-	3.70	0.1457	38		
8692380	-	-	-	3.80	0.1496	39		
8692390	-	-	-	3.90	0.1535	40		
651015511	5/32	-	-	3.97	0.1562	41		
8692400	-	-	-	4.00	0.1575	42		
651016011	-	20	-	4.09	0.1610	43		
8692410	-	-	-	4.10	0.1614	44		
8702410	-	-	-	-	-	45		
8692420	-	-	-	4.20	0.1654	46		
8702420	-	-	-	-	-	47		
8692430	-	-	-	4.30	0.1693	48		
8702430	-	-	-	-	-	49		
651017111	11/64	-	-	4.37	0.1719	50		
8692440	-	-	-	4.40	0.1732	51		
8702440	-	-	-	-	-	52		
8692450	-	-	-	4.50	0.1772	53		
8702450	-	-	-	-	-	54		
8692460	-	-	-	4.60	0.1811	55		
8702460	-	-	-	-	-	56		
8692470	-	-	-	4.70	0.1850	57		
8702470	-	-	-	-	-	58		
651018711	3/16	-	-	4.76	0.1874	59		
8692480	-	-	-	4.80	0.1890	60		

Packed: 1 pc.  
Available EgiAs Coating Only.

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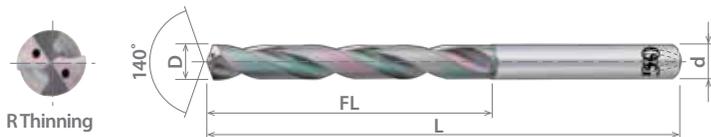
List No.	Work Material																
	P					M			K	N		S		H			
	Carbon Steels			Alloy Steels	Die Steels	Stainless Steels			Cast Iron	Aluminum		Nickel Alloy	Titanium	Hardened Steels			
	Low	Med.	High	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
6510	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

☐ good ☐ best



## List 6510 (Continued)

ADO-5D, Coolant-Through



<b>NEW</b>	<b>SPEED FEED</b> P58	<b>CARBIDE</b>	<b>EgiAs</b>		<b>30°</b>	<b>SHANK</b> h6
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Cutting Diameter Tolerance (h8)		
Size	mm	inch
2≤D≤3	+0 / -0.014	+0 / -0.0006
3<D≤6	+0 / -0.018	+0 / -0.0007
6<D≤10	+0 / -0.022	+0 / -0.0009
10<D≤18	+0 / -0.027	+0 / -0.0011
18<D≤20	+0 / -0.033	+0 / -0.0013

EDP Number	Diameter					Flute Length FL	Overall Length L	Shank Diameter d
	Fractional Size	Wire Gage	Letter Size	mm	Inch			
8702480	-	-	-	4.80	0.1890	44	95	6
8692490	-	-	-	4.90	0.1929	45		5
8702490	-	-	-	5.00	0.1969			6
8692500	-	-	-	5.10	0.2008	41	5	
8702500	-	-	-	5.16	0.2031		6	
8692510	-	-	-	5.20	0.2047	42	6	
651020211	13/64	-	-	5.30	0.2087		43	6
8692520	-	-	-	5.40	0.2126	44	1/4	
8692530	-	-	-	5.41	0.2130			
8692540	-	-	-	5.50	0.2165	45	6	
651021311	-	3	-	5.56	0.2189			
8692550	-	-	-	5.60	0.2205	46	1/4	
651021711	7/32	-	-	5.70	0.2244			
8692560	-	-	-	5.80	0.2283	47	6	
8692570	-	-	-	5.90	0.2323			
8692580	-	-	-	5.95	0.2344	48	1/4	
8692590	-	-	-	6.00	0.2362			
651023311	15/64	-	-	6.10	0.2402	49	6	
8692600	-	-	-	6.20	0.2441			
8692610	-	-	-	6.30	0.2480	50	7	
8702610	-	-	-	6.35	0.2500			
8692620	-	-	-	6.40	0.2520	51	8	
8702620	-	-	-	6.50	0.2559			
8692630	-	-	-	6.53	0.2571	52	7	
8702630	-	-	-	6.60	0.2598			
651025011	1/4	-	E	6.70	0.2638	53	8	
8692640	-	-	-	6.75	0.2657			
8702640	-	-	-	6.80	0.2677	54	5/16	
8692650	-	-	-	6.90	0.2717			
8702650	-	-	-	7.00	0.2756	55	7	
651025611	-	-	F	7.10	0.2795			
8692660	-	-	-	7.14	0.2811	56	8	
8702660	-	-	-	7.20	0.2835			
8692670	-	-	-	7.30	0.2874	57	5/16	
8702670	-	-	-	7.40	0.2913			
651026411	17/64	-	-	7.50	0.2953	58	8	
8692680	-	-	-	7.54	0.2969			
8702680	-	-	-	7.60	0.2992	59	5/16	
8692690	-	-	-	7.70	0.3031			
8702690	-	-	-	7.80	0.3071	60	8	
8692700	-	-	-	7.90	0.3110			
8702700	-	-	-	7.94	0.3126	61	5/16	
8692710	-	-	-	8.00	0.3150			
651028011	9/32	-	-			62	8	
8692720	-	-	-					
8692730	-	-	-			63	5/16	
8692740	-	-	-					
8692750	-	-	-			64	8	
651029611	19/64	-	-					
8692760	-	-	-			65	5/16	
8692770	-	-	-					
8692780	-	-	-			66	8	
8692790	-	-	-					
651031211	5/16	-	-			67	5/16	
8692800	-	-	-					

Packed: 1 pc.  
Available EgiAs Coating Only.



## List 6510 (Continued)

ADO-5D, Coolant-Through



EDP Number	Diameter					Flute Length FL	Overall Length L	Shank Diameter d
	Fractional Size	Wire Gage	Letter Size	mm	Inch			
8692810	-	-	-	8.10	0.3189	65	128	9
8702810	-	-	-					10
8692820	-	-	-	8.20	0.3228	66		9
8702820	-	-	-					10
8692830	-	-	-	8.30	0.3268	67		9
8702830	-	-	-					10
651032711	21/64	-	-	8.33	0.3281	68		3/8
8692840	-	-	-	8.40	0.3307			9
8702840	-	-	-					10
651033111	-	-	Q	8.43	0.3319	69		11/32
8692850	-	-	-	8.50	0.3346			9
8702850	-	-	-					10
8692860	-	-	-	8.60	0.3386	70	9	
8702860	-	-	-				10	
8692870	-	-	-	8.70	0.3425	71	9	
8702870	-	-	-				10	
651034211	11/32	-	-	8.73	0.3437	72	3/8	
8692880	-	-	-	8.80	0.3465		9	
8702880	-	-	-				10	
8692890	-	-	-	8.90	0.3504	73	9	
8702890	-	-	-				10	
8692900	-	-	-	9.00	0.3543	74	9	
8702900	-	-	-				10	
8692910	-	-	-	9.10	0.3583	75	10	
651035811	23/64	-	-	9.13	0.3594		3/8	
8692920	-	-	-	9.20	0.3622	76	10	
8692930	-	-	-	9.30	0.3661			
8692940	-	-	-	9.40	0.3701	77	3/8	
8692950	-	-	-	9.50	0.3740			
651037511	3/8	-	-	9.53	0.3752	78	10	
8692960	-	-	-	9.60	0.3780			
8692970	-	-	-	9.70	0.3819	79	7/16	
8692980	-	-	-	9.80	0.3858			
8692990	-	-	-	9.90	0.3898	80	10	
651038911	25/64	-	-	9.92	0.3906			
8693000	-	-	-	10.00	0.3937	81	11	
8693010	-	-	-					
8693020	-	-	-	10.20	0.4016	82	12	
8703020	-	-	-					
8693030	-	-	-	10.30	0.4055	83	11	
8703030	-	-	-					
651040511	13/32	-	-	10.32	0.4062	84	12	
8693040	-	-	-	10.40	0.4094			
8703040	-	-	-			85	11	
8693050	-	-	-	10.50	0.4134			
8703050	-	-	-			85	12	
8693060	-	-	-	10.60	0.4173			

Packed: 1 pc.  
Available EgiAs Coating Only.

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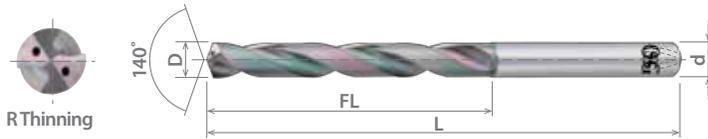
List No.	Work Material																
	P					M			K	N		S		H			
	Carbon Steels			Alloy Steels	Die Steels	Stainless Steels			Cast Iron	Aluminum		Nickel Alloy	Titanium	Hardened Steels			
	Low	Med.	High	4140		300	400	17-4 PH		6061	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
6510	1010	1035	1065	4340						7075							

good  best



## List 6510 (Continued)

ADO-5D, Coolant-Through



<b>NEW</b>	<b>SPEED FEED</b> P58	<b>CARBIDE</b>	<b>EgiAs</b>		<b>30°</b>	<b>SHANK</b> h6
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Cutting Diameter Tolerance (h8)		
Size	mm	inch
2 ≤ D ≤ 3	+0 / -0.014	+0 / -0.0006
3 < D ≤ 6	+0 / -0.018	+0 / -0.0007
6 < D ≤ 10	+0 / -0.022	+0 / -0.0009
10 < D ≤ 18	+0 / -0.027	+0 / -0.0011
18 < D ≤ 20	+0 / -0.033	+0 / -0.0013

EDP Number	Diameter					Flute Length FL	Overall Length L	Shank Diameter d
	Fractional Size	Wire Gage	Letter Size	mm	Inch			
8703060	-	-	-	10.60	0.4173	85	146	12
8693070	-	-	-	10.70	0.4213	86		11
8703070	-	-	-	10.72	0.4220			12
651042111	27/64	-	-	10.80	0.4252	87		7/16
8693080	-	-	-	10.90	0.4291			11
8703080	-	-	-	11.00	0.4331	88		12
8693090	-	-	-	11.10	0.4370			11
8703090	-	-	-	11.20	0.4409	89		12
8693100	-	-	-	11.30	0.4449			11
8703100	-	-	-	11.40	0.4488	90		12
8693110	-	-	-	11.50	0.4528		11	
651043711	7/16	-	-	11.60	0.4567	91	7/16	
8693120	-	-	-	11.70	0.4606		12	
8693130	-	-	-	11.80	0.4646	92	12	
8693140	-	-	-	11.90	0.4685			
8693150	-	-	-	12.00	0.4724	93	1/2	
651045211	29/64	-	-	12.10	0.4764		12	
8693160	-	-	-	12.20	0.4803	94	12	
8693170	-	-	-	12.30	0.4844			
8693180	-	-	-	12.40	0.4882	95	12	
8693190	-	-	-	12.50	0.4921			
651046711	15/32	-	-	12.60	0.4961	96	1/2	
8693200	-	-	-	12.70	0.5000		12	
8693210	-	-	-	12.80	0.5039	97	13	
8703210	-	-	-	12.90	0.5079		14	
8693220	-	-	-	13.00	0.5118	98	13	
8703220	-	-	-	13.10	0.5157		14	
651048411	31/64	-	-	13.20	0.5197	99	1/2	
8693230	-	-	-	13.30	0.5236		13	
8703230	-	-	-	13.40	0.5276	100	14	
8693240	-	-	-	13.50	0.5315		13	
8703240	-	-	-	13.60	0.5354	101	14	
8693250	-	-	-	13.70	0.5394		13	
8703250	-	-	-	13.80	0.5433	102	14	
8693260	-	-	-	13.90	0.5472		13	
8703260	-	-	-	14.00	0.5512	103	14	
651050011	1/2	-	-	13.49	0.5311		13	
8693270	-	-	-	13.50	0.5315	104	1/2	
8703270	-	-	-	13.60	0.5354		13	
8693280	-	-	-	13.70	0.5394	105	14	
8703280	-	-	-	13.80	0.5433		13	
8693290	-	-	-	13.90	0.5472	106	14	
8703290	-	-	-	14.00	0.5512		13	
8693300	-	-	-	13.10	0.5157	107	14	
8703300	-	-	-	13.20	0.5197		13	
8693310	-	-	-	13.30	0.5236	108	14	
8693320	-	-	-	13.40	0.5276		13	
8693330	-	-	-	13.50	0.5315	109	5/8	
8693340	-	-	-	13.60	0.5354		14	
651053011	17/32	-	-	13.70	0.5394	110	14	
8693350	-	-	-	13.80	0.5433			
8693360	-	-	-	13.90	0.5472	111	14	
8693370	-	-	-	14.00	0.5512			
8693380	-	-	-			112	14	
8693390	-	-	-					
8693400	-	-	-					

Packed: 1 pc.  
Available EgiAs Coating Only.



## List 6510 (Continued)

ADO-5D, Coolant-Through



EDP Number	Diameter					Flute Length FL	Overall Length L	Shank Diameter d	
	Fractional Size	Wire Gage	Letter Size	mm	Inch				
8693410	-	-	-	14.10	0.5551	113	185	15	
8703410	-	-	-					16	
8693420	-	-	-	14.20	0.5591	114		15	
8703420	-	-	-					16	
651056111	9/16	-	-	14.29	0.5626	115		5/8	
8693430	-	-	-	14.30	0.5630			15	
8703430	-	-	-					16	
8693440	-	-	-	14.40	0.5669	116		15	
8703440	-	-	-					16	
8693450	-	-	-	14.50	0.5709	117		15	
8703450	-	-	-					16	
8693460	-	-	-	14.60	0.5748			15	
8703460	-	-	-					16	
8693470	-	-	-	14.70	0.5787	118		15	
8703470	-	-	-					16	
8693480	-	-	-	14.80	0.5827	119	15		
8703480	-	-	-				16		
8693490	-	-	-	14.90	0.5866	120	15		
8703490	-	-	-				16		
8693500	-	-	-	15.00	0.5906	121	15		
8703500	-	-	-						
8693510	-	-	-	15.10	0.5945		122	193	16
8693520	-	-	-	15.20	0.5984	123			
8693530	-	-	-	15.30	0.6024	124			
8693540	-	-	-	15.40	0.6063		125		
8693550	-	-	-	15.50	0.6102	126			
8693560	-	-	-	15.60	0.6142	127			
8693570	-	-	-	15.70	0.6181	128			
8693580	-	-	-	15.80	0.6220		129		
651062511	5/8	-	-	15.88	0.6252	132	5/8		
8693590	-	-	-	15.90	0.6260		16		
8693600	-	-	-	16.00	0.6299		18		
651063311	-	-	-	16.10	0.6339	136	17		
8693650	-	-	-	16.50	0.6496		18		
8703650	-	-	-					17	
651065511	21/32	-	-	16.67	0.6563	140	3/4		
8693700	-	-	-	17.00	0.6693		17		
8703700	-	-	-						
8693750	-	-	-	17.50	0.6890	144	18		
8693800	-	-	-	18.00	0.7087		19		
8693850	-	-	-	18.50	0.7283	148	20		
8703850	-	-	-				19		
8693900	-	-	-	19.00	0.7480		20		
8703900	-	-	-				20		
651075011	3/4	-	-	19.05	0.7500	154	3/4		
651075711	-	-	-	19.25	0.7579		20		
8693950	-	-	-	19.50	0.7677	156	20		
8694000	-	-	-	20.00	0.7874			225	

Packed: 1 pc.  
Available EgiAs Coating Only.



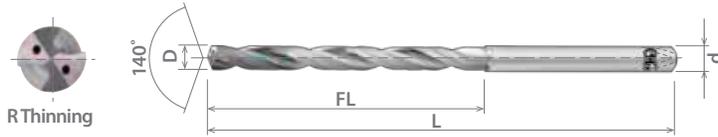
List No.	Work Material																
	P					M			K	N		S		H			
	Carbon Steels			Alloy Steels	Die Steels	Stainless Steels			Cast Iron	Aluminum		Nickel Alloy	Titanium	Hardened Steels			
	Low	Med.	High	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
6510	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

☐ good ☐ best



## List 6520

ADO-8D, Coolant-Through



<b>NEW</b>	<b>SPEED FEED</b> P58	<b>CARBIDE</b>	<b>EgiAs</b>		<b>30°</b>	<b>SHANK</b> h6
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Cutting Diameter Tolerance (h8)		
Size	mm	inch
2 ≤ D ≤ 3	+0 / -0.014	+0 / -0.0006
3 < D ≤ 6	+0 / -0.018	+0 / -0.0007
6 < D ≤ 10	+0 / -0.022	+0 / -0.0009
10 < D ≤ 15.88	+0 / -0.027	+0 / -0.0011

EDP Number	Diameter					Flute Length FL	Overall Length L	Shank Diameter d
	Fractional Size	Wire Gage	Letter Size	mm	Inch			
*8694200	-	-	-	2.00	0.0787	22	75	3
*8694210	-	-	-	2.10	0.0827	24		
*8694220	-	-	-	2.20	0.0866	25		
*8694230	-	-	-	2.30	0.0906	26		
*652009312	3/32	-	-	2.38	0.0937	27		
*8694240	-	-	-	2.40	0.0945			
*8694250	-	-	-	2.50	0.0984	28		
*8694260	-	-	-	2.60	0.1024	29		
*8694270	-	-	-	2.70	0.1063	30		
*652010911	7/64	-	-	2.78	0.1094	31		
*8694280	-	-	-	2.80	0.1102			
*8694290	-	-	-	2.90	0.1142	32		
8694300	-	-	-	3.00	0.1181	33		
8694310	-	-	-	3.10	0.1220	34		
652012511	1/8	-	-	3.18	0.1252	35		
8694320	-	-	-	3.20	0.1260	36		
8694330	-	-	-	3.30	0.1299			
8694340	-	-	-	3.40	0.1339	37		
8694350	-	-	-	3.50	0.1378	39		
8694360	-	-	-	3.60	0.1417	40		
8694370	-	-	-	3.70	0.1457	41		
8694380	-	-	-	3.80	0.1496	42		
8694390	-	-	-	3.90	0.1535	43		
652015511	5/32	-	-	3.97	0.1563	44		
8694400	-	-	-	4.00	0.1575			
652016011	-	20	-	4.09	0.1610	45		
8704410	-	-	-	4.10	0.1614			
8704420	-	-	-	4.20	0.1654	46		
8704430	-	-	-	4.30	0.1693	47		
652017111	11/64	-	-	4.37	0.1720			
8704440	-	-	-	4.40	0.1732	48		
8694450	-	-	-	4.50	0.1772	50		
8704450	-	-	-	4.60	0.1811	51		
8704460	-	-	-	4.70	0.1850	52		
8704470	-	-	-	4.76	0.1874			
652018711	3/16	-	-	4.76	0.1874	53		
8704480	-	-	-	4.80	0.1890			
8704490	-	-	-	4.90	0.1929	54		
8694500	-	-	-	5.00	0.1969	55		
8704500	-	-	-	5.10	0.2008	56		
8704510	-	-	-	5.16	0.2031	57		
652020211	13/64	-	-	5.16	0.2031			
8704520	-	-	-	5.20	0.2047	58		
8704530	-	-	-	5.30	0.2087			
8704540	-	-	-	5.40	0.2126	59		
652021311	-	3	-	5.41	0.2130	60		
8694550	-	-	-	5.50	0.2165			
652021711	7/32	-	-	5.56	0.2189	61		
8704560	-	-	-	5.60	0.2205			
8704570	-	-	-	5.70	0.2244	62		
8704580	-	-	-	5.80	0.2283	63		
8704590	-	-	-	5.90	0.2323	64		
652023311	15/64	-	-	5.95	0.2343	65		
8694600	-	-	-	5.95	0.2343			
8694600	-	-	-	6.00	0.2362	66		

Packed: 1 pc.  
Available EgiAs Coating Only.  
\* Sizes ≤ 2.90 mm have a single margin. Sizes ≥ 3 mm have a double margin.



## List 6520 (Continued)

ADO-8D, Coolant-Through



EDP Number	Diameter					Flute Length FL	Overall Length L	Shank Diameter d
	Fractional Size	Wire Gage	Letter Size	mm	Inch			
8704610	-	-	-	6.10	0.2402	67	125	8
8704620	-	-	-	6.20	0.2441	68		
8704630	-	-	-	6.30	0.2480	69		
652025011	1/4	-	-	6.35	0.2500	70		1/4
8704640	-	-	-	6.40	0.2520			8
8694650	-	-	-	6.50	0.2559	72		7
8704650	-	-	-					
652025611	-	-	F	6.53	0.2571	73		8
8704660	-	-	-	6.60	0.2598			
8704670	-	-	-	6.70	0.2638			
652026411	17/64	-	-	6.75	0.2657	74		5/16
8704680	-	-	-	6.80	0.2677			75
8704690	-	-	-	6.90	0.2717	76		
8694700	-	-	-	7.00	0.2756	77	7	
8704700	-	-	-					
8704710	-	-	-	7.10	0.2795	78	8	
652028011	9/32	-	-	7.14	0.2811	79	5/16	
8704720	-	-	-	7.20	0.2835			
8704730	-	-	-	7.30	0.2874	80	8	
8704740	-	-	-	7.40	0.2913	81		
8694750	-	-	-	7.50	0.2953	83		
652029611	19/64	-	-	7.54	0.2969	84	5/16	
8704760	-	-	-	7.60	0.2992			
8704770	-	-	-	7.70	0.3031	85	8	
8704780	-	-	-	7.80	0.3071	86		
8704790	-	-	-	7.90	0.3110	87		
652031211	5/16	-	-	7.94	0.3126			
8694800	-	-	-	8.00	0.3150	88	5/16	
8704810	-	-	-	8.10	0.3189	89	8	
8704820	-	-	-	8.20	0.3228	90		
8704830	-	-	-	8.30	0.3268	91		
652032711	21/64	-	-	8.33	0.3280	92	3/8	
8704840	-	-	-	8.40	0.3307			
652033111	-	-	Q	8.43	0.3319	93	11/32	
8694850	-	-	-	8.50	0.3346	94	9	
8704850	-	-	-					
8704860	-	-	-	8.60	0.3386	95	10	
8704870	-	-	-	8.70	0.3425	96		
652035211	11/32	-	-	8.73	0.3437			
8704880	-	-	-	8.80	0.3465	97	3/8	
8704890	-	-	-	8.90	0.3504	98	10	
8694900	-	-	-	9.00	0.3543	99	9	
8704900	-	-	-					
8704910	-	-	-	9.10	0.3583	100	10	
652035711	23/64	-	-	9.13	0.3594	101	3/8	
8704920	-	-	-	9.20	0.3622			
8704930	-	-	-	9.30	0.3661	102	10	
8704940	-	-	-	9.40	0.3701	103		
8694950	-	-	-	9.50	0.3740	105		
652037511	3/8	-	-	9.53	0.3752			
8704960	-	-	-	9.60	0.3780	106	3/8	
8704970	-	-	-	9.70	0.3819	107	10	
8704980	-	-	-	9.80	0.3858	108		
8704990	-	-	-	9.90	0.3898	109		
652038811	25/64	-	-	9.92	0.3906	110	7/16	
8695000	-	-	-	10.00	0.3937			

Packed: 1 pc.

Available EgiAs Coating Only.

\* Sizes ≤ 2.90 mm have a single margin. Sizes ≥ 3 mm have a double margin.

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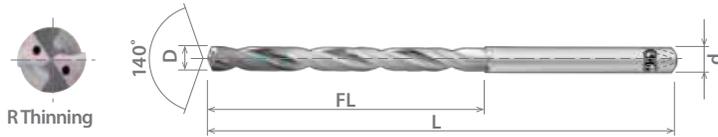
List No.	Work Material																
	P					M			K	N		S		H			
	Carbon Steels			Alloy Steels	Die Steels	Stainless Steels			Cast Iron	Aluminum		Nickel Alloy	Titanium	Hardened Steels			
	Low	Med.	High			300	400	17-4 PH		6061 7075	Casting			Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC
6520	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

good  best



## List 6520 (Continued)

ADO-8D, Coolant-Through



<b>NEW</b>	<b>SPEED FEED</b> P58	<b>CARBIDE</b>	<b>EgiAs</b>		<b>30°</b>	<b>SHANK</b> h6
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Cutting Diameter Tolerance (h8)		
Size	mm	inch
2 ≤ D ≤ 3	+0 / -0.014	+0 / -0.0006
3 < D ≤ 6	+0 / -0.018	+0 / -0.0007
6 < D ≤ 10	+0 / -0.022	+0 / -0.0009
10 < D ≤ 15.88	+0 / -0.027	+0 / -0.0011

EDP Number	Diameter					Flute Length FL	Overall Length L	Shank Diameter d
	Fractional Size	Wire Gage	Letter Size	mm	Inch			
8705010	-	-	-	10.10	0.3976	111	182	12
8705020	-	-	-	10.20	0.4016	112		
8705030	-	-	-	10.30	0.4055	113		
652040711	13/32	-	-	10.32	0.4063	113		
8705040	-	-	-	10.40	0.4094	114		
8695050	-	-	-	10.50	0.4134	116		
8705050	-	-	-	10.60	0.4173	117		
8705060	-	-	-	10.70	0.4213	118		
8705070	-	-	-	10.72	0.4220	118		
652042111	27/64	-	-	10.72	0.4220	118		
8705080	-	-	-	10.80	0.4252	119		
8705090	-	-	-	10.90	0.4291	120		
8695100	-	-	-	11.00	0.4331	121		
8705100	-	-	-	11.10	0.4370	122		
8705110	-	-	-	11.10	0.4370	122		
652043811	7/16	-	-	11.11	0.4374	122		
8705120	-	-	-	11.20	0.4409	123		
8705130	-	-	-	11.30	0.4449	124		
8705140	-	-	-	11.40	0.4488	125		
8695150	-	-	-	11.50	0.4528	127		
652045211	29/64	-	-	11.51	0.4531	127		
8705160	-	-	-	11.60	0.4567	128		
8705170	-	-	-	11.70	0.4606	129		
8705180	-	-	-	11.80	0.4646	130		
8705190	-	-	-	11.90	0.4685	131		
8695200	-	-	-	12.00	0.4724	132		
8705210	-	-	-	12.10	0.4764	133		
8705220	-	-	-	12.20	0.4803	134		
8705230	-	-	-	12.30	0.4843	135		
8705240	-	-	-	12.40	0.4882	136		
8695250	-	-	-	12.50	0.4921	138		
8705250	-	-	-	12.60	0.4961	139		
8705260	-	-	-	12.70	0.5000	140		
652050011	1/2	-	-	12.70	0.5000	140		
652053011	17/32	-	-	13.49	0.5311	149		
8705350	-	-	-	13.50	0.5315	149		
8705400	-	-	-	14.00	0.5512	154		
652056111	9/16	-	-	14.29	0.5626	157		
8705450	-	-	-	14.50	0.5709	160		
652062511	5/8	-	-	15.88	0.6252	175		

Packed: 1 pc.  
Available EgiAs Coating Only.  
\* Sizes ≤ 2.90 mm have a single margin. Sizes ≥ 3 mm have a double margin.



List No.	Work Material																
	P					M			K	N		S		H			
	Carbon Steels			Alloy Steels	Die Steels	Stainless Steels			Cast Iron	Aluminum		Nickel Alloy	Titanium	Hardened Steels			
	Low	Med.	High			300	400	17-4 PH		6061	Casting			Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC
6520	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

good  best



## List 6530

ADO-10D, Coolant-Through



**NEW** SPEED FEED P59-60 CARBIDE EgiAs 30° SHANK h6

Cutting Diameter Tolerance (e8)		
Size	mm	inch
2≤D≤3	-0.014 / -0.028	-0.0006 / -0.0011
3<D≤6	-0.020 / -0.038	-0.0008 / -0.0015
6<D≤10	-0.025 / -0.047	-0.0010 / -0.0019
10<D≤14.29	-0.032 / -0.059	-0.0013 / -0.0023

EDP Number	Diameter					Flute Length FL	Overall Length L	Shank Diameter d	
	Fractional Size	Wire Gage	Letter Size	mm	Inch				
*653007812	-	-	-	2.00	0.0787	26	75	3	
*653008212	-	-	-	2.10	0.0827	33			
*653008612	-	-	-	2.20	0.0866				
*653009012	-	-	-	2.30	0.0906				
*653009312	3/32	-	-	2.38	0.0937				
*653009412	-	-	-	2.40	0.0945				
*653009812	-	-	-	2.50	0.0984				
*653010212	-	-	-	2.60	0.1024				
*653010612	-	-	-	2.70	0.1063				
*653010912	7/64	-	-	2.78	0.1094				
*653011012	-	-	-	2.80	0.1102	40	90		
*653011412	-	-	-	2.90	0.1142				
8696300	-	-	-	3.00	0.1181				
653012212	-	-	-	3.10	0.1220				
653012512	1/8	-	-	3.18	0.1252			45	100
653012612	-	-	-	3.20	0.1260				
653012912	-	-	-	3.30	0.1299				
653013312	-	-	-	3.40	0.1339				
8696350	-	-	-	3.50	0.1378				
653014112	-	-	-	3.60	0.1417				
653014512	-	-	-	3.70	0.1457				
653014912	-	25	-	3.80	0.1496				
653015312	-	-	-	3.90	0.1535				
653015612	5/32	-	-	3.97	0.1563				
8696400	-	-	-	4.00	0.1575	50	115		
653016012	-	20	-	4.09	0.1610				
8710410	-	-	-	4.10	0.1614				
8710420	-	-	-	4.20	0.1654				
8710430	-	-	-	4.30	0.1693				
8710440	-	-	-	4.40	0.1732				
8696450	-	16	-	4.50	0.1772				
8710450	-	16	-	4.60	0.1811				
8710460	-	-	-	4.60	0.1811				
8710470	-	13	-	4.70	0.1850				
653018712	3/16	-	-	4.76	0.1874	55	128		
8710480	-	12	-	4.80	0.1890				
8710490	-	-	-	4.90	0.1929				
8696500	-	-	-	5.00	0.1969				
8710500	-	-	-	5.00	0.1969				
653020012	-	-	-	5.10	0.2008				
653020212	13/64	-	-	5.16	0.2031				
653020412	-	-	-	5.20	0.2047				
653020812	-	-	-	5.30	0.2087				
653021212	-	-	-	5.40	0.2126				
653021112	-	3	-	5.41	0.2130	60	128		
8696550	-	-	-	5.50	0.2165				
653021712	7/32	-	-	5.56	0.2189				
653022012	-	-	-	5.60	0.2205				
653022412	-	-	-	5.70	0.2244				
653022812	-	-	-	5.80	0.2283				

Packed: 1 pc.  
Available EgiAs Coating Only.

\* Sizes ≤ 2.90 mm have a single margin. Sizes ≥ 3 mm have a double margin.

[continued on next page](#)

List No.	Work Material																
	P					M			K	N		S		H			
	Carbon Steels			Alloy Steels	Die Steels	Stainless Steels			Cast Iron	Aluminum		Nickel Alloy	Titanium	Hardened Steels			
Low	Med.	High	4140	4340	300	400	17-4 PH	6061	7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC	
6530	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	

☐ good ☐ best



## List 6530 (Continued)

ADO-10D, Coolant-Through



<b>NEW</b>	<b>SPEED FEED</b> P59-60	<b>CARBIDE</b>	<b>EgiAs</b>		<b>30°</b>	<b>SHANK</b> h6
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Cutting Diameter Tolerance (e8)		
Size	mm	inch
2 ≤ D ≤ 3	-0.014 / -0.028	-0.0006 / -0.0011
3 < D ≤ 6	-0.020 / -0.038	-0.0008 / -0.0015
6 < D ≤ 10	-0.025 / -0.047	-0.0010 / -0.0019
10 < D ≤ 14.29	-0.032 / -0.059	-0.0013 / -0.0023

EDP Number	Diameter					Flute Length FL	Overall Length L	Shank Diameter d
	Fractional Size	Wire Gage	Letter Size	mm	Inch			
653023212	-	-	-	5.90	0.2323	78	128	6
8696600	-	-	-	6.00	0.2362			
8710610	-	-	-	6.10	0.2402			
8696620	-	-	-	6.20	0.2441			
8710620	-	-	-	6.30	0.2480	87	140	8
8710630	-	-	-	6.35	0.2500			
653025012	1/4	-	E	6.40	0.2520			
8710640	-	-	-	6.50	0.2559			
8696650	-	-	-	6.53	0.2571	90	155	8
8710650	-	-	-	6.60	0.2598			
653025612	-	-	F	6.70	0.2638			
8710660	-	-	-	6.75	0.2657			
8710670	-	-	-	6.80	0.2677	100	165	8
653026412	17/64	-	-	6.90	0.2717			
8710680	-	-	-	7.00	0.2756			
8710690	-	-	I	7.10	0.2795			
8696700	-	-	-	7.14	0.2811	105	190	10
8710700	-	-	-	7.20	0.2835			
653027912	-	-	-	7.30	0.2874			
653028012	9/32	-	-	7.40	0.2913			
653028312	-	-	-	7.50	0.2953	110	190	10
653028712	-	-	-	7.60	0.2992			
653029112	-	-	-	7.70	0.3031			
8696750	-	-	-	7.80	0.3071			
653029912	-	-	-	7.90	0.3110	115	190	10
653030312	-	-	-	7.94	0.3126			
653030712	-	-	-	8.00	0.3150			
653031112	-	-	-	8.10	0.3189			
653031212	5/16	-	-	8.20	0.3228	125	190	10
8696800	-	-	-	8.30	0.3268			
8710810	-	-	-	8.40	0.3307			
8710820	-	-	P	8.43	0.3319			
8696830	-	-	-	8.50	0.3346	130	190	10
8710830	-	-	-	8.60	0.3386			
8710840	-	-	-	8.70	0.3425			
653033112	-	-	Q	8.73	0.3437			
8696850	-	-	-	8.80	0.3465	130	190	10
8710850	-	-	-	8.90	0.3504			
8710860	-	-	-	9.00	0.3543			
8710870	-	-	-	9.10	0.3583			
653034212	11/32	-	-	9.20	0.3622	125	190	10
8710880	-	-	-	9.30	0.3661			
8710890	-	-	-	9.40	0.3701			
8696900	-	-	-	9.50	0.3740			
8710900	-	-	-	9.53	0.3752	130	190	10
653035812	-	-	-	9.60	0.3780			
653036212	-	-	-	9.70	0.3819			
653036612	-	-	-	9.80	0.3858			
653037012	-	-	-	9.90	0.3898	130	190	10
8696950	-	-	-	10.00	0.3937			
653037512	3/8	-	-					
653037812	-	-	-					
653038112	-	-	-					
653038512	-	-	W					
653038912	-	-	-					
8697000	-	-	-					

Packed: 1 pc.  
Available EgiAs Coating Only.  
\* Sizes ≤ 2.90 mm have a single margin. Sizes ≥ 3 mm have a double margin.



## List 6530 (Continued)

ADO-10D, Coolant-Through



EDP Number	Diameter					Flute Length FL	Overall Length L	Shank Diameter d	
	Fractional Size	Wire Gage	Letter Size	mm	Inch				
8711010	-	-	-	10.10	0.3976	140	205	12	
8711020	-	-	-	10.20	0.4016				
8711030	-	-	-	10.30	0.4055				
8711040	-	-	-	10.40	0.4094				
8711050	-	-	-	10.50	0.4134				
8711060	-	-	-	10.60	0.4173				
8711070	-	-	-	10.70	0.4213				
653042312	27/64	-	-	10.72	0.4220	145	215	7/16	
8711080	-	-	-	10.80	0.4252			12	
8711090	-	-	-	10.90	0.4291			11	
8697100	-	-	-	11.00	0.4331	155	215	12	
8711100	-	-	-	11.10	0.4370			12	
653043712	-	-	-	11.10	0.4370			7/16	
653043812	7/16	-	-	11.11	0.4374			12	
653044012	-	-	-	11.20	0.4409				
653044412	-	-	-	11.30	0.4449				
653044812	-	-	-	11.40	0.4488				
653045212	-	-	-	11.50	0.4528				
653045412	29/64	-	-	11.51	0.4531				1/2
653045612	-	-	-	11.60	0.4567				12
653046012	-	-	-	11.70	0.4606				
653046412	-	-	-	11.80	0.4646				
653046812	-	-	-	11.90	0.4685				
8697200	-	-	-	12.00	0.4724				
8711250	-	-	-	12.50	0.4921			14	
653050012	1/2	-	-	12.70	0.5000			1/2	
653056112	9/16	-	-	14.29	0.5626			180	230

Packed: 1 pc.  
Available EgiAs Coating Only.

\* Sizes ≤ 2.90 mm have a single margin. Sizes ≥ 3 mm have a double margin.



List No.	Work Material																
	P					M			K	N		S		H			
	Carbon Steels			Alloy Steels	Die Steels	Stainless Steels			Cast Iron	Aluminum		Nickel Alloy	Titanium	Hardened Steels			
	Low 1010 1018	Med. 1035 1045	High 1065	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
6530	☐	☐	☐	☐	☐	☐	☐	☐	☐		☐		☐	☐	☐	☐	

☐ good ☐ best



## List 6535

ADO-15D, Coolant-Through



<b>NEW</b>	<b>SPEED FEED</b> P59-60	<b>CARBIDE</b>	<b>EgiAs</b>		<b>30°</b>	<b>SHANK</b> h6
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Size	Cutting Diameter Tolerance (e8)	
	mm	inch
D=3	-0.014 / -0.028	-0.0006 / -0.0011
3<D≤6	-0.020 / -0.038	-0.0008 / -0.0015
6<D≤10	-0.025 / -0.047	-0.0010 / -0.0019
10<D≤14.29	-0.032 / -0.059	-0.0013 / -0.0023

EDP Number	Diameter					Flute Length FL	Overall Length L	Shank Diameter d
	Fractional Size	Wire Gage	Letter Size	mm	Inch			
8698300	-	-	-	3.00	0.1181	55	105	3
653512512	1/8	-	-	3.18	0.1252	60	125	1/8
8698320	-	-	-	3.20	0.1260	65		4
8698350	-	-	-	3.50	0.1378		75	5/32
653514112	9/64	-	-	3.57	0.1406	85		3/16
653515612	5/32	-	-	3.97	0.1563		90	4
8698400	-	-	-	4.00	0.1575	95		3/16
653517212	11/64	-	-	4.37	0.1720		110	6
8712440	-	-	-	4.40	0.1732	120		3/16
8712450	-	-	-	4.50	0.1772		125	6
653518712	3/16	-	-	4.76	0.1874	135		3/16
8712480	-	-	-	4.80	0.1890		145	6
8712500	-	-	-	5.00	0.1969	155		6
8712510	-	-	-	5.10	0.2008		160	1/4
653520312	13/64	-	-	5.16	0.2031	170		6
8712520	-	-	-	5.20	0.2047		180	6
653521312	-	-	-	5.41	0.2130	185		1/4
8698550	-	-	-	5.50	0.2165		190	6
653521912	7/32	-	-	5.56	0.2189	195		1/4
653523412	15/64	-	-	5.95	0.2343		200	6
8698600	-	-	-	6.00	0.2362	205		8
8712620	-	-	-	6.20	0.2441		210	1/4
653525012	1/4	-	-	6.35	0.2500	215		8
8712650	-	-	-	6.50	0.2559		220	8
653526612	17/64	-	-	6.75	0.2657	225		5/16
8712700	-	-	-	7.00	0.2756		230	8
653528112	9/32	-	-	7.14	0.2811	235		5/16
8698750	-	-	-	7.50	0.2953		240	8
653529712	19/64	-	-	7.54	0.2969	245		5/16
653531312	5/16	-	-	7.94	0.3126		250	8
8698800	-	-	-	8.00	0.3150	255		10
8712810	-	-	-	8.10	0.3189		260	3/8
8712820	-	-	-	8.20	0.3228	265		10
653532812	21/64	-	-	8.33	0.3280		270	3/8
8712850	-	-	-	8.50	0.3346	275		10
653534412	11/32	-	-	8.73	0.3437		280	3/8
8712900	-	-	-	9.00	0.3543	285		10
653535912	23/64	-	-	9.13	0.3594		290	3/8
8712940	-	-	-	9.40	0.3701	295		10
8698950	-	-	-	9.50	0.3740		300	3/8
653537512	3/8	-	-	9.53	0.3752	305		10
8712980	-	-	-	9.80	0.3858		310	7/16
653539112	25/64	-	-	9.92	0.3906	315		10
8699000	-	-	-	10.00	0.3937		320	7/16
653540612	13/32	-	-	10.32	0.4063	325		12
8713050	-	-	-	10.50	0.4134		330	7/16
653542212	27/64	-	-	10.72	0.4220	335		12
8713100	-	-	-	11.00	0.4331		340	7/16
653543712	7/16	-	-	11.11	0.4374	345		12
8713150	-	-	-	11.50	0.4528		350	1/2
653545312	29/64	-	-	11.51	0.4531	355		12
653546912	15/32	-	-	11.91	0.4689		360	12
8699200	-	-	-	12.00	0.4724			

Packed: 1 pc.  
Available EgiAs Coating Only.



## List 6535 (Continued)

ADO-15D, Coolant-Through



EDP Number	Diameter					Flute Length FL	Overall Length L	Shank Diameter d
	Fractional Size	Wire Gage	Letter Size	mm	Inch			
8713250	-	-	-	12.50	0.4921	225	290	14
653550012	1/2	-	-	12.70	0.5000	230	295	1/2
653553112	17/32	-	-	13.49	0.5311	245	315	5/8
653556312	9/16	-	-	14.29	0.5626	260	330	

Packed: 1 pc.  
Available EgiAs Coating Only.



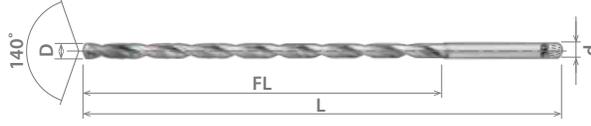
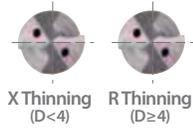
Work Material																	
List No.	P					M			K	N		S	H				
	Carbon Steels			Alloy Steels	Die Steels	Stainless Steels			Cast Iron	Aluminum		Nickel Alloy	Titanium	Hardened Steels			
	Low	Med.	High			300	400	17-4 PH		6061	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
6535	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

good  best



## List 6540

ADO-20D, Coolant-Through



<b>NEW</b>	<b>SPEED FEED</b> P59-60	<b>CARBIDE</b>	<b>EgiAs</b>		<b>30°</b>	<b>SHANK</b> h6
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Cutting Diameter Tolerance (e8)		
Size	mm	inch
D=3	-0.014 / -0.028	-0.0006 / -0.0011
3 < D ≤ 6	-0.020 / -0.038	-0.0008 / -0.0015
6 < D ≤ 10	-0.025 / -0.047	-0.0010 / -0.0019
10 < D ≤ 14.29	-0.032 / -0.059	-0.0013 / -0.0023

EDP Number	Diameter					Flute Length FL	Overall Length L	Shank Diameter d
	Fractional Size	Wire Gage	Letter Size	mm	Inch			
8706300	-	-	-	3.00	0.1181	70	120	3
654012512	1/8	-	-	3.18	0.1252	-	-	1/8
8706320	-	-	-	3.20	0.1260	80	-	4
8706350	-	-	-	3.50	0.1378	85	140	5/32
654014012	9/64	-	-	3.57	0.1406	-	-	3/16
654015612	5/32	-	-	3.97	0.1563	90	-	4
8706400	-	-	-	4.00	0.1575	-	-	3/16
654017212	11/64	-	-	4.37	0.1720	-	-	5
8706450	-	16	-	4.50	0.1772	110	165	6
8714450	-	16	-	4.76	0.1874	-	-	3/16
654018712	3/16	-	-	4.80	0.1890	-	-	6
8714480	-	-	-	5.00	0.1969	115	-	5
8706500	-	-	-	5.10	0.2008	-	-	6
8714500	-	-	-	5.16	0.2031	120	190	1/4
8714510	-	-	-	5.20	0.2047	-	-	6
654020212	13/64	-	-	5.41	0.2130	-	-	6
8714520	-	-	-	5.50	0.2165	-	-	1/4
654021312	-	-	-	5.56	0.2189	140	-	6
8706550	-	-	-	5.95	0.2343	-	-	1/4
654021712	7/32	-	-	6.00	0.2362	-	-	6
654023412	15/64	-	-	6.20	0.2441	155	210	8
8706600	-	-	-	6.35	0.2500	150	200	1/4
8714620	-	-	-	6.50	0.2559	155	210	7
654025012	1/4	-	E	6.50	0.2559	-	-	8
8706650	-	-	-	6.75	0.2657	160	210	5/16
8714650	-	-	-	7.00	0.2756	170	230	7
654026412	17/64	-	-	7.14	0.2811	-	-	8
8706700	-	-	-	7.50	0.2953	180	230	5/16
8714700	-	-	-	7.54	0.2969	-	-	8
654028012	9/32	-	-	7.94	0.3126	-	-	8
8706750	-	-	-	8.00	0.3150	195	260	10
654029612	19/64	-	-	8.10	0.3189	-	-	3/8
654031212	5/16	-	-	8.33	0.3280	-	-	9
8706800	-	-	-	8.50	0.3346	210	290	10
8714810	-	-	-	8.73	0.3437	-	-	3/8
654032812	21/64	-	-	9.00	0.3543	220	290	9
8706850	-	-	-	9.13	0.3594	-	-	10
8714850	-	-	-	9.40	0.3701	230	310	7/16
654034212	11/32	-	-	9.50	0.3740	-	-	12
8706900	-	-	-	9.92	0.3906	250	310	7/16
8714900	-	-	-	10.00	0.3937	-	-	11
654035912	23/64	-	-	10.32	0.4063	-	-	11
8714940	-	-	-	10.50	0.4134	250	310	12
8706950	-	-	-	10.72	0.4220	-	-	7/16
654037512	3/8	-	-	11.00	0.4331	-	-	11
8714980	-	-	-	-	-	-	-	12
654039012	25/64	-	-	-	-	-	-	12
8707000	-	-	-	-	-	-	-	12
654040612	13/32	-	-	-	-	-	-	12
8715050	-	-	-	-	-	-	-	12
654042112	27/64	-	-	-	-	-	-	12
8707100	-	-	-	-	-	-	-	12
8715100	-	-	-	-	-	-	-	12

Packed: 1 pc.  
Available EgiAs Coating Only.



## List 6540 (Continued)

ADO-20D, Coolant-Through



EDP Number	Diameter					Flute Length FL	Overall Length L	Shank Diameter d
	Fractional Size	Wire Gage	Letter Size	mm	Inch			
654043712	7/16	-	-	11.11	0.4374	270	330	7/16
654045212	-	-	-	11.50	0.4528			12
654045412	29/64	-	-	11.51	0.4531			1/2
654046812	15/32	-	-	11.91	0.4689			12
8707200	-	-	-	12.00	0.4724			14
8715250	-	-	-	12.50	0.4921	280	1/2	
654050012	1/2	-	-	12.70	0.5000		380	
654053112	17/32	-	-	13.49	0.5311	310	5/8	
654056112	9/16	-	-	14.29	0.5626	315	365	

Packed: 1 pc.  
Available EgiAs Coating Only.



Work Material																	
List No.	P					M			K	N		S		H			
	Carbon Steels			Alloy Steels	Die Steels	Stainless Steels			Cast Iron	Aluminum		Nickel Alloy	Titanium	Hardened Steels			
	Low	Med.	High			300	400	17-4 PH		6061	Casting			Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC
6540	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

good  best



### List 6550

ADO-30D, Coolant-Through



<b>NEW</b>	<b>SPEED FEED</b> P59-60	<b>CARBIDE</b>	<b>EgiAs</b>		<b>30°</b>	<b>SHANK</b> h6
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Cutting Diameter Tolerance (e8)		
Size	mm	inch
D=3	-0.014 / -0.028	-0.0006 / -0.0011
3<D≤6	-0.020 / -0.038	-0.0008 / -0.0015
6<D≤10	-0.025 / -0.047	-0.0010 / -0.0019
10<D≤14.29	-0.032 / -0.059	-0.0013 / -0.0023

EDP Number	Diameter					xD	Flute Length FL	Overall Length L	Shank Diameter d
	Fractional Size	Wire Gage	Letter Size	mm	Inch				
655011812	-	-	-	3.00	0.1181	25 x D	85	135	3
655012512	1/8	-	-	3.18	0.1252		95	165	1/8
8708320	-	-	-	3.20	0.1260		105	185	4
8708350	-	-	-	3.50	0.1378		116		5/32
655014012	9/64	-	-	3.57	0.1406		132		3/16
655015612	5/32	-	-	3.97	0.1563				4
8708400	-	-	-	4.00	0.1575		150	215	3/16
655017212	11/64	-	-	4.37	0.1720			5	
8708450	-	16	-	4.50	0.1772			6	
8716450	-	16	-	4.76	0.1874			155	210
655018712	3/16	-	-	4.80	0.1890		165	215	6
8716480	-	-	-	5.00	0.1969			5	
8708500	-	-	-	5.10	0.2008			6	
8716500	-	-	-	5.16	0.2031			180	250
655020212	13/64	-	-	5.20	0.2047		200		
8716520	-	-	-	5.41	0.2130			215	
655021312	-	-	-	5.50	0.2165	230	6		
8708550	-	-	-	5.56	0.2189		250	8	
655021712	7/32	-	-	5.95	0.2343	280		7	
655023412	15/64	-	-	6.00	0.2362		315	8	
8708600	-	-	-	6.20	0.2441	350		5/16	
8716620	-	-	-	6.35	0.2500		300	7	
655025012	1/4	-	E	6.50	0.2559	250		315	8
8708650	-	-	-	6.75	0.2657		265		5/16
8716650	-	-	-	7.00	0.2756	280			8
655026412	17/64	-	-	7.14	0.2811		350		10
8708700	-	-	-	7.50	0.2953	280		3/8	
8716700	-	-	-	7.54	0.2969		300	9	
655028012	9/32	-	-	7.94	0.3126	300		10	
8708750	-	-	-	8.00	0.3150		300	3/8	
655029612	19/64	-	-	8.10	0.3189	300		10	
655031212	5/16	-	-	8.33	0.3280		300	3/8	
8708800	-	-	-	8.50	0.3346	300		10	
8716810	-	-	-	8.73	0.3437		300	3/8	
655032812	21/64	-	-						
8708850	-	-	-						
8716850	-	-	-						
655034212	11/32	-	-						

Packed: 1 pc.  
Available EgiAs Coating Only.



## List 6550 (Continued)

ADO-30D, Coolant-Through

<b>NEW</b>	<b>SPEED FEED</b> P59-60	<b>CARBIDE</b>	<b>EgiAs</b>		<b>30°</b>	<b>SHANK</b> h6
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EDP Number	Diameter					xD	Flute Length	Overall Length	Shank Diameter					
	Fractional Size	Wire Gage	Letter Size	mm	Inch		FL	L	d					
8708900	-	-	-	9.00	0.3543	30 x D	300	350	9					
8716900	-	-	-								10			
655035912	23/64	-	-	9.13	0.3594						3/8			
8716940	-	-	-	9.40	0.3701		315	390	10	10				
8708950	-	-	-	9.50	0.3740							3/8		
655037512	3/8	-	-	9.53	0.3752							10		
8716980	-	-	-	9.80	0.3858		330			400	7/16	10		
655039012	25/64	-	-	9.92	0.3906									7/16
8709000	-	-	-	10.00	0.3937									10
655040612	13/32	-	-	10.32	0.4063		340	400	12			7/16		
655041212	-	-	-	10.50	0.4134									12
655042112	27/64	-	-	10.72	0.4220									7/16
655043212	-	-	-	11.00	0.4331		350			400	12	12		
655043712	7/16	-	-	11.11	0.4374									7/16
655045212	-	-	-	11.50	0.4528									12
655045412	29/64	-	-	11.51	0.4531	28 x D	340	400	1/2					
655046812	15/32	-	-	11.91	0.4689	25 x D						12		
655047212	-	-	-	12.00	0.4724	26 x D						14		
655049112	-	-	-	12.50	0.4921	25 x D	350		1/2	1/2				
655050012	1/2	-	-	12.70	0.5000							5/8		
655053112	17/32	-	-	13.49	0.5311	22 x D	340		350					
655056112	9/16	-	-	14.29	0.5626									

Packed: 1 pc.  
Available EgiAs Coating Only.



List No.	Work Material																
	P					M			K	N		S		H			
	Carbon Steels			Alloy Steels	Die Steels	Stainless Steels			Cast Iron	Aluminum		Nickel Alloy	Titanium	Hardened Steels			
	Low	Med.	High			300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
6550	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

good  best



## List 6500 - A Brand® ADO: 3D List 6510 - A Brand® ADO: 5D List 6520 - A Brand® ADO: 8D

### General Drilling Operations

Work Material	Carbon Steels, Mild Steels 1010, 1050, 12L14		Alloy Steels 4140, 4130		Stainless Steels 300SS, 400SS, 17-4PH		High Heat Material						
	Ti-Alloy, Ti-6Al-4V		Fe-Base Material, A286		Ni-Base Material, Inconel		100 - 180 SFM		80 - 130 SFM		65 - 110 SFM		
Drilling Speed	260-395 SFM		260-395 SFM		130-230 SFM		100 - 180 SFM		80 - 130 SFM		65 - 110 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
2	-	15,900	0.002-0.004	15,900	0.002-0.004	9,600	0.002-0.004	7,270	0.002-0.003	5,720	0.001-0.002	4,850	0.001-0.002
3	-	10,600	0.002-0.005	10,600	0.002-0.005	6,400	0.002-0.005	4,800	0.002-0.003	3,700	0.002-0.002	3,200	0.001-0.002
-	1/8	10,020	0.003-0.005	10,020	0.003-0.005	6,050	0.003-0.005	4,580	0.002-0.004	3,600	0.002-0.003	3,050	0.002-0.002
4	-	8,000	0.003-0.006	8,000	0.003-0.006	4,800	0.003-0.006	3,600	0.002-0.004	2,800	0.002-0.003	2,400	0.002-0.002
-	3/16	6,730	0.004-0.007	6,730	0.004-0.007	4,030	0.004-0.007	3,050	0.003-0.005	2,400	0.003-0.004	2,030	0.002-0.003
6	-	5,300	0.005-0.009	5,300	0.005-0.009	3,200	0.005-0.009	2,400	0.004-0.005	1,900	0.004-0.005	1,600	0.002-0.004
-	1/4	5,010	0.006-0.009	5,010	0.006-0.009	3,020	0.006-0.009	2,290	0.004-0.006	1,800	0.004-0.006	1,530	0.002-0.004
8	-	4,000	0.006-0.011	4,000	0.006-0.011	2,400	0.006-0.011	1,800	0.005-0.007	1,400	0.005-0.006	1,200	0.003-0.005
-	3/8	3,310	0.008-0.012	3,310	0.008-0.012	2,020	0.008-0.012	1,530	0.005-0.008	1,200	0.005-0.007	1,020	0.004-0.005
10	-	3,200	0.008-0.012	3,200	0.008-0.012	1,900	0.008-0.012	1,400	0.006-0.009	1,100	0.006-0.008	950	0.004-0.006
-	7/16	2,880	0.008-0.012	2,880	0.008-0.012	1,730	0.008-0.012	1,310	0.007-0.010	1,030	0.007-0.009	870	0.004-0.007
12	-	2,700	0.008-0.012	2,700	0.008-0.012	1,600	0.008-0.012	1,200	0.007-0.011	930	0.007-0.009	800	0.005-0.007
-	1/2	2,520	0.008-0.012	2,520	0.008-0.012	1,510	0.008-0.012	1,150	0.008-0.012	900	0.008-0.010	760	0.005-0.008
14	-	2,300	0.009-0.014	2,300	0.009-0.014	1,400	0.009-0.014	1,000	0.008-0.013	780	0.008-0.011	770	0.005-0.008
-	5/8	2,020	0.010-0.014	2,020	0.010-0.014	1,210	0.010-0.014	920	0.009-0.013	720	0.006-0.009	610	0.005-0.008
18	-	1,800	0.011-0.015	1,800	0.011-0.015	1,100	0.011-0.015	800	0.010-0.014	630	0.008-0.011	540	0.005-0.008
-	3/4	1,680	0.012-0.015	1,680	0.012-0.015	1,010	0.012-0.015	760	0.011-0.015	600	0.008-0.011	510	0.005-0.008
20	-	1,600	0.012-0.016	1,600	0.012-0.016	1,000	0.012-0.016	700	0.012-0.016	560	0.008-0.012	480	0.005-0.008

### General Drilling Operations

Work Material	Cast Iron		Ductile Cast Iron		Special Alloy Steels, Hardened Steels										
	26-30 HRC		30-34 HRC		34-43 HRC		43-48 HRC		26-30 HRC		130-200 SFM		130-160 SFM		82-115 HRC
Drilling Speed	260-395 SFM		195-330 SFM		195-295 SFM		130-200 SFM		130-160 SFM		82-115 HRC				
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	-	15,900	0.002-0.004	12,610	0.002-0.004	11,110	0.002-0.004	8,005	0.002-0.003	7,230	0.002-0.003	5,820	0.001-0.002		
3	-	10,600	0.002-0.005	8,500	0.002-0.005	7,400	0.002-0.005	5,300	0.002-0.003	4,700	0.002-0.003	3,881	0.002-0.002		
-	1/8	10,020	0.003-0.005	7,950	0.003-0.005	7,000	0.003-0.005	5,040	0.002-0.004	4,550	0.002-0.004	3,660	0.002-0.003		
4	-	8,000	0.003-0.006	6,400	0.003-0.006	5,600	0.003-0.006	4,000	0.003-0.004	3,600	0.003-0.004	2,911	0.002-0.003		
-	3/16	6,730	0.004-0.007	5,300	0.004-0.007	4,690	0.004-0.007	3,360	0.003-0.005	3,030	0.003-0.005	2,440	0.003-0.004		
6	-	5,300	0.005-0.009	4,200	0.005-0.009	3,700	0.005-0.009	2,700	0.005-0.006	2,400	0.005-0.006	1,941	0.004-0.005		
-	1/4	5,010	0.006-0.009	3,980	0.006-0.009	3,500	0.006-0.010	2,520	0.005-0.007	2,280	0.005-0.007	1,830	0.004-0.006		
8	-	4,000	0.006-0.011	3,200	0.006-0.011	2,800	0.006-0.011	2,000	0.006-0.008	1,800	0.006-0.008	1,455	0.005-0.007		
-	3/8	3,310	0.008-0.012	2,650	0.008-0.012	2,330	0.007-0.012	1,680	0.008-0.009	1,520	0.008-0.009	1,220	0.006-0.008		
10	-	3,200	0.008-0.012	2,500	0.008-0.012	2,200	0.008-0.012	1,600	0.008-0.010	1,400	0.008-0.010	1,164	0.007-0.009		
-	7/16	2,880	0.008-0.012	2,270	0.008-0.012	1,980	0.008-0.012	1,440	0.009-0.011	1,300	0.009-0.011	1,050	0.007-0.009		
12	-	2,700	0.008-0.012	2,100	0.008-0.012	1,900	0.008-0.012	1,300	0.009-0.012	1,200	0.009-0.012	970	0.007-0.009		
-	1/2	2,520	0.008-0.012	1,990	0.008-0.012	1,730	0.008-0.012	1,260	0.010-0.013	1,140	0.010-0.013	920	0.008-0.010		
14	-	2,300	0.009-0.014	1,800	0.009-0.014	1,600	0.009-0.014	1,100	0.011-0.014	1,000	0.011-0.014	815	0.008-0.011		
-	5/8	2,020	0.010-0.014	1,590	0.010-0.014	1,410	0.010-0.014	1,010	0.012-0.015	910	0.012-0.015	735	0.009-0.013		
18	-	1,800	0.011-0.015	1,400	0.011-0.015	1,200	0.011-0.015	900	0.014-0.018	800	0.014-0.018	668	0.010-0.014		
-	3/4	1,680	0.012-0.015	1,320	0.012-0.015	1,150	0.012-0.015	840	0.015-0.019	760	0.015-0.019	610	0.011-0.015		
20	-	1,600	0.012-0.016	1,300	0.012-0.016	1,100	0.012-0.016	800	0.016-0.020	700	0.016-0.020	668	0.012-0.016		

**Note:**

- The indicated speeds and feeds are for drilling with **water-soluble oil** or **MQL**.
- Suitable cutting fluid is water-soluble high density oil (less than 20 times dilution).
- When using non-water-soluble oil or water-soluble oil (over 20 times dilution), reduce cutting speed by 30%.
- These conditions are for drilling depth under 8 times the drill diameter.
- 1D-2D step feeding may be required for drilling high hardened steels and mid-range (8D) work.



**List 6530 - A Brand® ADO: 10D**  
**List 6535 - A Brand® ADO: 15D**  
**List 6540 - A Brand® ADO: 20D**  
**List 6550 - A Brand® ADO: 30D**

### General Drilling Operations

Work Material	Carbon Steels, Mild Steels 1010, 1050, 12L14		Alloy Steels 4140, 4130		Stainless Steels 300SS, 400SS, 17-4PH		High Heat Material						
							Ti-Alloy, Ti-6Al-4V		Fe-Base Material, A286		Ni-Base Material, Inconel		
Drilling Speed	260-395 SFM		260-395 SFM		130-230 SFM		100 - 180 SFM		80 - 130 SFM		65 - 110 SFM		
Drill Dia.	Speed	Feed	Speed	Feed	Speed	Feed	Speed	Feed	Speed	Feed	Speed	Feed	
	RPM	IPR	RPM	IPR	RPM	IPR	RPM	IPR	RPM	IPR	RPM	IPR	
mm	Inch												
2	-	16,010	0.002-0.004	16,010	0.002-0.004	9,610	0.002-0.004	7,270	0.001-0.003	5,630	0.001-0.002	4,800	0.001-0.002
3	-	10,600	0.002-0.005	10,600	0.002-0.005	6,400	0.002-0.005	4,800	0.002-0.003	3,700	0.002-0.002	3,200	0.001-0.002
-	1/8	10,080	0.003-0.005	10,080	0.003-0.005	6,050	0.003-0.005	4,580	0.002-0.003	3,540	0.002-0.003	3,020	0.002-0.002
4	-	8,000	0.003-0.006	8,000	0.003-0.006	4,800	0.003-0.006	3,600	0.002-0.004	2,800	0.002-0.003	2,400	0.002-0.002
-	3/16	6,720	0.004-0.007	6,720	0.004-0.007	4,030	0.004-0.007	3,050	0.003-0.004	2,360	0.002-0.004	2,020	0.002-0.003
6	-	5,300	0.005-0.009	5,300	0.005-0.009	3,200	0.005-0.009	2,400	0.004-0.005	1,900	0.004-0.005	1,600	0.002-0.004
-	1/4	5,040	0.005-0.010	5,040	0.005-0.010	3,055	0.005-0.010	2,290	0.004-0.006	1,760	0.004-0.006	1,530	0.002-0.005
8	-	4,000	0.006-0.011	4,000	0.006-0.011	2,400	0.006-0.011	1,800	0.005-0.007	1,400	0.005-0.006	1,200	0.003-0.005
-	3/8	3,500	0.007-0.012	3,500	0.007-0.012	2,100	0.007-0.012	1,650	0.005-0.008	1,250	0.005-0.007	1,100	0.003-0.005
10	-	3,200	0.008-0.012	3,200	0.008-0.012	1,900	0.008-0.012	1,400	0.006-0.009	1,100	0.006-0.008	950	0.004-0.006
-	7/16	2,900	0.008-0.012	2,900	0.008-0.012	1,700	0.008-0.012	1,300	0.007-0.010	1,000	0.007-0.009	860	0.004-0.007
12	-	2,700	0.008-0.012	2,700	0.008-0.012	1,600	0.008-0.012	1,200	0.007-0.011	930	0.007-0.009	800	0.005-0.007
-	1/2	2,400	0.008-0.012	2,400	0.008-0.012	1,500	0.008-0.012	1,100	0.008-0.012	880	0.008-0.010	750	0.005-0.008
-	9/16	2,300	0.009-0.014	2,300	0.009-0.014	1,400	0.009-0.014	1,000	0.008-0.013	780	0.008-0.011	770	0.005-0.008

### General Drilling Operations

Work Material	Cast Iron		Ductile Cast Iron		Special Alloy Steels, Hardened Steels								
					26-30 HRC		30-34 HRC		34-43 HRC		43-48 HRC		
Drilling Speed	260-395 SFM		195-330 SFM		195-295 SFM		130-200 SFM		130-160 SFM		82-115 HRC		
Drill Dia.	Speed	Feed	Speed	Feed	Speed	Feed	Speed	Feed	Speed	Feed	Speed	Feed	
	RPM	IPR	RPM	IPR	RPM	IPR	RPM	IPR	RPM	IPR	RPM	IPR	
mm	Inch												
2	-	16,010	0.002-0.004	12,760	0.002-0.004	11,160	0.002-0.004	8,010	0.002-0.003	7,270	0.002-0.003	5,820	0.001-0.002
3	-	10,600	0.002-0.005	8,500	0.002-0.005	7,400	0.002-0.005	5,300	0.002-0.003	4,700	0.002-0.003	3,880	0.002-0.002
-	1/8	10,080	0.003-0.005	8,040	0.003-0.005	7,030	0.003-0.005	5,040	0.003-0.004	4,580	0.003-0.004	3,670	0.002-0.003
4	-	8,000	0.003-0.006	6,400	0.003-0.006	5,600	0.003-0.006	4,000	0.003-0.004	3,600	0.003-0.004	2,910	0.002-0.003
-	3/16	6,720	0.004-0.007	5,360	0.004-0.007	4,680	0.004-0.007	3,360	0.003-0.005	3,060	0.003-0.005	2,440	0.003-0.004
6	-	5,300	0.005-0.009	4,200	0.005-0.009	3,700	0.005-0.009	2,700	0.005-0.006	2,400	0.005-0.006	1,940	0.004-0.005
-	1/4	5,040	0.005-0.010	4,050	0.005-0.010	3,515	0.005-0.010	2,520	0.005-0.007	2,290	0.005-0.007	1,830	0.004-0.006
8	-	4,000	0.006-0.011	3,200	0.006-0.011	2,800	0.006-0.011	2,000	0.006-0.008	1,800	0.006-0.008	1,450	0.005-0.007
-	3/8	3,500	0.007-0.012	2,800	0.007-0.012	2,500	0.007-0.012	1,900	0.007-0.009	1,650	0.007-0.009	1,330	0.006-0.008
10	-	3,200	0.008-0.012	2,500	0.008-0.012	2,200	0.008-0.012	1,600	0.008-0.010	1,400	0.008-0.010	1,160	0.007-0.009
-	7/16	2,900	0.008-0.012	2,300	0.008-0.012	2,000	0.008-0.012	1,400	0.009-0.011	1,300	0.009-0.011	1,050	0.007-0.009
12	-	2,700	0.008-0.012	2,100	0.008-0.012	1,900	0.008-0.012	1,300	0.009-0.012	1,200	0.009-0.012	970	0.007-0.009
-	1/2	2,400	0.008-0.012	2,000	0.008-0.012	1,700	0.008-0.012	1,250	0.010-0.013	1,100	0.010-0.013	920	0.008-0.010
-	9/16	2,300	0.009-0.014	1,800	0.009-0.014	1,600	0.009-0.014	1,100	0.011-0.014	1,000	0.011-0.014	815	0.008-0.011

**Note:**

- The indicated speeds and feeds are for drilling with **water-soluble oil** or **MQL**. (We do not recommend mist drilling with stainless steels.)
- Water-soluble oil (20-30 times dilution) is recommended.
- When using non-water-soluble oil, set the cutting speed between 70-100% of the lowest limit.
- Make a pilot hole before using in accordance with recommended operation.
- A clogged oil hole can lead to breakage. Make sure that a filter is attached to the oil feeder.
- Peck drilling of 1D-2D is strongly recommended.

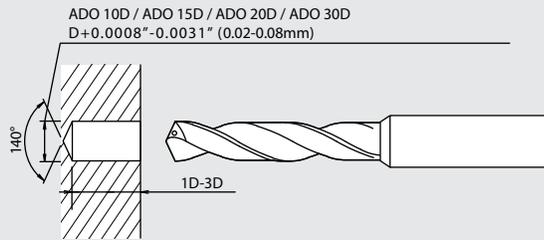
▶ continued on next page ▶



## Deep Hole Operational Guidelines

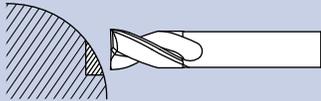
### 1. Make a pilot hole.

For a pilot hole, select 0.0008"-0.0031" (0.02-0.08mm) larger size drill than ADO 10D, ADO 15D, ADO 20D and ADO 30D. If the needed pilot drill size is not available, we recommend using the same diameter drill from ADO 3D.

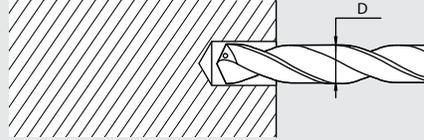


### Drilling a Curved Surface

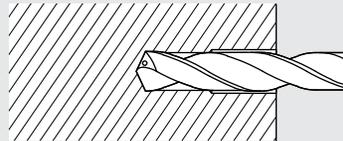
When working on a curved surface, we recommend using A Brand® ADF flat drill.



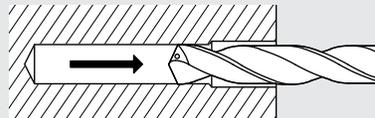
### 2. Insert the extra long drill into a pilot hole with zero or low revolution (below 500rpm).



### 3. Increase the revolution to the designated speed and start drilling.



### 4. After drilling, move the drill away from the bottom of the hole, then reduce its speed while pulling it out of the hole.

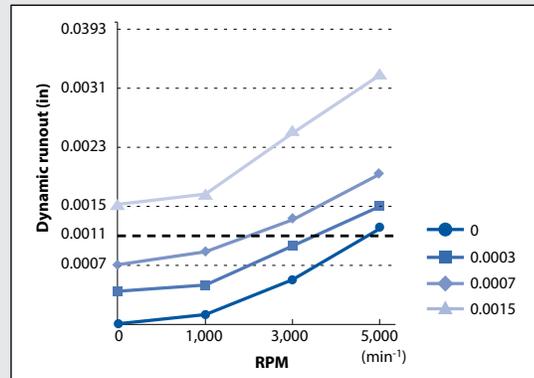


Make sure to use an internal coolant supply when drilling.

## Stable Drilling with Long Drills

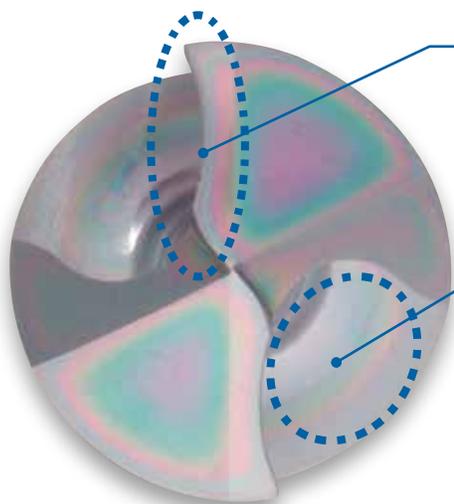
The runout of a gripped cutting tool increases with the speed, as shown in the graph on the right. To ensure a higher level of work stability, OSG recommends "making +0.0008"-0.0031" (+0.02-0.08mm) pilot holes" and "inserting long drills stopped or at low speeds."

The reason for this is made evident in the graph on the right. Increasing the speed increases the dynamic runout, posing a higher risk of the drill not fitting properly in the pilot hole. Therefore, this is effective not only for inhibiting static runout, but is also the recommended drilling method for long drills.



Static runout RPM (min⁻¹)	0"	0.0003"	0.0007"	0.0015"
1,000	0.0001	0.0005	0.0009	0.0018
3,000	0.0005	0.0010	0.0014	0.0025
5,000	0.0012	0.0015	0.0019	0.0034

Tool: Ø6x30D



### Wavy Point Form

breaks chip into small manageable pieces.

### Wide Flute Room

facilitates stable chip evacuation.

### EgiAs Coating

for exceptional wear resistance and toughness.



## Wide Range of Carbide Applications

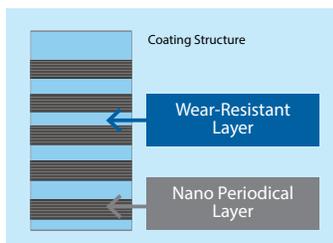
### High Performance Carbide Drills for Ferrous and Non-Ferrous Materials

Superior point strength with low cutting force are achieved to accommodate a wide range of carbide drilling applications. EgiAs coating constructed with extreme toughness, high wear and heat resistance characteristics to ensure stable and consistent tool life.

## EgiAs<sup>™</sup> Coating

### Exceptional Wear Resistance & Toughness

Constructed with extreme toughness, high wear and heat resistance characteristics to ensure stable and consistent tool life. Suppresses friction with the wear resistance layer; prevents breakage with the nano periodical layer.



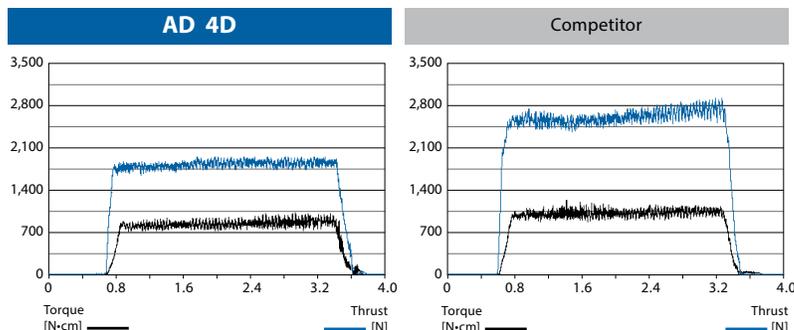
Coating Color	Coating Structure	Hardness (Hv)	Oxidation Temperature (°C)	Heat Resistance	Adhesion Strength	Wear Resistance	Welding Resistance	Toughness
Iridescent Color	Periodic Nano-layer and wear resistance layer	3,200	1,100	☐	☐	☐	☐	☐

## Wavy Point Form

### Low Thrust and Stable Torque in 4140

Low thrust resistance and stable torque are possible by the new wavy point form and low web thickness.

Tool	AD 4D	Competitor
Drill Size	Ø10	
Work Material	4140 Alloy Steel	
Cutting Speed	230 SFM (2,235 RPM)	
Feed Rate	26.3 IPM (0.0118 IPR)	
Depth of Hole	34 mm (Blind)	
Coolant	Water Soluble (External)	
Machine	Vertical Machining Center	

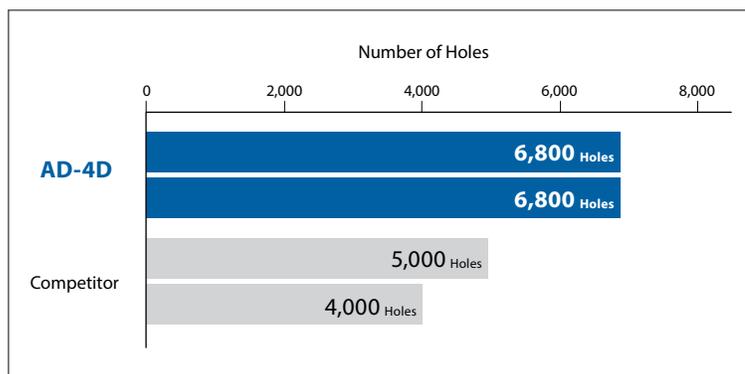


## High Hardness Coating

### Minimized wear at cutting edge

3,200HV high hardness coating prevents margin area friction wear and minimizes damage at the cutting edge.

Tool	AD 4D	Competitor
Drill Size	Ø3	
Work Material	4140 Alloy Steel	
Cutting Speed	230 SFM (7,445 RPM)	
Feed Rate	29 IPM (0.0039 IPR)	
Depth of Hole	12 mm (Blind)	
Coolant	Water Soluble (External)	
Machine	Vertical Machining Center	

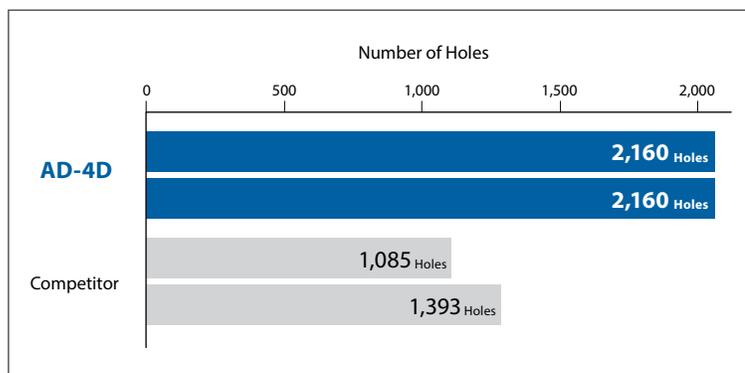


## Margin Protection

### EgiAs Coating Provides Protection at the Margin

In carbon steel, EgiAs coating protects against chipping and friction at the margin.

Tool	AD 4D	Competitor
Drill Size	Ø12	
Work Material	1050 Carbon Steel	
Cutting Speed	328 SFM (2,654 RPM)	
Feed Rate	25 IPM (0.0094 IPR)	
Depth of Hole	47 mm (Blind)	
Coolant	Water Soluble (External)	
Machine	Vertical Machining Center	

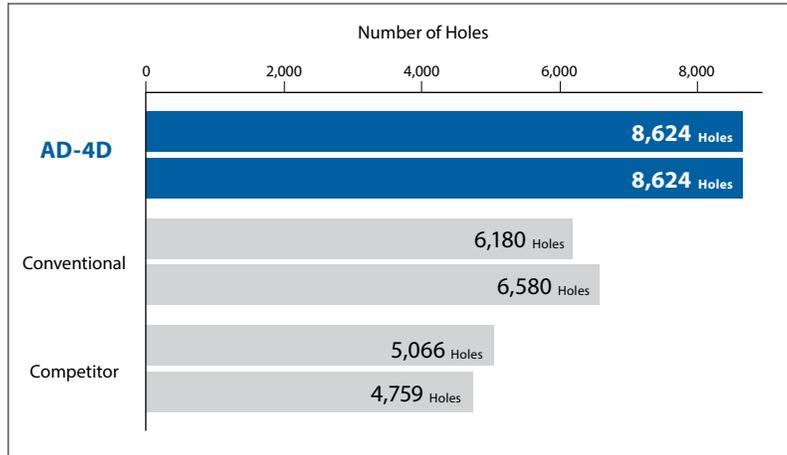


## Extreme Toughness

An All-Purpose Tool Upgraded with Even Greater Capabilities

EgiAs coating is constructed with extreme toughness, high wear and heat resistance characteristics to ensure stable and consistent tool life.

Tool	AD 4D	Conventional	Competitor
Drill Size	Ø6		
Work Material	4140 Alloy Steel		
Cutting Speed	230 SFM (3,723 RPM)		
Feed Rate	26 IPM (0.007 IPR)		
Depth of Hole	18 mm (Blind)		
Coolant	Water Soluble (External)		
Machine	Vertical Machining Center		

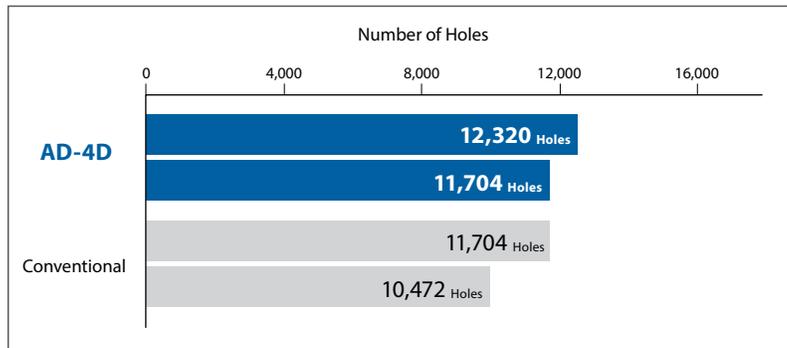


## Durability

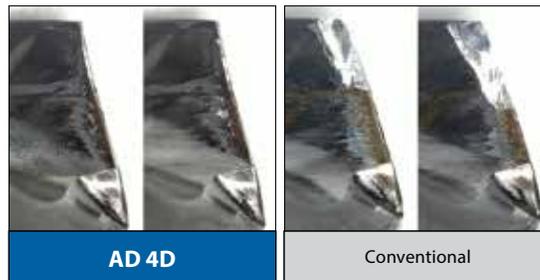
Durability and Tool Life in 1050 Steel

EgiAs coating provides superior protection against friction, resulting in longer tool life and more holes per tool.

Tool	AD 4D	Conventional
Drill Size	Ø6	
Work Material	1050 Carbon Steel	
Cutting Speed	328 SFM (5,285 RPM)	
Feed Rate	37 IPM (0.007 IPR)	
Depth of Hole	18 mm (Blind)	
Coolant	Water Soluble (External)	
Machine	Vertical Machining Center	

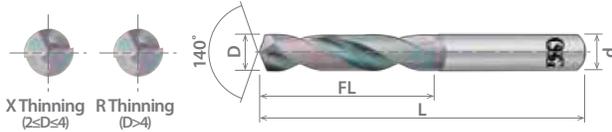


### Tool Wear



## List 6300

AD-2D



<b>NEW</b>	<b>SPEED FEED</b> P70	<b>CARBIDE</b>	<b>EgiAs</b>	<b>30°</b>	<b>SHANK</b> h6
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Cutting Diameter Tolerance (h8)		
Size	mm	inch
2 ≤ D ≤ 3	+0 / -0.014	+0 / -0.0006
3 < D ≤ 6	+0 / -0.018	+0 / -0.0007
6 < D ≤ 10	+0 / -0.022	+0 / -0.0009
10 < D ≤ 18	+0 / -0.027	+0 / -0.0011
18 < D ≤ 20	+0 / -0.033	+0 / -0.0013

EDP Number	Diameter					Flute Length FL	Overall Length L	Shank Diameter d
	Fractional Size	Wire Gage	Letter Size	mm	Inch			
8670200	-	-	-	2.00	0.0787	14	62	4
8670210	-	-	-	2.10	0.0827			
8670220	-	-	-	2.20	0.0866			
8670230	-	-	-	2.30	0.0906			
8670240	-	-	-	2.40	0.0945			
8670250	-	-	-	2.50	0.0984			
8670260	-	-	-	2.60	0.1024			
8670270	-	-	-	2.70	0.1063			
8670280	-	-	-	2.80	0.1102			
8670290	-	-	-	2.90	0.1142			
8670300	-	-	-	3.00	0.1181	20	66	4
8670310	-	-	-	3.10	0.1220			
630012311	1/8	-	-	3.17	0.1248			
8670320	-	-	-	3.20	0.1260			
8670330	-	-	-	3.30	0.1299			
8670340	-	-	-	3.40	0.1339			
8670350	-	-	-	3.50	0.1378			
8670360	-	-	-	3.60	0.1417			
8670370	-	-	-	3.70	0.1457			
8670380	-	25	-	3.80	0.1496			
8670390	-	-	-	3.90	0.1535	24	66	6
630015511	5/32	-	-	3.97	0.1563			
8670400	-	-	-	4.00	0.1575			
630016111	-	20	-	4.09	0.1610			
8670410	-	-	-	4.10	0.1614			
8670420	-	-	-	4.20	0.1654			
8670430	-	-	-	4.30	0.1693			
630017111	11/64	-	-	4.37	0.1720			
8670440	-	-	-	4.40	0.1732			
8670450	-	16	-	4.50	0.1772			
8670460	-	-	-	4.60	0.1811	28	66	6
8670470	-	13	-	4.70	0.1850			
630018611	3/16	-	-	4.76	0.1874			
8670480	-	12	-	4.80	0.1890			
8670490	-	-	-	4.90	0.1929			
8670500	-	-	-	5.00	0.1969			
8670510	-	-	-	5.10	0.2008			
630020211	13/64	-	-	5.16	0.2031			
8670520	-	-	-	5.20	0.2047			
8670530	-	-	-	5.30	0.2087			
8670540	-	-	-	5.40	0.2126	34	79	8
630021311	-	3	-	5.41	0.2130			
8670550	-	-	-	5.50	0.2165			
630021711	7/32	-	-	5.56	0.2189			
8670560	-	-	-	5.60	0.2205			
8670570	-	-	-	5.70	0.2244			
8670580	-	-	-	5.80	0.2283			
8670590	-	-	-	5.90	0.2323			
630023311	15/64	-	-	5.95	0.2343			
8670600	-	-	-	6.00	0.2362			
8670610	-	-	-	6.10	0.2402			
8670620	-	-	-	6.20	0.2441			
8670630	-	-	-	6.30	0.2480			
630024911	1/4	-	E	6.35	0.2500			
8670640	-	-	-	6.40	0.2520			
8670650	-	-	-	6.50	0.2559			
630025711	-	-	F	6.53	0.2571			
8670660	-	-	-	6.60	0.2598			
8670670	-	-	-	6.70	0.2638			

Packed: 1 pc.  
Available EgiAs Coating Only.



## List 6300 (Continued)

AD-2D



EDP Number	Diameter					Flute Length FL	Overall Length L	Shank Diameter d
	Fractional Size	Wire Gage	Letter Size	mm	Inch			
630026411	17/64	-	-	6.75	0.2657	34	79	5/16
8670680	-	-	-	6.80	0.2677			
8670690	-	-	I	6.90	0.2717			
8670700	-	-	-	7.00	0.2756			
8670710	-	-	-	7.10	0.2795			
630028011	9/32	-	-	7.14	0.2811			
8670720	-	-	-	7.20	0.2835			
8670730	-	-	-	7.30	0.2874			
8670740	-	-	-	7.40	0.2913			
8670750	-	-	-	7.50	0.2953			
630029511	19/64	-	-	7.54	0.2969			
8670760	-	-	-	7.60	0.2992			
8670770	-	-	-	7.70	0.3031			
8670780	-	-	-	7.80	0.3071			
8670790	-	-	-	7.90	0.3110			
630031111	5/16	-	-	7.94	0.3126			
8670800	-	-	-	8.00	0.3150			
8670810	-	-	-	8.10	0.3189			
8670820	-	-	P	8.20	0.3228			
8670830	-	-	-	8.30	0.3268			
630032711	21/64	-	-	8.33	0.3280			
8670840	-	-	-	8.40	0.3307			
630033111	-	-	Q	8.43	0.3319			
8670850	-	-	-	8.50	0.3346			
8670860	-	-	-	8.60	0.3386			
8670870	-	-	-	8.70	0.3425			
630034211	11/32	-	-	8.73	0.3437			
8670880	-	-	-	8.80	0.3465			
8670890	-	-	-	8.90	0.3504			
8670900	-	-	-	9.00	0.3543			
8670910	-	-	-	9.10	0.3583			
630035811	23/64	-	-	9.13	0.3594			
8670920	-	-	-	9.20	0.3622			
8670930	-	-	-	9.30	0.3661			
8670940	-	-	-	9.40	0.3701			
8670950	-	-	-	9.50	0.3740			
630037411	3/8	-	-	9.52	0.3748			
8670960	-	-	-	9.60	0.3780			
8670970	-	-	-	9.70	0.3819			
8670980	-	-	W	9.80	0.3858			
8670990	-	-	-	9.90	0.3898			
630038911	25/64	-	-	9.92	0.3906			
8671000	-	-	-	10.00	0.3937			
8671010	-	-	-	10.10	0.3976			
8671020	-	-	-	10.20	0.4016			
8671030	-	-	-	10.30	0.4055			
630040511	13/32	-	-	10.32	0.4063			
8671040	-	-	-	10.40	0.4094			
8671050	-	-	-	10.50	0.4134			
8671060	-	-	-	10.60	0.4173			
8671070	-	-	-	10.70	0.4213			
630042111	27/64	-	-	10.72	0.4220			
8671080	-	-	-	10.80	0.4252			
8671090	-	-	-	10.90	0.4291			
8671100	-	-	-	11.00	0.4331			
8671110	-	-	-	11.10	0.4370			

Packed: 1 pc.  
Available EgiAs Coating Only.

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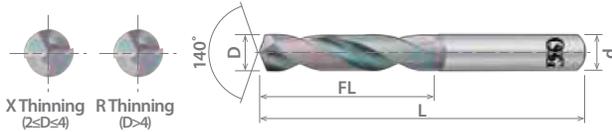
List No.	Work Material																
	P					M			K	N		S		H			
	Carbon Steels			Alloy Steels	Die Steels	Stainless Steels			Cast Iron	Aluminum		Nickel Alloy	Titanium	Hardened Steels			
	Low	Med.	High							17-4 PH				6061	Casting	Inconel	6Al4V (30 HRC)
6300	1010	1035	1065	4140	4340				7075								
	1018	1045				300	400										

○ good    ⊗ best



## List 6300 (Continued)

AD-2D



<b>NEW</b>	<b>SPEED FEED</b> P70	<b>CARBIDE</b>	<b>EgiAs</b>	<b>30°</b>	<b>SHANK</b> h6
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Cutting Diameter Tolerance (h8)		
Size	mm	inch
2 ≤ D ≤ 3	+0 / -0.014	+0 / -0.0006
3 < D ≤ 6	+0 / -0.018	+0 / -0.0007
6 < D ≤ 10	+0 / -0.022	+0 / -0.0009
10 < D ≤ 18	+0 / -0.027	+0 / -0.0011
18 < D ≤ 20	+0 / -0.033	+0 / -0.0013

EDP Number	Diameter					Flute Length FL	Overall Length L	Shank Diameter d
	Fractional Size	Wire Gage	Letter Size	mm	Inch			
630043711	7/16	-	-	11.11	0.4374	55	102	7/16
8671120	-	-	-	11.20	0.4409			12
8671130	-	-	-	11.30	0.4449			12
8671140	-	-	-	11.40	0.4488			12
8671150	-	-	-	11.50	0.4528			12
630045211	29/64	-	-	11.51	0.4531			1/2
8671160	-	-	-	11.60	0.4567			12
8671170	-	-	-	11.70	0.4606			12
8671180	-	-	-	11.80	0.4646			12
8671190	-	-	-	11.90	0.4685			12
630046811	15/32	-	-	11.91	0.4689	60	107	1/2
8671200	-	-	-	12.00	0.4724			12
630047611	-	-	-	12.10	0.4764			14
630048011	-	-	-	12.20	0.4803			1/2
630048311	31/64	-	-	12.30	0.4843			14
630048811	-	-	-	12.40	0.4882			1/2
630049211	-	-	-	12.50	0.4921			14
630049611	-	-	-	12.60	0.4961			1/2
630049911	1/2	-	-	12.70	0.5000			14
630050311	-	-	-	12.80	0.5039			14
630050711	-	-	-	12.90	0.5079	60	107	14
630051111	-	-	-	13.00	0.5118			5/8
630051411	33/64	-	-	13.10	0.5157			14
630051911	-	-	-	13.20	0.5197			14
630052311	-	-	-	13.30	0.5236			14
630052711	-	-	-	13.40	0.5276			14
630053211	-	-	-	13.50	0.5315			14
630055111	-	-	-	14.00	0.5512			14
630056111	9/16	-	-	14.29	0.5626			5/8
630057011	-	-	-	14.50	0.5709			16
630059011	-	-	-	15.00	0.5906	16		
630061011	-	-	-	15.50	0.6102	16		
630062311	5/8	-	-	15.87	0.6248	5/8		
630062911	-	-	-	16.00	0.6299	16		
630064911	-	-	-	16.50	0.6496	73	123	18
630066911	-	-	-	17.00	0.6693			18
630068911	-	-	-	17.50	0.6890			18
630070811	-	-	-	18.00	0.7087			18
630072811	-	-	-	18.50	0.7283			18
630074811	-	-	-	19.00	0.7480			18
630074911	3/4	-	-	19.05	0.7500			18
630076711	-	-	-	19.50	0.7677			18
630078711	-	-	-	20.00	0.7874			18
630078711	-	-	-	20.00	0.7874			79
630078711	-	-	-	20.00	0.7874	79	131	3/4
630078711	-	-	-	20.00	0.7874	79	131	20

Packed: 1 pc.  
Available EgiAs Coating Only.



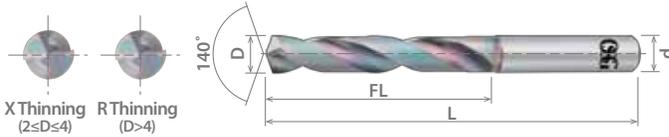
Work Material																	
List No.	P					M			K	N		S		H			
	Carbon Steels			Alloy Steels 4140 4340	Die Steels	Stainless Steels			Cast Iron	Aluminum		Nickel Alloy Inconel	Titanium 6Al4V (30 HRC)	Hardened Steels			
	Low 1010 1018	Med. 1035 1045	High 1065			300	400	17-4 PH		6061 7075	Casting			~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
6300	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

good  best



## List 6310

AD-4D



<b>NEW</b>	<b>SPEED FEED</b> P70	<b>CARBIDE</b>	<b>EgiAs</b>	<b>30°</b>	<b>SHANK</b> h6
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Cutting Diameter Tolerance (h8)		
Size	mm	inch
2 ≤ D ≤ 3	+0 / -0.014	+0 / -0.0006
3 < D ≤ 6	+0 / -0.018	+0 / -0.0007
6 < D ≤ 10	+0 / -0.022	+0 / -0.0009
10 < D ≤ 18	+0 / -0.027	+0 / -0.0011
18 < D ≤ 20	+0 / -0.033	+0 / -0.0013

EDP Number	Diameter					Flute Length FL	Overall Length L	Shank Diameter d
	Fractional Size	Wire Gage	Letter Size	mm	Inch			
8672200	-	-	-	2.00	0.0787	20	66	4
8672210	-	-	-	2.10	0.0827			
8672220	-	-	-	2.20	0.0866			
8672230	-	-	-	2.30	0.0906			
8672240	-	-	-	2.40	0.0945			
8672250	-	-	-	2.50	0.0984			
8672260	-	-	-	2.60	0.1024			
8672270	-	-	-	2.70	0.1063			
8672280	-	-	-	2.80	0.1102			
8672290	-	-	-	2.90	0.1142			
8672300	-	-	-	3.00	0.1181	28	74	4
8672310	-	-	-	3.10	0.1220			
631012311	1/8	-	-	3.17	0.1248			
8672320	-	-	-	3.20	0.1260			
8672330	-	-	-	3.30	0.1299			
8672340	-	-	-	3.40	0.1339			
8672350	-	-	-	3.50	0.1378			
8672360	-	-	-	3.60	0.1417			
8672370	-	-	-	3.70	0.1457			
8672380	-	25	-	3.80	0.1496			
8672390	-	-	-	3.90	0.1535			
631015511	5/32	-	-	3.97	0.1563	36	74	4
8672400	-	-	-	4.00	0.1575			
631016111	-	20	-	4.09	0.1610			
8672410	-	-	-	4.10	0.1614			
8672420	-	-	-	4.20	0.1654			
8672430	-	-	-	4.30	0.1693			
631017111	11/64	-	-	4.37	0.1720			
8672440	-	-	-	4.40	0.1732			
8672450	-	16	-	4.50	0.1772			
8672460	-	-	-	4.60	0.1811			
8672470	-	13	-	4.70	0.1850			
631018611	3/16	-	-	4.76	0.1874	44	82	6
8672480	-	12	-	4.80	0.1890			
8672490	-	-	-	4.90	0.1929			
8672500	-	-	-	5.00	0.1969			
8672510	-	-	-	5.10	0.2008			
631020211	13/64	-	-	5.16	0.2031			
8672520	-	-	-	5.20	0.2047			
8672530	-	-	-	5.30	0.2087			
8672540	-	-	-	5.40	0.2126			
631021311	-	3	-	5.41	0.2130			
8672550	-	-	-	5.50	0.2165			
631021711	7/32	-	-	5.56	0.2189	44	82	6
8672560	-	-	-	5.60	0.2205			
8672570	-	-	-	5.70	0.2244			
8672580	-	-	-	5.80	0.2283			
8672590	-	-	-	5.90	0.2323			
631023311	15/64	-	-	5.95	0.2343			

Packed: 1 pc.  
Available EgiAs Coating Only.

[continued on next page](#)

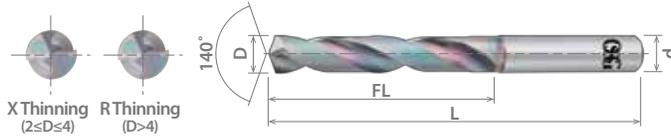
List No.	Work Material																
	P					M			K	N		S		H			
	Carbon Steels			Alloy Steels	Die Steels	Stainless Steels			Cast Iron	Aluminum		Nickel Alloy	Titanium	Hardened Steels			
	Low	Med.	High	4140		300	400	17-4 PH		6061	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
6310	1010	1035	1065	4340						7075							

good  best



## List 6310 (Continued)

AD-4D



<b>NEW</b>	<b>SPEED FEED</b> P70	<b>CARBIDE</b>	<b>EgiAs</b>	<b>30°</b>	<b>SHANK</b> h6
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Cutting Diameter Tolerance (h8)		
Size	mm	inch
2≤D≤3	+0 / -0.014	+0 / -0.0006
3<D≤6	+0 / -0.018	+0 / -0.0007
6<D≤10	+0 / -0.022	+0 / -0.0009
10<D≤18	+0 / -0.027	+0 / -0.0011
18<D≤20	+0 / -0.033	+0 / -0.0013

EDP Number	Diameter					Flute Length FL	Overall Length L	Shank Diameter d
	Fractional Size	Wire Gage	Letter Size	mm	Inch			
8672600	-	-	-	6.00	0.2362	44	82	6
8672610	-	-	-	6.10	0.2402			
8672620	-	-	-	6.20	0.2441			
8672630	-	-	-	6.30	0.2480			
631024911	1/4	-	E	6.35	0.2500			
8672640	-	-	-	6.40	0.2520			
8672650	-	-	-	6.50	0.2559			
631025711	-	-	F	6.53	0.2571			
8672660	-	-	-	6.60	0.2598			
8672670	-	-	-	6.70	0.2638			
631026411	17/64	-	-	6.75	0.2657			
8672680	-	-	-	6.80	0.2677			
8672690	-	-	I	6.90	0.2717			
8672700	-	-	-	7.00	0.2756			
8672710	-	-	-	7.10	0.2795			
631028011	9/32	-	-	7.14	0.2811			
8672720	-	-	-	7.20	0.2835			
8672730	-	-	-	7.30	0.2874			
8672740	-	-	-	7.40	0.2913			
8672750	-	-	-	7.50	0.2953			
631029511	19/64	-	-	7.54	0.2969			
8672760	-	-	-	7.60	0.2992			
8672770	-	-	-	7.70	0.3031			
8672780	-	-	-	7.80	0.3071			
8672790	-	-	-	7.90	0.3110			
631031111	5/16	-	-	7.94	0.3126			
8672800	-	-	-	8.00	0.3150			
8672810	-	-	-	8.10	0.3189			
8672820	-	-	P	8.20	0.3228			
8672830	-	-	-	8.30	0.3268			
631032711	21/64	-	-	8.33	0.3280			
8672840	-	-	-	8.40	0.3307			
631033111	-	-	Q	8.43	0.3319			
8672850	-	-	-	8.50	0.3346			
8672860	-	-	-	8.60	0.3386			
8672870	-	-	-	8.70	0.3425			
631034211	11/32	-	-	8.73	0.3437			
8672880	-	-	-	8.80	0.3465			
8672890	-	-	-	8.90	0.3504			
8672900	-	-	-	9.00	0.3543			
8672910	-	-	-	9.10	0.3583			
631035811	23/64	-	-	9.13	0.3594			
8672920	-	-	-	9.20	0.3622			
8672930	-	-	-	9.30	0.3661			
8672940	-	-	-	9.40	0.3701			
8672950	-	-	-	9.50	0.3740			
631037411	3/8	-	-	9.52	0.3748			
8672960	-	-	-	9.60	0.3780			
8672970	-	-	-	9.70	0.3819			
8672980	-	-	W	9.80	0.3858			
8672990	-	-	-	9.90	0.3898			
631038911	25/64	-	-	9.92	0.3906			
8673000	-	-	-	10.00	0.3937			
8673010	-	-	-	10.10	0.3976			
8673020	-	-	-	10.20	0.4016			
8673030	-	-	-	10.30	0.4055			
631040511	13/32	-	-	10.32	0.4063			
8673040	-	-	-	10.40	0.4094			
8673050	-	-	-	10.50	0.4134			

Packed: 1 pc.  
Available EgiAs Coating Only.



## List 6310 (Continued)

AD-4D



EDP Number	Diameter					Flute Length FL	Overall Length L	Shank Diameter d
	Fractional Size	Wire Gage	Letter Size	mm	Inch			
8673060	-	-	-	10.60	0.4173	71	118	12
8673070	-	-	-	10.70	0.4213			12
631042111	27/64	-	-	10.72	0.4220			7/16
8673080	-	-	-	10.80	0.4252			12
8673090	-	-	-	10.90	0.4291			12
8673100	-	-	-	11.00	0.4331			12
8673110	-	-	-	11.10	0.4370			12
631043711	7/16	-	-	11.11	0.4374			7/16
8673120	-	-	-	11.20	0.4409			12
8673130	-	-	-	11.30	0.4449			12
8673140	-	-	-	11.40	0.4488			12
8673150	-	-	-	11.50	0.4528			12
631045211	29/64	-	-	11.51	0.4531			1/2
8673160	-	-	-	11.60	0.4567			12
8673170	-	-	-	11.70	0.4606			12
8673180	-	-	-	11.80	0.4646			12
8673190	-	-	-	11.90	0.4685			12
631046811	15/32	-	-	11.91	0.4689			1/2
8673200	-	-	-	12.00	0.4724			12
8673210	-	-	-	12.10	0.4764			14
8673220	-	-	-	12.20	0.4803			14
631048411	31/64	-	-	12.30	0.4843			1/2
8673230	31/64	-	-	12.30	0.4843			14
8673240	-	-	-	12.40	0.4882			14
8673250	-	-	-	12.50	0.4921			14
8673260	-	-	-	12.60	0.4961			14
631050011	1/2	-	-	12.70	0.5000			1/2
8673270	1/2	-	-	12.70	0.5000			14
8673280	-	-	-	12.80	0.5039	14		
8673290	-	-	-	12.90	0.5079	14		
8673300	-	-	-	13.00	0.5118	14		
631051511	33/64	-	-	13.10	0.5157	5/8		
8673310	33/64	-	-	13.10	0.5157	14		
8673320	-	-	-	13.20	0.5197	14		
8673330	-	-	-	13.30	0.5236	14		
8673340	-	-	-	13.40	0.5276	14		
8673350	-	-	-	13.50	0.5315	14		
8673400	-	-	-	14.00	0.5512	14		
631056111	9/16	-	-	14.29	0.5626	5/8		
8673450	-	-	-	14.50	0.5709	16		
8673500	-	-	-	15.00	0.5906	16		
8673550	-	-	-	15.50	0.6102	16		
631062311	5/8	-	-	15.87	0.6248	5/8		
8673600	-	-	-	16.00	0.6299	16		
8673650	-	-	-	16.50	0.6496	18		
8673700	-	-	-	17.00	0.6693	18		
8673750	-	-	-	17.50	0.6890	18		
8673800	-	-	-	18.00	0.7087	18		
8673850	-	-	-	18.50	0.7283	18		
8673900	-	-	-	19.00	0.7480	20		
631074911	3/4	-	-	19.05	0.7500	3/4		
8673950	-	-	-	19.50	0.7677	20		
8674000	-	-	-	20.00	0.7874	20		

Packed: 1 pc.  
Available EgiAs Coating Only.



Work Material																	
List No.	P					M			K	N		S		H			
	Carbon Steels			Alloy Steels	Die Steels	Stainless Steels			Cast Iron	Aluminum		Nickel Alloy	Titanium	Hardened Steels			
	Low	Med.	High			300	400	17-4 PH		6061 7075	Casting			Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC
6310	☐	☐	☐	☐	☐				☐		☐			☐	☐	☐	

☐ good ☐ best



## List 6300 - A Brand® AD: 2D List 6310 - A Brand® AD: 4D

### General Drilling Operations

Work Material	Carbon Steels, Mild Steels 1010, 1050, 12L14		Alloy Steels 4140, 4130		Stainless Steels 300SS, 400SS, 17-4PH		High Heat Material							
	210-315 SFM		210-315 SFM		100-185 SFM		80-145 SFM		65-100 SFM		50-90 SFM			
Drilling Speed	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	-	8,680	0.002-0.004	8,680	0.002-0.004	5,360	0.002-0.004	4,190	0.002-0.003	3,210	0.001-0.002	2,710	0.001-0.002	
3	-	8,480	0.002-0.005	8,480	0.002-0.005	5,120	0.002-0.005	3,840	0.002-0.003	2,960	0.002-0.002	2,560	0.001-0.002	
-	1/8	7,700	0.002-0.005	8,100	0.002-0.005	4,830	0.003-0.005	3,640	0.002-0.003	2,810	0.002-0.003	2,440	0.001-0.002	
4	-	6,400	0.003-0.006	6,400	0.003-0.006	3,840	0.003-0.006	2,880	0.002-0.004	2,240	0.002-0.003	1,920	0.002-0.002	
-	3/16	5,200	0.003-0.006	5,400	0.003-0.006	3,220	0.004-0.007	2,430	0.003-0.005	1,870	0.002-0.004	1,630	0.002-0.003	
6	-	4,240	0.005-0.009	4,240	0.005-0.009	2,560	0.005-0.009	1,920	0.004-0.005	1,520	0.004-0.005	1,280	0.002-0.004	
-	1/4	3,900	0.005-0.009	4,050	0.005-0.009	2,420	0.005-0.010	1,820	0.004-0.006	1,410	0.004-0.005	1,220	0.002-0.004	
8	-	3,200	0.006-0.011	3,200	0.006-0.011	1,920	0.006-0.011	1,440	0.005-0.007	1,120	0.005-0.006	960	0.003-0.005	
-	3/8	2,700	0.007-0.012	2,700	0.007-0.012	1,610	0.008-0.012	1,220	0.005-0.008	940	0.006-0.008	820	0.004-0.006	
10	-	2,560	0.008-0.012	2,560	0.008-0.012	1,520	0.008-0.012	1,120	0.006-0.009	880	0.006-0.008	760	0.004-0.006	
-	7/16	2,250	0.008-0.012	2,310	0.008-0.012	1,390	0.008-0.012	1,040	0.007-0.010	810	0.007-0.009	690	0.004-0.007	
12	-	2,160	0.008-0.012	2,160	0.008-0.012	1,280	0.008-0.012	960	0.007-0.011	745	0.007-0.009	640	0.005-0.007	
-	1/2	2,020	0.008-0.012	2,020	0.008-0.012	1,230	0.008-0.012	910	0.008-0.011	705	0.008-0.009	610	0.005-0.008	
14	-	1,840	0.009-0.014	1,840	0.009-0.014	1,120	0.009-0.014	800	0.008-0.013	624	0.008-0.011	615	0.005-0.008	
-	5/8	1,620	0.010-0.014	1,620	0.010-0.014	1,020	0.009-0.014	740	0.009-0.013	560	0.008-0.011	490	0.005-0.008	
18	-	1,440	0.011-0.015	1,440	0.011-0.015	880	0.011-0.015	640	0.010-0.014	505	0.008-0.011	435	0.005-0.008	
-	3/4	1,350	0.012-0.016	1,350	0.012-0.016	830	0.011-0.015	610	0.011-0.015	470	0.008-0.012	410	0.005-0.008	
20	-	1,280	0.012-0.016	1,280	0.012-0.016	800	0.012-0.016	560	0.012-0.016	450	0.008-0.012	385	0.005-0.008	

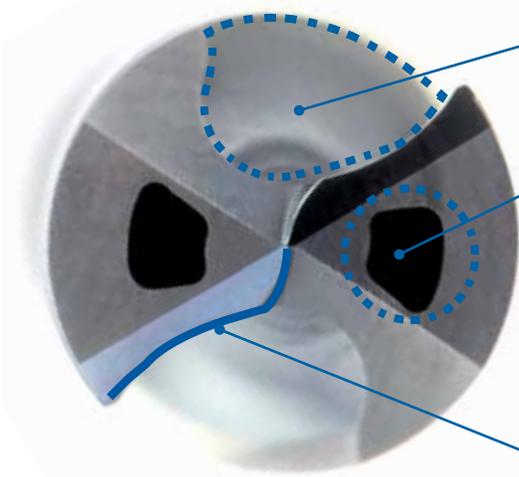
### General Drilling Operations

Work Material	Cast Iron		Ductile Cast Iron		Special Alloy Steels, Hardened Steels									
	210-315 SFM		156-265 SFM		155-235 SFM		100-160 SFM		100-130 SFM		65-95 SFM			
Drilling Speed	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	-	8,900	0.002-0.004	7,350	0.002-0.004	6,420	0.002-0.004	4,480	0.002-0.003	3,890	0.002-0.003	3,270	0.001-0.002	
3	-	8,480	0.002-0.005	6,800	0.002-0.005	5,920	0.002-0.005	4,240	0.002-0.003	3,760	0.002-0.003	3,100	0.002-0.002	
-	1/8	7,700	0.002-0.005	6,420	0.003-0.005	5,560	0.002-0.005	4,030	0.002-0.003	3,640	0.002-0.003	2,940	0.002-0.003	
4	-	6,400	0.003-0.006	5,120	0.003-0.006	4,480	0.003-0.006	3,200	0.003-0.004	2,880	0.003-0.004	2,330	0.002-0.003	
-	3/16	5,200	0.003-0.006	4,280	0.004-0.007	3,730	0.003-0.006	2,690	0.003-0.005	2,420	0.003-0.005	1,960	0.003-0.004	
6	-	4,240	0.005-0.009	3,360	0.005-0.009	2,960	0.005-0.009	2,160	0.005-0.006	1,920	0.005-0.006	1,550	0.004-0.005	
-	1/4	3,900	0.005-0.009	3,210	0.006-0.009	2,780	0.005-0.009	2,020	0.005-0.007	1,820	0.005-0.007	1,470	0.004-0.006	
8	-	3,200	0.006-0.011	2,560	0.006-0.011	2,240	0.006-0.011	1,600	0.006-0.008	1,440	0.006-0.008	1,165	0.005-0.007	
-	3/8	2,700	0.007-0.012	2,140	0.008-0.012	1,860	0.007-0.012	1,340	0.008-0.009	1,210	0.008-0.009	980	0.006-0.008	
10	-	2,560	0.008-0.012	2,000	0.008-0.012	1,760	0.008-0.012	1,280	0.008-0.010	1,120	0.008-0.010	930	0.007-0.009	
-	7/16	2,250	0.008-0.012	1,840	0.008-0.012	1,600	0.008-0.012	1,150	0.009-0.011	1,040	0.009-0.011	830	0.007-0.009	
12	-	2,160	0.008-0.012	1,680	0.008-0.012	1,520	0.008-0.012	1,040	0.009-0.012	960	0.009-0.012	775	0.007-0.009	
-	1/2	2,020	0.008-0.012	1,610	0.008-0.012	1,400	0.008-0.012	1,010	0.010-0.012	910	0.010-0.012	740	0.008-0.010	
14	-	1,840	0.009-0.014	1,440	0.009-0.014	1,280	0.009-0.014	880	0.011-0.014	800	0.011-0.014	650	0.008-0.011	
-	5/8	1,620	0.010-0.014	1,290	0.010-0.014	1,130	0.010-0.014	810	0.012-0.015	730	0.012-0.015	590	0.009-0.012	
18	-	1,440	0.011-0.015	1,120	0.011-0.015	960	0.011-0.015	720	0.014-0.018	640	0.014-0.018	520	0.010-0.014	
-	3/4	1,350	0.012-0.016	1,070	0.012-0.016	940	0.012-0.016	680	0.015-0.019	610	0.015-0.019	490	0.011-0.015	
20	-	1,280	0.012-0.016	1,040	0.012-0.016	880	0.012-0.016	640	0.016-0.020	560	0.016-0.020	460	0.012-0.016	

**Note:**

- The indicated speeds and feeds are for drilling with **water-soluble oil**.
- Suitable cutting fluid is water-soluble high density oil (less than 20 times dilution).
- When using non-water-soluble oil or water-soluble oil (over 20 times dilution), reduce cutting speed by 30%.
- These conditions are for drilling depth under 3 times the drill diameter.
- For machines that cannot achieve the speeds indicated in the table please set rotation as high as possible. Tool life may be reduced.





## New Flute Geometry

enables the creation of compact cutting chips.

## Mega Cooler™ Coolant Hole

improves coolant flow, chip evacuation and cutting heat generation.

## WXL® Coating

for high adhesion strength to minimize chipping.

## Sharp Cutting Edge

reduces work hardening, leading to longer tool life.



## A Brand® ADO-SUS

### Why Use A Brand® ADO-SUS?

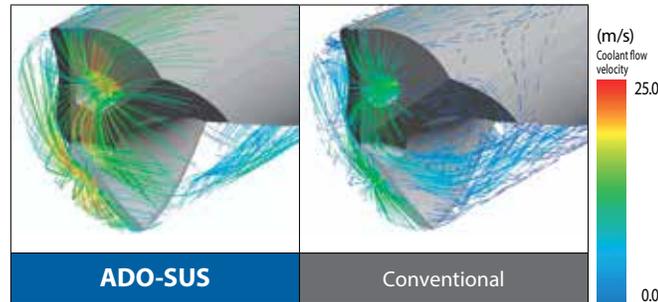
OSG's A Brand® ADO-SUS has specifically addressed many common issues that occur when machining stainless steels and titanium alloys such as work hardening, elongated chips, low thermal conductivity and welding on the tool.

With a patent pending cutting edge, new flute geometry, WXL® coating and the newly designed MEGA COOLER™ coolant hole, the ADO-SUS has a solution for all of your stainless steel and titanium troubles.

## Mega Cooler™ Coolant Hole

### Exceptional Coolant Delivery

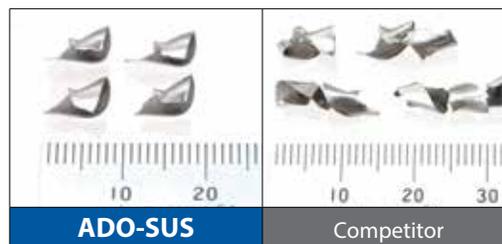
Improved coolant delivery at the cutting edge suppresses heat buildup and improves chip evacuation, thereby increasing tool life and enabling faster drilling speeds. The Mega Cooler™ coolant hole is only available on sizes 6mm and over.



## New Flute Geometry (PAT.P)

### Producing Manageable Chips

The A Brand® ADO-SUS features a cutting geometry specifically designed for producing compact cutting chips.

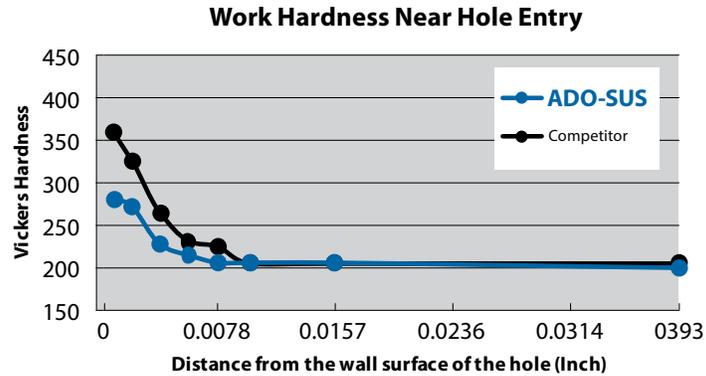


## Reduced Work Hardening

### Sharp Cutting Edge Reduces Work Hardening Near Hole Entry

With a specially designed cutting edge, the ADO-SUS reduces work hardening around the hole entry; resulting in longer tool life and easier secondary processing.

Tool	ADO-SUS 5D	Competitor
Drill Size	Ø10	
Work Material	304 Stainless Steel	
Cutting Speed	230 SFM (2,229 RPM)	
Feed Rate	15.6 IPM (0.007 IPR)	
Coolant	217 PSI - Water Soluble (Internal)	
Machine	Horizontal Machining Center	

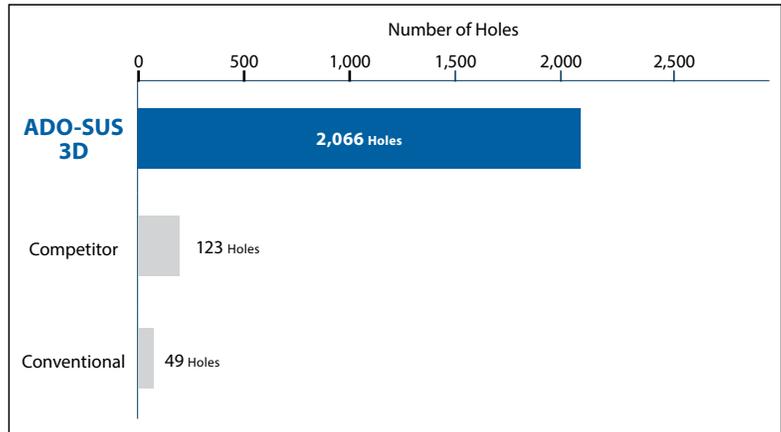


## Exceptional Tool Life in Titanium Alloy

### More than 16 Times the Tool Life Compared to Competitor

The A Brand® ADO-SUS outperformed both the competitor and conventional tools when machining titanium alloy that had been age treated to a hardness of 34-36 HRC. The ADO-SUS machined over 2,000 holes before chipping, more than 16 times the number of holes made by the competitor.

Tool	ADO-SUS 3D	Conventional	Competitor
Drill Size	Ø5.1		
Work Material	Ti-6Al-4V (34-36 HRC)*		
Cutting Speed	131 SFM (2,502 RPM)		
Feed Rate	10 IPM (0.004 IPR)		
Depth of Hole	17mm (Through)		
Coolant	Water Soluble (Internal)		
Machine	Vertical Machining Center		



\*After aging treatment

### Cutting chips



## List 5200

ADO-SUS-3D, Coolant-Through

**NEW** **SPEED FEED** P90-91 **CARBIDE** **WXL** **30°** **SRANK** h6



Cutting Diameter Tolerance (h8)		
Size	mm	inch
2 ≤ D ≤ 3	+0 / -0.014	+0 / -0.0006
3 < D ≤ 6	+0 / -0.018	+0 / -0.0007
6 < D ≤ 10	+0 / -0.022	+0 / -0.0009
10 < D ≤ 18	+0 / -0.027	+0 / -0.0011
18 < D ≤ 20	+0 / -0.033	+0 / -0.0013

EDP Number	Diameter					Flute Length	Overall Length	Shank Diameter
	Fractional Size	Wire Gage	Letter Size	mm	Inch			
8665200	-	-	-	2.00	0.0787	12	66	3
8665210	-	-	-	2.10	0.0827	13		
8665220	-	-	-	2.20	0.0866	14		
8665230	-	-	-	2.30	0.0906			
520009312	3/32	-	-	2.38	0.0937	15		
8665240	-	-	-	2.40	0.0945			
8665250	-	-	-	2.50	0.0984	16		
8665260	-	-	-	2.60	0.1024			
8665270	-	-	-	2.70	0.1063	17		
520010912	7/64	-	-	2.78	0.1094			
8665280	-	-	-	2.80	0.1102	18		
8665290	-	-	-	2.90	0.1142			
520011612	-	-	-	2.95	0.1161	19		
8665300	-	-	-	3.00	0.1181			
8665310	-	-	-	3.10	0.1220	20		
8665315	-	-	-	3.15	0.1240			
520012512	1/8	-	-	3.18	0.1250	21		
8665320	-	-	-	3.20	0.1260			
8665326	-	-	-	3.26	0.1283	22		
8665330	-	-	-	3.30	0.1299			
520013212	-	-	-	3.36	0.1323	23		
8665340	-	-	-	3.40	0.1339			
520013512	-	-	-	3.44	0.1354	24		
8665350	-	-	-	3.50	0.1378			
520013812	-	-	-	3.52	0.1386	25		
520014012	9/64	-	-	3.57	0.1406			
8665360	-	-	-	3.60	0.1417	26		
8665370	-	-	-	3.70	0.1457			
8665375	-	-	-	3.75	0.1476	27		
520014812	-	-	-	3.77	0.1484			
8665380	-	-	-	3.80	0.1496	28		
520015212	-	-	-	3.86	0.1520			
8665390	-	-	-	3.90	0.1535	29		
520015612	5/32	-	-	3.97	0.1563			
8665400	-	-	-	4.00	0.1575	30		
520015912	-	-	-	4.05	0.1594			
520016112	-	20	-	4.09	0.1610	31		
8665410	-	-	-	4.10	0.1614			
8680410	-	-	-	4.10	0.1614	32		
520016312	-	-	-	4.16	0.1638			
8665420	-	-	-	4.20	0.1654	33		
8680420	-	-	-	4.20	0.1654			
520016812	-	-	-	4.27	0.1681	34		
8665430	-	-	-	4.30	0.1693			
8680430	-	-	-	4.30	0.1693			

Packed: 1 pc.  
Available WXL® coating only.  
MEGA COOLER™ applies only to diameter sizes over 6 mm.

continued on next page **ADR**

List No.	Work Material																
	P					M			K	N		S		H			
	Carbon Steels			Alloy Steels	Die Steels	Stainless Steels			Cast Iron	Aluminum		Nickel Alloy	Titanium	Hardened Steels			
	Low	Med.	High	4140 4340		300	400	17-4 PH		6061 7075	Casting	Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
5200	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		

☐ good ☐ best



# A Brand® ADO-SUS

Advanced Performance Carbide Drills for Stainless Steels & Titanium Alloys

## List 5200 (Continued)

ADO-SUS-3D, Coolant-Through



<b>NEW</b>	<b>SPEED FEED</b> P90-91	<b>CARBIDE</b>	<b>WXL</b>		<b>30°</b>	<b>SHANK</b> h6
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Cutting Diameter Tolerance (h8)		
Size	mm	inch
2≤D≤3	+0 / -0.014	+0 / -0.0006
3<D≤6	+0 / -0.018	+0 / -0.0007
6<D≤10	+0 / -0.022	+0 / -0.0009
10<D≤18	+0 / -0.027	+0 / -0.0011
18<D≤20	+0 / -0.033	+0 / -0.0013

EDP Number	Diameter					Flute Length FL	Overall Length L	Shank Diameter d				
	Fractional Size	Wire Gage	Letter Size	mm	Inch							
520017112	11/64	-	-	4.37	0.1719	27	80	3/16				
8665440	-	-	-	4.40	0.1732			5				
8680440	-	-	-	4.46	0.1756			6				
520017512	-	-	-	4.50	0.1772			5				
8665450	-	-	-	4.50	0.1772	6						
8680450	-	-	-	4.60	0.1811	5						
8665460	-	-	-	4.60	0.1811	6						
8680460	-	-	-	4.66	0.1835	5						
520018312	-	-	-	4.66	0.1835	29		6				
8665470	-	-	-	4.70	0.1850			5				
8680470	-	-	-	4.76	0.1875			6				
520018712	3/16	-	-	4.76	0.1875			3/16				
8665480	-	-	-	4.80	0.1890	5						
8680480	-	-	-	4.85	0.1909	6						
8665485	-	-	-	4.85	0.1909	5						
8665490	-	-	-	4.90	0.1929	6						
8680490	-	-	-	4.90	0.1929	5						
8665500	-	-	-	5.00	0.1969	5						
8680500	-	-	-	5.00	0.1969	6						
8665510	-	-	-	5.10	0.2008	26	6					
520020212	-	-	-	5.15	0.2028		82	1/4				
520020312	13/64	-	-	5.16	0.2031			27	6			
8665520	-	-	-	5.20	0.2047					28	1/4	
8665525	-	-	-	5.25	0.2067	29						6
520020712	-	-	-	5.26	0.2071							
8665530	-	-	-	5.30	0.2087			31	7			
8665540	-	-	-	5.40	0.2126					32	8	
520021312	-	3	-	5.41	0.2130	33						8
520021512	-	-	-	5.47	0.2154							
8665550	-	-	-	5.50	0.2165			33	8			
520021812	7/32	-	-	5.56	0.2188					33	8	
8665560	-	-	-	5.60	0.2205	33						8
8665570	-	-	-	5.70	0.2244		33					
8665580	-	-	-	5.80	0.2283			33	8			
8665590	-	-	-	5.90	0.2323					33	8	
520023412	15/64	-	-	5.95	0.2344	33						8
8665600	-	-	-	6.00	0.2362		33					
8665610	-	-	-	6.10	0.2402			33	8			
8680610	-	-	-	6.15	0.2421					33	8	
520024212	-	-	-	6.15	0.2421	33						8
8665620	-	-	-	6.20	0.2441		33					
8680620	-	-	-	6.25	0.2461			33	8			
8665625	-	-	-	6.30	0.2480					33	8	
8665630	-	-	-	6.30	0.2480	33						8
8680630	-	-	-	6.35	0.2500		33					
8665635	1/4	-	-	6.35	0.2500			33	8			
8665640	-	-	-	6.40	0.2520					33	8	
8680640	-	-	-	6.40	0.2520	33						8
8665650	-	-	-	6.50	0.2559		33					
8680650	-	-	-	6.50	0.2559			33	8			
520025712	-	-	F	6.53	0.2570					33	8	
8665660	-	-	-	6.53	0.2570	33						8
8665660	-	-	-	6.60	0.2598		33					
8680660	-	-	-	6.60	0.2598			33	8			

Packed: 1 pc.  
Available WXL® coating only.  
MEGA COOLER™ applies only to diameter sizes over 6 mm.



## List 5200 (Continued)

ADO-SUS-3D, Coolant-Through



EDP Number	Diameter					Flute Length FL	Overall Length L	Shank Diameter d		
	Fractional Size	Wire Gage	Letter Size	mm	Inch					
520026112	-	-	-	6.65	0.2618	34	88	8		
8665670	-	-	-	6.70	0.2638			7		
8680670	-	-	-					8		
8665675	-	-	-	6.75	0.2656			7		
520026512	17/64	-	-					5/16		
8665680	-	-	-	6.80	0.2677	7				
8680680	-	-	-			8				
520027012	-	-	-	6.86	0.2701	35	88	8		
8665690	-	-	-	6.90	0.2717			7		
8680690	-	-	-					8		
8665700	-	-	-	7.00	0.2756			7		
8680700	-	-	-					8		
520027712	-	-	-	7.04	0.2772	36	94	8		
8665710	-	-	-	7.10	0.2795			36	94	5/16
520028112	9/32	-	-							
8665720	-	-	-	7.20	0.2835			36	94	5/16
8665725	-	-	-							
8665730	-	-	-	7.30	0.2874	37	94	8		
8665740	-	-	-	7.40	0.2913					
8665750	-	-	-	7.50	0.2953	38	94	5/16		
520029612	19/64	-	-	7.54	0.2969					
8665760	-	-	-	7.60	0.2992	38	94	5/16		
8665770	-	-	-	7.70	0.3031					
8665775	-	-	-	7.75	0.3051	39	94	8		
8665780	-	-	-	7.80	0.3071					
8665790	-	-	-	7.90	0.3110	40	94	5/16		
520031212	5/16	-	-	7.94	0.3125					
8665800	-	-	-	8.00	0.3150	40	94	5/16		
8665810	-	-	-	8.10	0.3189				40	94
8680810	-	-	-			8.15	0.3209			
520032012	-	-	-	8.20	0.3228	41	94	9		
8665820	-	-	-	8.25	0.3248				41	94
8680820	-	-	-			8.25	0.3248			
8665825	-	-	-	8.30	0.3268	41	94	9		
8665830	-	-	-						8.30	0.3268
520032812	21/64	-	-	8.33	0.3281	42	101	10		
8665840	-	-	-	8.40	0.3307				42	101
8680840	-	-	-			8.40	0.3307			
520033212	-	-	Q	8.43	0.3320	42	101	9		
8665850	-	-	-	8.50	0.3346				42	101
8680850	-	-	-			8.50	0.3346			
520033712	-	-	-	8.56	0.3370	43	101	9		
8665860	-	-	-	8.60	0.3386				43	101
8680860	-	-	-			8.60	0.3386			

Packed: 1 pc.  
Available WXL® coating only.  
MEGA COOLER™ applies only to diameter sizes over 6 mm.

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List No.	Work Material																
	P					M			K	N		S		H			
	Carbon Steels			Alloy Steels	Die Steels	Stainless Steels			Cast Iron	Aluminum		Nickel Alloy	Titanium	Hardened Steels			
	Low	Med.	High			300	400	17-4 PH		6061 7075	Casting			Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC
5200	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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# A Brand® ADO-SUS

Advanced Performance Carbide Drills for Stainless Steels & Titanium Alloys

## List 5200 (Continued)

ADO-SUS-3D, Coolant-Through



<b>NEW</b>	<b>SPEED FEED</b> P90-91	<b>CARBIDE</b>	<b>WXL</b>		<b>30°</b>	<b>SHANK</b> h6
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Cutting Diameter Tolerance (h8)		
Size	mm	inch
2≤D≤3	+0 / -0.014	+0 / -0.0006
3<D≤6	+0 / -0.018	+0 / -0.0007
6<D≤10	+0 / -0.022	+0 / -0.0009
10<D≤18	+0 / -0.027	+0 / -0.0011
18<D≤20	+0 / -0.033	+0 / -0.0013

EDP Number	Diameter					Flute Length FL	Overall Length L	Shank Diameter d	
	Fractional Size	Wire Gage	Letter Size	mm	Inch				
520034012	-	-	-	8.64	0.3402	44	101	10	
520034112	-	-	-	8.68	0.3417			9	
8665870	-	-	-	8.70	0.3425			10	
8680870	-	-	-	8.73	0.3438			3/8	
520034312	11/32	-	-	8.75	0.3445			9	
8665875	-	-	-	8.80	0.3465			10	
8665880	-	-	-	8.86	0.3488			9	
8680880	-	-	-	8.90	0.3504			10	
520034812	-	-	-	9.00	0.3543			45	9
8665890	-	-	-	9.10	0.3583			10	
8680890	-	-	-	9.13	0.3594	46	3/8		
8665900	-	-	-	9.20	0.3622				
8665925	-	-	-	9.25	0.3642	47	10		
8665930	-	-	-	9.30	0.3661				
8665940	-	-	-	9.40	0.3701				
8665950	-	-	-	9.50	0.3740				
520037512	3/8	-	-	9.53	0.3750	48	106	3/8	
520037612	-	-	-	9.55	0.3760				
8665960	-	-	-	9.60	0.3780	49	10		
8665970	-	-	-	9.70	0.3819				
8665975	-	-	-	9.75	0.3839				
8665980	-	-	-	9.80	0.3858				
8665990	-	-	-	9.90	0.3898	50	7/16		
520039012	25/64	-	-	9.92	0.3906				
8666000	-	-	-	10.00	0.3937	51	113	10	
8666010	-	-	-	10.10	0.3976			11	
8681010	-	-	-	10.20	0.4016			12	
8666020	-	-	-	10.25	0.4035			11	
8681020	-	-	-	10.30	0.4055			12	
8666025	-	-	-	10.32	0.4063			7/16	
8666030	-	-	-	10.40	0.4094			11	
8681030	-	-	-	10.44	0.4110			12	
520040612	13/32	-	-	10.50	0.4134			52	11
8666040	-	-	-	10.60	0.4173				
8681040	-	-	-	10.70	0.4213				
520041112	-	-	-	10.72	0.4219				
8666050	-	-	-	10.75	0.4232	53	7/16		
8681050	-	-	-	10.80	0.4252				
8666060	-	-	-	10.86	0.4276	54	11		
8681060	-	-	-	10.90	0.4291				
8666070	-	-	-	10.86	0.4276				
8681070	-	-	-	10.90	0.4291				
520042212	27/64	-	-	10.72	0.4219	55	12		
8666075	-	-	-	10.75	0.4232				
8666080	-	-	-	10.80	0.4252	11			
8681080	-	-	-	10.86	0.4276				
520042712	-	-	-	10.90	0.4291				
8666090	-	-	-	11.00	0.4331				
8681090	-	-	-			12			
8666100	-	-	-			11			
8681100	-	-	-			12			

Packed: 1 pc.  
Available WXL® coating only.  
MEGA COOLER™ applies only to diameter sizes over 6 mm.



## List 5200 (Continued)

ADO-SUS-3D, Coolant-Through



EDP Number	Diameter					Flute Length FL	Overall Length L	Shank Diameter d
	Fractional Size	Wire Gage	Letter Size	mm	Inch			
8666110	-	-	-	11.10	0.4370	56	120	12
520043712	7/16	-	-	11.11	0.4375			7/16
8666120	-	-	-	11.20	0.4409	57		12
8666130	-	-	-	11.30	0.4449			
8666140	-	-	-	11.40	0.4488	58		1/2
8666150	-	-	-	11.50	0.4528			
520045312	29/64	-	-	11.51	0.4531	59		12
8666160	-	-	-	11.60	0.4567			
8666170	-	-	-	11.70	0.4606	60		1/2
8666180	-	-	-	11.80	0.4646			
8666190	-	-	-	11.90	0.4685	61	128	1/2
520046912	15/32	-	-	11.91	0.4688			62
8666200	-	-	-	12.00	0.4724	63		
8666210	-	-	-	12.10	0.4764			64
8681210	-	-	-	12.20	0.4803	65		
8666220	-	-	-	12.30	0.4843			66
8681220	-	-	-	12.30	0.4844	67		
8666230	-	-	-	12.40	0.4882			68
8681230	-	-	-	12.45	0.4902	69		
520048512	31/64	-	-	12.50	0.4921			70
8666240	-	-	-	12.60	0.4961	71	13	
8681240	-	-	-	12.68	0.4992		72	14
520049012	-	-	-	12.70	0.5000	73		13
8666250	-	-	-	12.75	0.5020		74	1/2
8681250	-	-	-	12.80	0.5039	75		13
8666260	-	-	-	12.80	0.5039		76	14
8681260	-	-	-	12.90	0.5079	77		13
520049912	-	-	-	12.90	0.5079		78	14
8666270	-	-	-	13.00	0.5118	79		13
520050012	1/2	-	-	13.08	0.5150		80	14
8666275	-	-	-	13.10	0.5157	81		14
8666280	-	-	-	13.20	0.5197		82	14
8681280	-	-	-	13.30	0.5236	83		13
8666290	-	-	-	13.40	0.5276		84	14
8681290	-	-	-	13.49	0.5313	85		13
8666300	-	-	-	13.50	0.5315		86	14
8681300	-	-	-	13.60	0.5354	87		13
520051512	-	-	-	13.70	0.5394		88	14
8666310	-	-	-	13.80	0.5433	89		14
8666320	-	-	-	13.87	0.5461		90	14
8666330	-	-	-	13.90	0.5472	91		14
8666340	-	-	-	14.00	0.5512		92	14
520053112	17/32	-	-					
8666350	-	-	-					
8666360	-	-	-					
8666370	-	-	-					
8666380	-	-	-					
520054612	-	-	-					
8666390	-	-	-					
8666400	-	-	-					

Packed: 1 pc.  
Available WXL® coating only.  
MEGA COOLER™ applies only to diameter sizes over 6 mm.

continued on next page

List No.	Work Material																
	P					M			K	N		S		H			
	Carbon Steels			Alloy Steels 4140 4340	Die Steels	Stainless Steels			Cast Iron	Aluminum		Nickel Alloy Inconel	Titanium 6Al4V (30 HRC)	Hardened Steels			
	Low 1010 1018	Med. 1035 1045	High 1065			300	400	17-4 PH		6061 7075	Casting			~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
5200	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		

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# A Brand® ADO-SUS

Advanced Performance Carbide Drills for Stainless Steels & Titanium Alloys

## List 5200 (Continued)

ADO-SUS-3D, Coolant-Through



<b>NEW</b>	<b>SPEED FEED</b> P90-91	<b>CARBIDE</b>	<b>WXL</b>	<b>30°</b>	<b>SHANK</b> h6
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Cutting Diameter Tolerance (h8)		
Size	mm	inch
2≤D≤3	+0 / -0.014	+0 / -0.0006
3<D≤6	+0 / -0.018	+0 / -0.0007
6<D≤10	+0 / -0.022	+0 / -0.0009
10<D≤18	+0 / -0.027	+0 / -0.0011
18<D≤20	+0 / -0.033	+0 / -0.0013

EDP Number	Diameter					Flute Length FL	Overall Length L	Shank Diameter d		
	Fractional Size	Wire Gage	Letter Size	mm	Inch					
8666410	-	-	-	14.10	0.5551	71	140	15		
52005512	-	-	-	14.10	0.5551			16		
8666420	-	-	-	14.20	0.5591			15		
520055912	-	-	-	14.20	0.5591	16				
520056212	9/16	-	-	14.29	0.5625	72		5/8		
8666430	-	-	-	14.30	0.5630			15		
520056312	-	-	-	14.30	0.5630			16		
8666440	-	-	-	14.40	0.5669	73		15		
520056612	-	-	-	14.40	0.5669			16		
8666450	-	-	-	14.50	0.5709			15		
8681450	-	-	-	14.50	0.5709	74	16			
8666460	-	-	-	14.60	0.5748		15			
520057412	-	-	-	14.60	0.5748		16			
520057812	37/64	-	-	14.68	0.5780	75	5/8			
8666470	-	-	-	14.70	0.5787		15			
520057912	-	-	-	14.70	0.5787		16			
8666480	-	-	-	14.80	0.5827	76	15			
520058212	-	-	-	14.80	0.5827		16			
8666490	-	-	-	14.90	0.5866		15			
520058612	-	-	-	14.90	0.5866	77	16			
8666500	-	-	-	15.00	0.5906		15			
8681500	-	-	-	15.00	0.5906		16			
8666510	-	-	-	15.10	0.5945	78	145	16		
8666520	-	-	-	15.20	0.5984				76	
8666530	-	-	-	15.30	0.6024				77	15.30
8666540	-	-	-	15.40	0.6063	77				15.40
8666550	-	-	-	15.50	0.6102	78				15.50
8666560	-	-	-	15.60	0.6142	79			15.60	
8666570	-	-	-	15.70	0.6181				79	15.70
8666580	-	-	-	15.80	0.6220				79	15.80
520062512	5/8	-	-	15.88	0.6250	80			5/8	
8666590	-	-	-	15.90	0.6260				80	15.90
8666600	-	-	-	16.00	0.6299		80	16.00		
520063312	-	-	-	16.10	0.6339	81	16.10			
8666650	-	-	-	16.50	0.6496		83	16.50		
8681650	-	-	-	16.50	0.6496		83	16.50		
520065612	21/32	-	-	16.67	0.6563	85	3/4			
520066312	-	-	-	16.84	0.6630		85	16.84		
8666700	-	-	-	17.00	0.6693		85	17.00		
8681700	-	-	-	17.00	0.6693	88	17.00			
8666750	-	-	-	17.50	0.6890		88	17.50		
520069312	-	-	-	17.61	0.6933		90	17.61		
520069612	-	-	-	17.68	0.6961	90		17.68		
520069812	-	-	-	17.73	0.6980	90		17.73		
8666800	-	-	-	18.00	0.7087	93	18.00			
8666850	-	-	-	18.50	0.7283		93	18.50		
8681850	-	-	-	18.50	0.7283		93	18.50		
520073312	-	-	-	18.64	0.7339	95	18.64			
8666900	-	-	-	19.00	0.7480		95	19.00		
8681900	-	-	-	19.00	0.7480		95	19.00		
520075012	3/4	-	-	19.05	0.7500	95	3/4			

Packed: 1 pc.  
Available WXL® coating only.  
MEGA COOLER™ applies only to diameter sizes over 6 mm.



## List 5200 (Continued)

ADO-SUS-3D, Coolant-Through



EDP Number	Diameter					Flute Length FL	Overall Length L	Shank Diameter d
	Fractional Size	Wire Gage	Letter Size	mm	Inch			
520075712	-	-	-	19.25	0.7579	97	165	20
8666950	-	-	-	19.50	0.7677	98		
520077412	-	-	-	19.66	0.7740	100		
520077612	-	-	-	19.73	0.7768			
520077812	-	-	-	19.76	0.7780			
8667000	-	-	-	20.00	0.7874			

Packed: 1 pc.  
Available WXL® coating only.  
MEGA COOLER™ applies only to diameter sizes over 6 mm.



List No.	Work Material																
	P					M			K	N		S		H			
	Carbon Steels			Alloy Steels	Die Steels	Stainless Steels			Cast Iron	Aluminum		Nickel Alloy	Titanium	Hardened Steels			
	Low	Med.	High			300	400	17-4 PH		6061	Casting			Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC
1010	1035	1065	4140	4340			7075										
5200	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>				

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# A Brand® ADO-SUS

Advanced Performance Carbide Drills for Stainless Steels & Titanium Alloys

## List 5210

ADO-SUS-5D, Coolant-Through



<b>NEW</b>	<b>SPEED FEED</b> P90-91	<b>CARBIDE</b>	<b>WXL</b>	<b>30°</b>	<b>SHANK</b> h6
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Cutting Diameter Tolerance (h8)		
Size	mm	inch
2 ≤ D ≤ 3	+0 / -0.014	+0 / -0.0006
3 < D ≤ 6	+0 / -0.018	+0 / -0.0007
6 < D ≤ 10	+0 / -0.022	+0 / -0.0009
10 < D ≤ 18	+0 / -0.027	+0 / -0.0011
18 < D ≤ 20	+0 / -0.033	+0 / -0.0013

EDP Number	Diameter					Flute Length FL	Overall Length L	Shank Diameter d
	Fractional Size	Wire Gage	Letter Size	mm	Inch			
8667200	-	-	-	2.00	0.0787	18	70	3
8667210	-	-	-	2.10	0.0827	19		
8667220	-	-	-	2.20	0.0866	20		
8667230	-	-	-	2.30	0.0906	21		
521009312	3/32	-	-	2.38	0.0937	22		
8667240	-	-	-	2.40	0.0945	23		
8667250	-	-	-	2.50	0.0984	24		
8667260	-	-	-	2.60	0.1024	25		
8667270	-	-	-	2.70	0.1063	25		
8667276	-	-	-	2.76	0.1087	26		
8667278	-	-	-	2.78	0.1094	27		
8667280	-	-	-	2.80	0.1102	27		
8667290	-	-	-	2.90	0.1142	28		
8667300	-	-	-	3.00	0.1181	29		
8667310	-	-	-	3.10	0.1220	30		
8667315	-	-	-	3.15	0.1240	31		
521012512	1/8	-	-	3.18	0.1250	32		
8667320	-	-	-	3.20	0.1260	33		
8667326	-	-	-	3.26	0.1283	34		
8667330	-	-	-	3.30	0.1299	35		
8667340	-	-	-	3.40	0.1339	36		
8667350	-	-	-	3.50	0.1378	37		
8667360	-	-	-	3.60	0.1417	38		
8667366	-	-	-	3.66	0.1441	39		
8667368	-	-	-	3.68	0.1449	40		
8667370	-	-	-	3.70	0.1457	41		
8667375	-	-	-	3.75	0.1476	42		
8667380	-	-	-	3.80	0.1496	43		
8667390	-	-	-	3.90	0.1535	44		
521015612	5/32	-	-	3.97	0.1563	45		
8667400	-	-	-	4.00	0.1575	46		
521016112	-	20	-	4.09	0.1610	47		
8667410	-	-	-	4.10	0.1614	48		
8682410	-	-	-	4.20	0.1654	49		
8667420	-	-	-	4.30	0.1693	50		
8682420	-	-	-	4.37	0.1719	51		
8667430	-	-	-	4.40	0.1732	52		
8682430	-	-	-	4.50	0.1772	53		
521017112	11/64	-	-	4.57	0.1811	54		
8667440	-	-	-	4.60	0.1819	55		
8682440	-	-	-	4.62	0.1827	56		
8667450	-	-	-	4.64	0.1827	57		
8682450	-	-	-	4.70	0.1850	58		
8667460	-	-	-	4.76	0.1875	59		
8682460	-	-	-	4.80	0.1890	60		
8667462	-	-	-	4.85	0.1909	61		
8667464	-	-	-					
8667470	-	-	-					
8682470	-	-	-					
521018712	3/16	-	-					
8667480	-	-	-					
8682480	-	-	-					
8667485	-	-	-					

Packed: 1 pc.  
Available WXL® coating only.  
MEGA COOLER™ applies only to diameter sizes over 6 mm.



## List 5210 (Continued)

ADO-SUS-5D, Coolant-Through



EDP Number	Diameter					Flute Length FL	Overall Length L	Shank Diameter d		
	Fractional Size	Wire Gage	Letter Size	mm	Inch					
8667490	-	-	-	4.90	0.1929	45	95	5		
8682490	-	-	-					6		
8667500	-	-	-	5.00	0.1969			5		
8682500	-	-	-			41	100	6		
8667510	-	-	-	5.10	0.2008					
521020312	13/64	-	-	5.16	0.2031	42	100	1/4		
8667520	-	-	-	5.20	0.2047					
8667525	-	-	-	5.25	0.2067					
8667530	-	-	-	5.30	0.2087	43	100	6		
8667540	-	-	-	5.40	0.2126					
521021312	-	3	-	5.41	0.2130	44	100	6		
8667550	-	-	-	5.50	0.2165					
8667552	-	-	-	5.52	0.2173	45	100	1/4		
8667554	-	-	-	5.54	0.2181					
521021812	7/32	-	-	5.56	0.2188					
8667560	-	-	-	5.60	0.2205	46	100	6		
8667570	-	-	-	5.70	0.2244					
8667580	-	-	-	5.80	0.2283	47	100	6		
8667590	-	-	-	5.90	0.2323					
521023412	15/64	-	-	5.95	0.2344	48	100	1/4		
8667600	-	-	-	6.00	0.2362					
8667610	-	-	-			49	100	7		
8682610	-	-	-	6.10	0.2402					
8667620	-	-	-			50	100	7		
8682620	-	-	-	6.20	0.2441					
8667625	-	-	-	6.25	0.2461	51	100	8		
8667630	-	-	-	6.30	0.2480					
8667635	1/4	-	-	6.35	0.2500	52	100	1/4		
8667640	-	-	-	6.40	0.2520					
8682640	-	-	-			53	100	7		
8667650	-	-	-	6.50	0.2559					
8682650	-	-	-			54	100	8		
521025712	-	-	F	6.53	0.2570					
8667660	-	-	-	6.60	0.2598	55	100	7		
8682660	-	-	-	6.70	0.2638					
8667670	-	-	-			56	100	7		
8682670	-	-	-	6.75	0.2657					
8667675	-	-	-			57	100	7		
521026512	17/64	-	-	6.75	0.2657					
8667680	-	-	-	6.80	0.2677	58	118	5/16		
8682680	-	-	-							
8667690	-	-	-	6.90	0.2717	59	118	7		
8682690	-	-	-							
8667700	-	-	-	7.00	0.2756	60	118	8		
8682700	-	-	-							
8667710	-	-	-	7.10	0.2795	61	118	8		
521028112	9/32	-	-	7.14	0.2813					
8667720	-	-	-	7.20	0.2835	62	118	5/16		
8667725	-	-	-	7.25	0.2854					

Packed: 1 pc.  
Available WXL® coating only.  
MEGA COOLER™ applies only to diameter sizes over 6 mm.

[continued on next page](#)

List No.	Work Material																
	P					M			K	N		S		H			
	Carbon Steels			Alloy Steels 4140 4340	Die Steels	Stainless Steels			Cast Iron	Aluminum		Nickel Alloy Inconel	Titanium 6Al4V (30 HRC)	Hardened Steels			
	Low 1010 1018	Med. 1035 1045	High 1065			300	400	17-4 PH		6061 7075	Casting			~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
5210	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

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# A Brand® ADO-SUS

Advanced Performance Carbide Drills for Stainless Steels & Titanium Alloys

## List 5210 (Continued)

ADO-SUS-5D, Coolant-Through



<b>NEW</b>	<b>SPEED FEED</b> P90-91	<b>CARBIDE</b>	<b>WXL</b>		<b>30°</b>	<b>SHANK</b> h6
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Cutting Diameter Tolerance (h8)		
Size	mm	inch
2 ≤ D ≤ 3	+0 / -0.014	+0 / -0.0006
3 < D ≤ 6	+0 / -0.018	+0 / -0.0007
6 < D ≤ 10	+0 / -0.022	+0 / -0.0009
10 < D ≤ 18	+0 / -0.027	+0 / -0.0011
18 < D ≤ 20	+0 / -0.033	+0 / -0.0013

EDP Number	Diameter					Flute Length FL	Overall Length L	Shank Diameter d
	Fractional Size	Wire Gage	Letter Size	mm	Inch			
8667730	-	-	-	7.30	0.2874	59	118	8
8667736	-	-	-	7.36	0.2898			
8667738	-	-	-	7.38	0.2906	60		
8667740	-	-	-	7.40	0.2913			
8667750	-	-	-	7.50	0.2953	61		
8667752	-	-	-	7.52	0.2961			
8667754	-	-	-	7.54	0.2969	60		
521029612	19/64	-	-	7.54	0.2969			
8667760	-	-	-	7.60	0.2992	61		
8667770	-	-	-	7.70	0.3031			
8667775	-	-	-	7.75	0.3051	62		
8667780	-	-	-	7.80	0.3071			
8667790	-	-	-	7.90	0.3110	64		
521031212	5/16	-	-	7.94	0.3125			
8667800	-	-	-	8.00	0.3150	65		
8667810	-	-	-	8.10	0.3189			
8682810	-	-	-	8.10	0.3189	66		
8667820	-	-	-	8.20	0.3228			
8682820	-	-	-	8.25	0.3248	67		
8667825	-	-	-	8.25	0.3248			
8667830	-	-	-	8.30	0.3268	68		
8682830	-	-	-	8.33	0.3281			
521032812	21/64	-	-	8.33	0.3281	68		
8667840	-	-	-	8.40	0.3307			
8682840	-	-	-	8.43	0.3320	69		
521033212	-	-	Q	8.43	0.3320			
8667850	-	-	-	8.50	0.3346	70		
8682850	-	-	-	8.50	0.3346			
8667860	-	-	-	8.60	0.3386	71		
8682860	-	-	-	8.60	0.3386			
8667870	-	-	-	8.70	0.3425	72		
8682870	-	-	-	8.73	0.3438			
521034312	11/32	-	-	8.73	0.3438	72		
8667875	-	-	-	8.75	0.3445			
8667880	-	-	-	8.80	0.3465	73		
8682880	-	-	-	8.80	0.3465			
8667890	-	-	-	8.90	0.3504	74		
8682890	-	-	-	8.90	0.3504			
8667900	-	-	-	9.00	0.3543	75		
8682900	-	-	-	9.00	0.3543			
8667910	-	-	-	9.10	0.3583	76		
521035912	23/64	-	-	9.13	0.3594			
8667920	-	-	-	9.20	0.3622	77		
8667924	-	-	-	9.24	0.3638			
8667925	-	-	-	9.25	0.3642	78		
8667926	-	-	-	9.26	0.3646			
8667930	-	-	-	9.30	0.3661	79		
8667936	-	-	-	9.36	0.3685			
8667938	-	-	-	9.38	0.3693	80		
8667940	-	-	-	9.40	0.3701			
8667950	-	-	-	9.50	0.3740	81		
8667952	-	-	-	9.52	0.3748			
521037512	3/8	-	-	9.53	0.3750	82		
8667954	-	-	-	9.54	0.3756			
8667960	-	-	-	9.60	0.3780	83		
8667960	-	-	-	9.60	0.3780			

Packed: 1 pc.  
Available WXL® coating only.  
MEGA COOLER™ applies only to diameter sizes over 6 mm.



## List 5210 (Continued)

ADO-SUS-5D, Coolant-Through



EDP Number	Diameter					Flute Length FL	Overall Length L	Shank Diameter d	
	Fractional Size	Wire Gage	Letter Size	mm	Inch				
8667970	-	-	-	9.70	0.3819	78	136	10	
8667975	-	-	-	9.75	0.3839				
8667980	-	-	-	9.80	0.3858				
8667990	-	-	-	9.90	0.3898	80			7/16
521039012	25/64	-	-	9.92	0.3906				
8668000	-	-	-	10.00	0.3937	81			10
8668010	-	-	-	10.10	0.3976		11		
8683010	-	-	-				12		
8668020	-	-	-	10.20	0.4016	11			
8683020	-	-	-			12			
8668025	-	-	-	10.25	0.4035	82	11		
8668030	-	-	-	10.30	0.4055			12	
8683030	-	-	-					12	
521040612	13/32	-	-	10.32	0.4063	83	7/16		
8668040	-	-	-	10.40	0.4094		84	11	
8683040	-	-	-	10.50	0.4134	12			
8668050	-	-	-			11			
8683050	-	-	-	10.60	0.4173	12			
8668060	-	-	-			11			
8683060	-	-	-	10.70	0.4213	12			
8668070	-	-	-			12			
8683070	-	-	-	10.72	0.4219	86	7/16		
521042212	27/64	-	-				10.75	0.4232	11
8668075	-	-	-	10.80	0.4252	87	12		
8668080	-	-	-	10.90	0.4291		88	11	
8683080	-	-	-			12			
8668090	-	-	-	11.00	0.4331	89	12		
8683090	-	-	-				11		
8668100	-	-	-	11.10	0.4370	90	12		
8683100	-	-	-				11		
8668110	-	-	-	11.11	0.4375	91	7/16		
521043812	7/16	-	-				11.20	0.4409	12
8668120	-	-	-	11.22	0.4417	92	12		
8668122	-	-	-					11.24	0.4425
8668124	-	-	-	11.30	0.4449	93	12		
8668130	-	-	-					11.36	0.4472
8668136	-	-	-	11.38	0.4480	94	12		
8668138	-	-	-					11.40	0.4488
8668140	-	-	-	11.50	0.4528	95	12		
8668150	-	-	-					11.51	0.4531
521045312	29/64	-	-	11.60	0.4567	96	1/2		
8668160	-	-	-	11.70	0.4606		12		
8668170	-	-	-	11.80	0.4646	97	13		
8668180	-	-	-					11.90	0.4685
8668190	-	-	-	11.91	0.4688	98	14		
521046912	15/32	-	-					12.00	0.4724
8668200	-	-	-	12.10	0.4764	99	13		
8668210	-	-	-					12.20	0.4803
8683210	-	-	-	12.20	0.4803	100	14		
8668220	-	-	-					12.20	0.4803
8683220	-	-	-	12.20	0.4803	101	14		

Packed: 1 pc.  
Available WXL® coating only.  
MEGA COOLER™ applies only to diameter sizes over 6 mm.

continued on next page **ADR**

List No.	Work Material																
	P					M			K	N		S		H			
	Carbon Steels			Alloy Steels	Die Steels	Stainless Steels			Cast Iron	Aluminum		Nickel Alloy	Titanium	Hardened Steels			
	Low	Med.	High			300	400	17-4 PH		6061	Casting			Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC
1010	1035	1045	1065	4140	4340												
5210	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		<input type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>			

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# A Brand® ADO-SUS

Advanced Performance Carbide Drills for Stainless Steels & Titanium Alloys

## List 5210 (Continued)

ADO-SUS-5D, Coolant-Through



<b>NEW</b>	<b>SPEED FEED</b> P90-91	<b>CARBIDE</b>	<b>WXL</b>	<b>30°</b>	<b>SHANK</b> h6
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Cutting Diameter Tolerance (h8)		
Size	mm	inch
2 ≤ D ≤ 3	+0 / -0.014	+0 / -0.0006
3 < D ≤ 6	+0 / -0.018	+0 / -0.0007
6 < D ≤ 10	+0 / -0.022	+0 / -0.0009
10 < D ≤ 18	+0 / -0.027	+0 / -0.0011
18 < D ≤ 20	+0 / -0.033	+0 / -0.0013

EDP Number	Diameter					Flute Length FL	Overall Length L	Shank Diameter d
	Fractional Size	Wire Gage	Letter Size	mm	Inch			
8668230	-	-	-	12.30	0.4843	99	167	13
8683230	-	-	-					14
521048512	31/64	-	-	12.40	0.4844	1/2		
8668240	-	-	-			13		
8683240	-	-	-	12.50	0.4921	14		
8668250	-	-	-			13		
8683250	-	-	-	12.60	0.4961	14		
8668260	-	-	-			13		
8683260	-	-	-	12.70	0.5000	14		
8668270	-	-	-			13		
521050012	1/2	-	-	12.75	0.5020	1/2		
8668275	-	-	-			12.80	0.5039	13
8668280	-	-	-	12.90	0.5079			14
8683280	-	-	-			13.00	0.5118	13
8668290	-	-	-	13.10	0.5157			176
8683290	-	-	-			13.20	0.5197	
8668300	-	-	-	13.25	0.5217			
8683300	-	-	-			13.30	0.5236	
8668310	-	-	-	13.40	0.5276			
8668320	-	-	-			13.49	0.5313	
8668325	-	-	-	13.50	0.5315			
8668330	-	-	-			13.60	0.5354	
8668340	-	-	-	13.70	0.5394			
521053112	17/32	-	-			13.80	0.5433	
8668350	-	-	-	13.90	0.5472			112
8668360	-	-	-			14.00	0.5512	
8668370	-	-	-	14.10	0.5551			114
8668380	-	-	-			14.20	0.5591	
8668390	-	-	-	14.29	0.5625			116
8668400	-	-	-			14.30	0.5630	
8668410	-	-	-	14.40	0.5669			118
521055512	-	-	-			14.50	0.5709	
8668420	-	-	-	14.60	0.5748			120
521055912	-	-	-			14.70	0.5787	
521056212	9/16	-	-	14.80	0.5827			122
8668430	-	-	-			14.90	0.5866	
521056312	-	-	-	15.00	0.5906			124
8668440	-	-	-			15.10	0.5945	
521056612	-	-	-	15.20	0.5984			126
8668450	-	-	-			15.25	0.6004	
8683450	-	-	-	15.30	0.6024			128
8668460	-	-	-					
521057412	-	-	-					
8668470	-	-	-					
521057812	-	-	-					
8668480	-	-	-					
521058212	-	-	-					
8668490	-	-	-					
521058612	-	-	-					
8668500	-	-	-					
8683500	-	-	-					
8668510	-	-	-					
8668520	-	-	-					
8668525	-	-	-					
8668530	-	-	-					

Packed: 1 pc.  
Available WXL® coating only.  
MEGA COOLER™ applies only to diameter sizes over 6 mm.



## List 5210 (Continued)

ADO-SUS-5D, Coolant-Through



EDP Number	Diameter					Flute Length FL	Overall Length L	Shank Diameter d	
	Fractional Size	Wire Gage	Letter Size	mm	Inch				
8668540	-	-	-	15.40	0.6063	124	193	16	
8668550	-	-	-	15.50	0.6102				
8668560	-	-	-	15.60	0.6142	125			
8668570	-	-	-	15.70	0.6181	126			
8668580	-	-	-	15.80	0.6220	127			
521062512	5/8	-	-	15.88	0.6250	128			5/8
8668590	-	-	-	15.90	0.6260		16		
8668600	-	-	-	16.00	0.6299	113	184	18	
521063312	-	-	-	16.10	0.6339			17	
8668650	-	-	-	16.50	0.6496			116	18
8683650	-	-	-	16.50	0.6496			117	3/4
521065612	21/32	-	-	16.67	0.6563				17
8668700	-	-	-	17.00	0.6693			119	17
8683700	-	-	-	17.00	0.6693	123	191	18	
8668750	-	-	-	17.50	0.6890				
8668800	-	-	-	18.00	0.7087	126	198	19	
8668850	-	-	-	18.50	0.7283	130		20	
8683850	-	-	-	18.50	0.7283	133	19		
8668900	-	-	-	19.00	0.7480		133	20	
8683900	-	-	-	19.00	0.7480	134	205	20	
521075012	3/4	-	-	19.05	0.7500			134	3/4
521075712	-	-	-	19.25	0.7579	135		20	
8668950	-	-	-	19.50	0.7677	137			
8669000	-	-	-	20.00	0.7874	140			

Packed: 1 pc.  
Available WXL® coating only.  
MEGA COOLER™ applies only to diameter sizes over 6 mm.



List No.	Work Material																
	P					M			K	N		S		H			
	Carbon Steels			Alloy Steels	Die Steels	Stainless Steels			Cast Iron	Aluminum		Nickel Alloy	Titanium	Hardened Steels			
	Low	Med.	High			300	400	17-4 PH		6061	Casting			Inconel	6Al4V (30 HRC)	~35 HRC	35-45 HRC
1010	1035	1065	4140	4340													
1018	1045																
5210	☐	☐	☐	☐		☐	☐	☐	☐		☐	☐					

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# A Brand® ADO-SUS

Advanced Performance Carbide Drills for Stainless Steels & Titanium Alloys

## List 5220

ADO-SUS-8D, Coolant-Through



<b>NEW</b>	<b>SPEED FEED</b> P90-91	<b>CARBIDE</b>	<b>WXL</b>		<b>30°</b>	<b>SHANK</b> h6
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Cutting Diameter Tolerance (h8)		
Size	mm	inch
2 ≤ D ≤ 3	+0 / -0.014	+0 / -0.0006
3 < D ≤ 6	+0 / -0.018	+0 / -0.0007
6 < D ≤ 10	+0 / -0.022	+0 / -0.0009
10 < D ≤ 12.7	+0 / -0.027	+0 / -0.0011

EDP Number	Diameter					Flute Length FL	Overall Length L	Shank Diameter d	
	Fractional Size	Wire Gage	Letter Size	mm	Inch				
8686200	-	-	-	2.00	0.0787	22	75	3	
8686210	-	-	-	2.10	0.0827	24			
8686220	-	-	-	2.20	0.0866	25			
8686230	-	-	-	2.30	0.0906	26			
522009312	3/32	-	-	2.38	0.0937	27			
8686240	-	-	-	2.40	0.0945				
8686250	-	-	-	2.50	0.0984	28			
8686260	-	-	-	2.60	0.1024	29			
8686270	-	-	-	2.70	0.1063	30			
522010912	7/64	-	-	2.78	0.1094	31			
8686280	-	-	-	2.80	0.1102				
8686290	-	-	-	2.90	0.1142	32			
8686300	-	-	-	3.00	0.1181	33			
8684310	-	-	-	3.10	0.1220	34			
522012512	1/8	-	-	3.18	0.1252	35			
8684320	-	-	-	3.20	0.1260	36	4		
8684330	-	-	-	3.30	0.1299				
8684340	-	-	-	3.40	0.1339				
8684350	-	-	-	3.50	0.1378				
8684360	-	-	-	3.60	0.1417				
8684370	-	-	-	3.70	0.1457				
8684380	-	-	-	3.80	0.1496				
8684390	-	-	-	3.90	0.1535				
522015612	5/32	-	-	3.97	0.1563			44	3/16
8684400	-	-	-	4.00	0.1575				
522016112	-	20	-	4.09	0.1610	45	6		
8686410	-	-	-	4.10	0.1614				
8684410	-	-	-	4.10	0.1614				
8686420	-	-	-	4.20	0.1654			46	5
8684420	-	-	-	4.20	0.1654				
8686430	-	-	-	4.30	0.1693			47	5
8684430	-	-	-	4.30	0.1693				
522017212	11/64	-	-	4.37	0.1720			48	3/16
8686440	-	-	-	4.40	0.1732				
8684440	-	-	-	4.40	0.1732			50	5
8686450	-	-	-	4.50	0.1772				
8684450	-	-	-	4.50	0.1772				

Packed: 1 pc.  
Available WXL® coating only.  
MEGA COOLER™ applies only to diameter sizes over 6 mm.



## List 5220 (Continued)

ADO-SUS-8D, Coolant-Through



EDP Number	Diameter					Flute Length FL	Overall Length L	Shank Diameter d
	Fractional Size	Wire Gage	Letter Size	mm	Inch			
8686460	-	-	-	4.60	0.1811	51	105	5
8684460	-	-	-	4.60	0.1811	51		6
8686470	-	-	-	4.70	0.1850	52		5
8684470	-	-	-					6
522018712	3/16	-	-	4.76	0.1874	53		3/16
8686480	-	-	-	4.80	0.1890			5
8684480	-	-	-			6		
8686490	-	-	-	4.90	0.1929	54		5
8684490	-	-	-					6
8686500	-	-	-	5.00	0.1969	55		5
8684500	-	-	-				6	
8684510	-	-	-	5.10	0.2008	56	6	
522020312	13/64	-	-	5.16	0.2031	57	1/4	
8684520	-	-	-	5.20	0.2047	58	6	
8684530	-	-	-	5.30	0.2087			
8684540	-	-	-	5.40	0.2126	59	1/4	
522021312	-	3	-	5.41	0.2130	60		
8684550	-	-	-	5.50	0.2165	61	6	
522021812	7/32	-	-	5.56	0.2189		61	1/4
8684560	-	-	-	5.60	0.2205	62	6	
8684570	-	-	-	5.70	0.2244	63		
8684580	-	-	-	5.80	0.2283	64		
8684590	-	-	-	5.90	0.2323	65		
522023412	15/64	-	-	5.95	0.2343	66		1/4
8684600	-	-	-	6.00	0.2362			66
8686610	-	-	-	6.10	0.2402	67		7
8684610	-	-	-					8
8686620	-	-	-	6.20	0.2441	68	7	
8684620	-	-	-				8	
8686630	-	-	-	6.30	0.2480	69	7	
8684630	-	-	-				8	
522025012	1/4	-	-	6.35	0.2500	70	1/4	
8686640	-	-	-	6.40	0.2520		70	7
8684640	-	-	-	6.50	0.2559	72	8	
8686650	-	-	-				7	
8684650	-	-	-	6.53	0.2571	73	8	
522025712	-	-	F				7	
8686660	-	-	-	6.60	0.2598	74	7	
8684660	-	-	-				8	
8686670	-	-	-	6.70	0.2638	74	7	
8684670	-	-	-				8	
522026512	17/64	-	-	6.75	0.2657	75	5/16	
8686680	-	-	-	6.80	0.2677		7	
8684680	-	-	-			8		
8686690	-	-	-	6.90	0.2717	76	7	
8684690	-	-	-				8	

Packed: 1 pc.  
Available WXL® coating only.  
MEGA COOLER™ applies only to diameter sizes over 6 mm.

continued on next page

List No.	Work Material																
	P					M			K	N		S		H			
	Carbon Steels			Alloy Steels	Die Steels	Stainless Steels			Cast Iron	Aluminum		Nickel Alloy	Titanium	Hardened Steels			
	Low	Med.	High			300	400	17-4 PH		6061 7075	Casting			Inconel	6AlV (30 HRC)	~35 HRC	35-45 HRC
5220	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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# A Brand® ADO-SUS

Advanced Performance Carbide Drills for Stainless Steels & Titanium Alloys

## List 5220 (Continued)

ADO-SUS-8D, Coolant-Through



<b>NEW</b>	<b>SPEED FEED</b> P90-91	<b>CARBIDE</b>	<b>WXL</b>		<b>30°</b>	<b>SHANK</b> h6
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Cutting Diameter Tolerance (h8)		
Size	mm	inch
2 ≤ D ≤ 3	+0 / -0.014	+0 / -0.0006
3 < D ≤ 6	+0 / -0.018	+0 / -0.0007
6 < D ≤ 10	+0 / -0.022	+0 / -0.0009
10 < D ≤ 12.7	+0 / -0.027	+0 / -0.0011

EDP Number	Diameter					Flute Length FL	Overall Length L	Shank Diameter d	
	Fractional Size	Wire Gage	Letter Size	mm	Inch				
8686700	-	-	-	7.00	0.2756	77	125	7	
8684700	-	-	-	7.10	0.2795	78	140	8	
8684710	-	-	-	7.14	0.2811	79		5/16	
522028112	9/32	-	-	7.20	0.2835	80		8	
8684720	-	-	-	7.30	0.2874	81			
8684730	-	-	-	7.40	0.2913	83		5/16	
8684740	-	-	-	7.50	0.2953	84			
8684750	-	-	-	7.54	0.2969	85		8	
522029612	19/64	-	-	7.60	0.2992	86			
8684760	-	-	-	7.70	0.3031	87		5/16	
8684770	-	-	-	7.80	0.3071	87			
8684780	-	-	-	7.90	0.3110	87		8	
8684790	-	-	-	7.94	0.3126	88			
522031212	5/16	-	-	8.00	0.3150	88		150	5/16
8684800	-	-	-	8.10	0.3189	89			8
8686810	-	-	-	8.20	0.3228	90	9		
8684810	-	-	-	8.30	0.3268	91	10		
8686820	-	-	-	8.33	0.3280	92	9		
8684820	-	-	-	8.40	0.3307	93	10		
8686830	-	-	-	8.43	0.3319	94	9		
8684830	-	-	-	8.50	0.3346	95	10		
522032812	21/64	-	-	8.60	0.3386	96	9		
8686840	-	-	-	8.70	0.3425	97	10		
8684840	-	-	-	8.73	0.3437	98	3/8		
522033112	-	-	Q	8.80	0.3465	99	9		
8686850	-	-	-	8.90	0.3504	100	10		
8684850	-	-	-	9.00	0.3543	101	9		
8686860	-	-	-	9.10	0.3583	102	10		
8684860	-	-	-	9.13	0.3594	103	3/8		
8686870	-	-	-	9.20	0.3622	104	9		
8684870	-	-	-	9.30	0.3661	105	10		
522034312	11/32	-	-	9.40	0.3701	106	160	10	
8686880	-	-	-	9.50	0.3740	107		10	
8684880	-	-	-	9.53	0.3752	108		3/8	
8686890	-	-	-	9.60	0.3780	109		10	
8684890	-	-	-	9.70	0.3819	110			
8686900	-	-	-	9.80	0.3858	110		7/16	
8684900	-	-	-	9.90	0.3898	110		10	
522035912	23/64	-	-	9.92	0.3906	110			
8684910	-	-	-	10.00	0.3937	110		10	
8684920	-	-	-						
8684930	-	-	-						
8684940	-	-	-						
8684950	-	-	-						
522037512	3/8	-	-						
8684960	-	-	-						
8684970	-	-	-						
8684980	-	-	-						
8684990	-	-	-						
522039012	25/64	-	-						
8685000	-	-	-						

Packed: 1 pc.  
Available WXL® coating only.  
MEGA COOLER™ applies only to diameter sizes over 6 mm.



## List 5220 (Continued)

ADO-SUS-8D, Coolant-Through



EDP Number	Diameter					Flute Length FL	Overall Length L	Shank Diameter d
	Fractional Size	Wire Gage	Letter Size	mm	Inch			
8687010	-	-	-	10.10	0.3976	111	182	11
8685010	-	-	-	10.10	0.3976	111		12
8687020	-	-	-	10.20	0.4016	112		11
8685020	-	-	-	10.20	0.4016	112		12
8687030	-	-	-	10.30	0.4055	113		11
8685030	-	-	-	10.30	0.4055			12
522040612	13/32	-	-	10.32	0.4063	114		7/16
8687040	-	-	-	10.40	0.4094			11
8685040	-	-	-	10.40	0.4094	114		12
8687050	-	-	-	10.50	0.4134	116		11
8685050	-	-	-	10.50	0.4134			12
8687060	-	-	-	10.60	0.4173	117		11
8685060	-	-	-	10.60	0.4173			12
8687070	-	-	-	10.70	0.4213	118		11
8685070	-	-	-	10.70	0.4213			12
522042212	27/64	-	-	10.72	0.4220	119		7/16
8687080	-	-	-	10.80	0.4252			11
8685080	-	-	-	10.80	0.4252	119		12
8687090	-	-	-	10.90	0.4291	120		11
8685090	-	-	-	10.90	0.4291			12
8687100	-	-	-	11.00	0.4331	121		11
8685100	-	-	-	11.00	0.4331			12
8685110	-	-	-	11.10	0.4370	122		12
522043712	7/16	-	-	11.11	0.4374			11.11
8685120	-	-	-	11.20	0.4409	123		12
8685130	-	-	-	11.30	0.4449			
8685140	-	-	-	11.40	0.4488	125		12
8685150	-	-	-	11.50	0.4528		127	
522045312	29/64	-	-	11.51	0.4531	128	1/2	
8685160	-	-	-	11.60	0.4567			129
8685170	-	-	-	11.70	0.4606	130	12	
8685180	-	-	-	11.80	0.4646			131
8685190	-	-	-	11.90	0.4685	132	14	
8685200	-	-	-	12.00	0.4724			133
522047612	-	-	-	12.10	0.4764	134	14	
522048012	-	-	-	12.20	0.4803			135
522048412	-	-	-	12.30	0.4843	136	13	
522048812	-	-	-	12.40	0.4882			139
522049212	-	-	-	12.50	0.4921	138	14	
522049312	-	-	-	12.60	0.4961			140
522049612	-	-	-	12.60	0.4961	139	1/2	
522050012	1/2	-	-	12.70	0.5000			140

Packed: 1 pc.  
Available WXL<sup>®</sup> coating only.  
MEGA COOLER™ applies only to diameter sizes over 6 mm.



List No.	Work Material																	
	P					M			K	N		S		H				
	Carbon Steels			Alloy Steels	Die Steels	Stainless Steels			Cast Iron	Aluminum		Nickel Alloy	Titanium	Hardened Steels				
	Low	Med.	High			300	400	17-4 PH		6061	Casting			Inconel	6AlV (30 HRC)	~35 HRC	35-45 HRC	45-50 HRC
5220	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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**List 5200 - A Brand® ADO-SUS: 3D**  
**List 5210 - A Brand® ADO-SUS: 5D**  
**List 5220 - A Brand® ADO-SUS: 8D**

General Drilling Operations

Work Material		Carbon Steels, Mild Steels 1010, 1050, 12L14		Alloy Steels 4140, 4130		300 Series Austenitic Stainless Steels				400 Series Ferritic Stainless Steels Martensitic Stainless Steels			
Hardness						≤15HRC		> 15 HRC		≤15HRC		> 15 HRC	
Drilling Speed		260-325 SFM		260-325 SFM		200-330 SFM		130-260 SFM		200-330 SFM		130-260 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	-	14,100	0.0013 - 0.003	14,100	0.0013 - 0.003	12,750	0.0013 - 0.003	9,600	0.0013 - 0.003	12,750	0.0013 - 0.003	9,600	0.0013 - 0.003
3	-	9,400	0.002 - 0.005	9,400	0.002 - 0.005	8,500	0.002 - 0.005	6,400	0.002 - 0.005	8,500	0.002 - 0.005	6,400	0.002 - 0.005
-	1/8	8,900	0.002 - 0.005	8,900	0.002 - 0.005	8,100	0.002 - 0.005	6,000	0.002 - 0.005	8,000	0.002 - 0.005	6,000	0.002 - 0.005
4	-	7,100	0.003 - 0.006	7,100	0.003 - 0.006	6,400	0.003 - 0.006	4,800	0.003 - 0.006	6,400	0.003 - 0.006	4,800	0.003 - 0.006
-	3/16	6,000	0.004 - 0.007	5,900	0.004 - 0.007	5,400	0.004 - 0.007	4,000	0.004 - 0.007	5,300	0.004 - 0.007	4,000	0.004 - 0.007
6	-	4,800	0.005 - 0.009	4,700	0.005 - 0.009	4,200	0.005 - 0.008	3,200	0.005 - 0.008	4,200	0.005 - 0.008	3,200	0.005 - 0.008
-	1/4	4,500	0.005 - 0.009	4,500	0.005 - 0.009	4,000	0.005 - 0.008	3,000	0.005 - 0.008	4,000	0.005 - 0.008	3,000	0.005 - 0.008
8	-	3,500	0.006 - 0.011	3,500	0.006 - 0.011	3,200	0.006 - 0.009	2,400	0.006 - 0.009	3,200	0.006 - 0.009	2,400	0.006 - 0.009
-	3/8	3,000	0.007 - 0.012	3,000	0.007 - 0.012	2,700	0.007 - 0.011	2,000	0.007 - 0.011	2,700	0.007 - 0.011	2,000	0.007 - 0.011
10	-	2,800	0.008 - 0.012	2,800	0.008 - 0.012	2,600	0.008 - 0.012	1,900	0.007 - 0.011	2,500	0.007 - 0.011	1,900	0.007 - 0.011
-	7/16	2,600	0.008 - 0.012	2,600	0.008 - 0.012	2,300	0.008 - 0.012	1,700	0.007 - 0.011	2,300	0.007 - 0.011	1,700	0.007 - 0.011
12	-	2,300	0.008 - 0.012	2,300	0.008 - 0.012	2,100	0.008 - 0.012	1,600	0.007 - 0.012	2,100	0.007 - 0.012	1,600	0.007 - 0.012
-	1/2	2,200	0.008 - 0.013	2,200	0.008 - 0.013	2,000	0.008 - 0.012	1,500	0.008 - 0.012	2,000	0.008 - 0.012	1,500	0.008 - 0.012
14	-	2,000	0.009 - 0.014	2,000	0.009 - 0.014	1,800	0.008 - 0.013	1,400	0.008 - 0.013	1,800	0.008 - 0.013	1,400	0.008 - 0.013
-	5/8	1,800	0.010 - 0.015	1,800	0.010 - 0.015	1,600	0.009 - 0.015	1,200	0.009 - 0.015	1,600	0.009 - 0.015	1,200	0.009 - 0.015
16	-	1,800	0.010 - 0.015	1,800	0.010 - 0.015	1,600	0.009 - 0.015	1,200	0.009 - 0.015	1,600	0.009 - 0.015	1,200	0.009 - 0.015
18	-	1,600	0.011 - 0.015	1,600	0.011 - 0.015	1,400	0.010 - 0.016	1,100	0.010 - 0.016	1,400	0.010 - 0.016	1,100	0.010 - 0.016
-	3/4	1,500	0.012 - 0.016	1,500	0.012 - 0.016	1,300	0.011 - 0.016	1,000	0.011 - 0.016	1,300	0.011 - 0.016	1,000	0.011 - 0.016
20	-	1,400	0.012 - 0.016	1,500	0.012 - 0.016	1,300	0.011 - 0.016	1,000	0.011 - 0.016	1,300	0.011 - 0.016	1,000	0.011 - 0.016



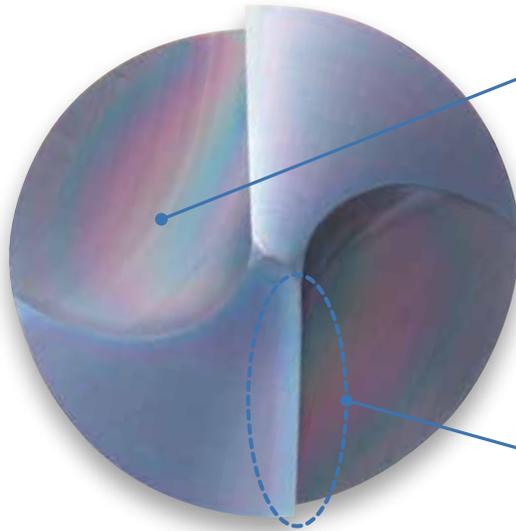
## General Drilling Operations

Work Material	Duplex Stainless Steels				Precipitation Hardened Stainless Steels 15-5, 17-4		Ductile Cast Iron/ Cast Iron	Cast Aluminum	Titanium Alloy				
	≤ 30 HRC		> 30 HRC		≤ 45 HRC				30-35 HRC				
Drilling Speed	130-260 SFM		100-165 SFM		130-200 SFM		195-330 SFM		325-700 SFM		100-165 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
2	-	9,600	0.0013 - 0.003	6,300	0.0013 - 0.003	7,950	0.0013 - 0.003	12,750	0.0013 - 0.003	24,900	0.002 - 0.004	6,300	0.0013 - 0.003
3	-	6,400	0.002 - 0.005	4,200	0.002 - 0.005	5,300	0.002 - 0.005	8,500	0.002 - 0.005	16,600	0.004 - 0.006	4,200	0.002 - 0.005
-	1/8	6,100	0.002 - 0.005	4,000	0.002 - 0.005	5,000	0.002 - 0.005	8,000	0.002 - 0.005	15,600	0.004 - 0.006	3,900	0.002 - 0.005
4	-	4,800	0.003 - 0.006	3,100	0.003 - 0.006	4,000	0.003 - 0.006	6,400	0.003 - 0.006	12,500	0.005 - 0.007	3,100	0.003 - 0.006
-	3/16	4,000	0.004 - 0.007	2,600	0.004 - 0.007	3,300	0.004 - 0.007	5,300	0.004 - 0.007	10,400	0.006 - 0.008	2,600	0.004 - 0.007
6	-	3,200	0.005 - 0.008	2,100	0.005 - 0.008	2,700	0.005 - 0.008	4,200	0.005 - 0.009	8,300	0.008 - 0.010	2,100	0.005 - 0.008
-	1/4	3,000	0.005 - 0.008	2,000	0.005 - 0.008	2,500	0.005 - 0.008	4,000	0.005 - 0.009	7,800	0.009 - 0.011	2,000	0.005 - 0.008
8	-	2,400	0.006 - 0.009	1,600	0.006 - 0.009	2,000	0.006 - 0.009	3,200	0.006 - 0.011	6,200	0.012 - 0.014	1,600	0.006 - 0.009
-	3/8	2,000	0.007 - 0.011	1,300	0.007 - 0.011	1,700	0.007 - 0.011	2,700	0.007 - 0.012	5,200	0.014 - 0.016	1,300	0.007 - 0.011
10	-	1,900	0.008 - 0.012	1,300	0.007 - 0.011	1,600	0.008 - 0.012	2,500	0.008 - 0.012	5,000	0.015 - 0.017	1,300	0.007 - 0.011
-	7/16	1,700	0.008 - 0.012	1,200	0.007 - 0.011	1,400	0.008 - 0.012	2,200	0.008 - 0.012	4,500	0.017 - 0.019	1,200	0.007 - 0.011
12	-	1,600	0.008 - 0.012	1,100	0.007 - 0.012	1,300	0.008 - 0.012	2,100	0.008 - 0.012	4,100	0.018 - 0.020	1,100	0.007 - 0.012
-	1/2	1,500	0.008 - 0.012	1,000	0.008 - 0.012	1,200	0.008 - 0.012	2,000	0.008 - 0.013	3,900	0.019 - 0.021	1,000	0.008 - 0.012
14	-	1,400	0.008 - 0.013	900	0.008 - 0.013	1,100	0.008 - 0.013	1,800	0.009 - 0.014	3,600	0.021 - 0.023	900	0.008 - 0.013
-	5/8	1,200	0.009 - 0.015	800	0.009 - 0.015	1,000	0.009 - 0.015	1,600	0.010 - 0.015	3,100	0.023 - 0.026	800	0.009 - 0.015
16	-	1,200	0.009 - 0.015	800	0.009 - 0.015	1,000	0.009 - 0.015	1,600	0.010 - 0.015	3,100	0.023 - 0.026	800	0.009 - 0.015
18	-	1,100	0.010 - 0.016	700	0.010 - 0.016	900	0.010 - 0.016	1,400	0.011 - 0.015	2,700	0.026 - 0.030	700	0.010 - 0.016
-	3/4	1,000	0.011 - 0.016	700	0.011 - 0.016	800	0.011 - 0.016	1,300	0.012 - 0.016	2,600	0.027 - 0.031	700	0.011 - 0.016
20	-	1,000	0.011 - 0.016	600	0.011 - 0.016	800	0.011 - 0.016	1,300	0.012 - 0.016	2,500	0.028 - 0.032	600	0.011 - 0.016



# A Brand® AD-LDS

Features & Benefits



## EgiAs Coating\*

for improved wear resistance and toughness.

\*EgiAs coating only applies to diameters above 2mm.

## Unique Cutting Geometry

for superior sharpness and high chipping resistance.

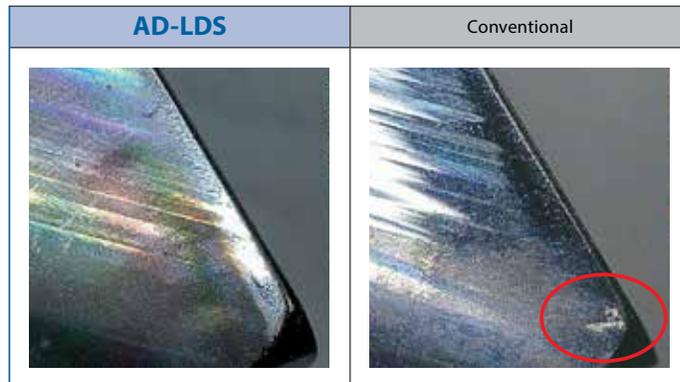
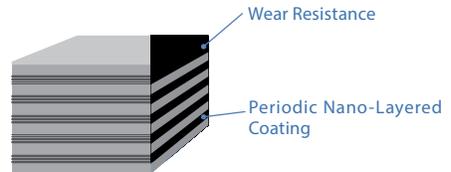
## EgiAs Coating

Provides Exceptional Wear Resistance and Toughness

Constructed with extreme toughness, high wear resistance characteristics to ensure stable and consistent tool life.

Tool	AD-LDS	Conventional
Drill Size		Ø12x90°
Work Material		Carbon Steel
Cutting Speed		164 SFM (1,326 RPM)
Feed Rate		9.4 IPM (0.007 IPR)
Coolant		Water-Soluble
Machine		Horizontal Machining Center

### Coating Structure



# Selection Chart for Spot Drills

## Classifying Spot Drills by Point Angle

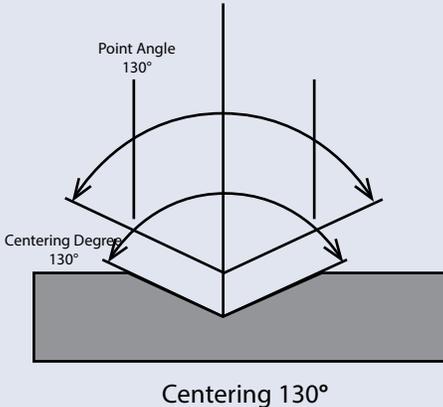
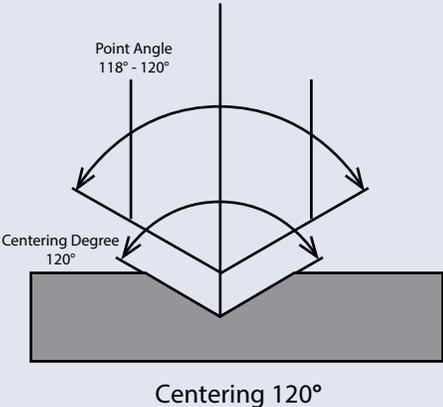
Spot drills can perform both centering and chamfering. Centering improves drilling precision. Chamfering prevents burrs on the end face during tapping and removes burrs that may occur during drilling.

### Point Angle 90°

for 45° chamfering, for both centering and chamfering.

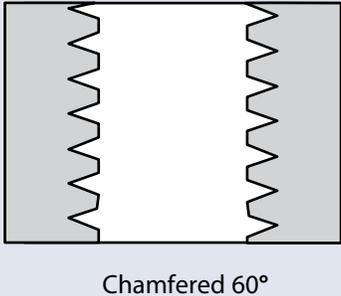
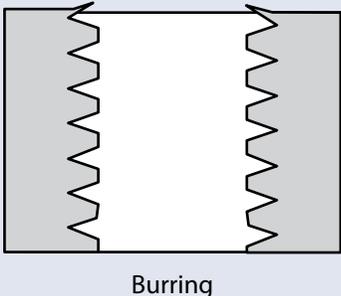
### Point Angle 120° & 130°

for centering before drilling.



### Point Angle 60°

for chamfering when tapping with form tap. When a form tap is used, and the entrance to the hole is not chamfered, burring is likely to occur. It is recommended to use a spot drill with a 60° chamfer to prevent burring.



# A Brand® AD-LDS

Advanced Performance Spot Drills

## List 5190

AD-LDS

<b>NEW</b>	<b>SPEED FEED</b> P95	<b>CARBIDE</b>	<b>EgiAs</b>	<b>12°</b>	<b>25°</b>	<b>SHANK</b> h7
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EDP Number	Diameter					Min. Drill Hole Size	Flute Length	Overall Length	Shank Diameter	Point Angle	Helix
	Fractional Size	Wire Gage	Letter Size	mm	Inch		FL	L	d	a	
8688933	-	-	-	3.00	0.1181	1.2	9	48	3	90°	12°
8688957	-	-	-							120°	25°
8688966	-	-	-							140°	25°
8688934	-	-	-	4.00	0.1575	1.5	12	54	4	90°	12°
8688958	-	-	-							120°	25°
8688967	-	-	-							140°	25°
519012017	-	-	-	5.00	0.1969	1.7	14	70	5	90°	12°
519022017	-	-	-							120°	25°
519032017	-	-	-							140°	25°
8688935	-	-	-	6.00	0.2362	1.9	15	72	6	90°	12°
8688959	-	-	-							120°	25°
8688968	-	-	-							140°	25°
519012517	-	-	-	6.35	0.2500	1.9	17	75	1/4	90°	12°
519022517	1/4	-	E							120°	25°
519032517	-	-	-							140°	25°
8688936	-	-	-	8.00	0.3150	2.1	20	81	8	90°	12°
8688960	-	-	-							120°	25°
8688969	-	-	-							140°	25°
519013817	-	-	-	9.53	0.3750	2.3	24	93	3/8	90°	12°
519023817	3/8	-	-							120°	25°
519033817	-	-	-							140°	25°
8688937	-	-	-	10.00	0.3937	2.5	28	108	10	90°	12°
8688961	-	-	-							120°	25°
8688970	-	-	-							140°	25°
8868938	-	-	-	12.00	0.4724	2.5	28	108	12	90°	12°
8688962	-	-	-							120°	25°
8688971	-	-	-							140°	25°
519015017	-	-	-	12.70	0.5000	3.0	36	111	1/2	90°	12°
519025017	1/2	-	-							120°	25°
519035017	-	-	-							140°	25°
519016217	-	-	-	15.88	0.6250	5.0	41	118	5/8	90°	12°
519026217	5/8	-	-							120°	25°
519036217	-	-	-							140°	25°
519016317	-	-	-	16.00	0.6299	5.0	46	132	16	90°	12°
519026317	-	-	-							120°	25°
519036317	-	-	-							140°	25°
519017517	-	-	-	19.05	0.7500	5.0	46	132	3/4	90°	12°
519027517	3/4	-	-							120°	25°
519037517	-	-	-							140°	25°
519017917	-	-	-	20.00	0.7874	5.0	53	151	20	90°	12°
519027917	-	-	-							120°	25°
519037917	-	-	-							140°	25°
519019817	-	-	-	25.00	0.9843	5.0	53	151	25	90°	12°
519029817	-	-	-							120°	25°
519039817	-	-	-							140°	25°

Packed: 1 pc.  
Available EgiAs coating only.  
Minimum drill hole size is recommended for chamfering operations.



List No.	Work Material																
	P					M			K	N		S		H			
	Carbon Steels			Alloy Steels 4140 4340	Die Steels	Stainless Steels			Cast Iron	Aluminum		Nickel Alloy Inconel	Titanium 6Al4V (30 HRC)	Hardened Steels			
	Low 1010 1018	Med. 1035 1045	High 1065			300	400	17-4 PH		6061 7075	Casting			~35 HRC	35-45 HRC	45-50 HRC	50-70 HRC
5190	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

good  best



## List 5190 - A Brand® AD-LDS

### General Drilling Operations

Work Material	Carbon Steels, Mild Steels 1010, 1050, 12L14		Alloy Steels 4140, 4130		Cast Iron		Cast Aluminum		Special Alloy Steels, Hardened Steels			
									26-30 HRC		30-34 HRC	
Drilling Speed	200-260 SFM		100-165 SFM		200-325 SFM		260-525 SFM		65-90 SFM		50-75 SFM	
Drill Dia. mm	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR
0.5	20,000	0.0002-0.0008	20,000	0.0002-0.0008	40,000	0.0002-0.0006	60,000	0.0008-0.0020	15,000	0.0002-0.0008	9,000	0.0002-0.0008
1	10,000	0.0004-0.0012	10,000	0.0004-0.0012	20,000	0.0004-0.0012	30,000	0.001-0.004	7,500	0.0004-0.0012	4,500	0.0004-0.0012
2	5,000	0.001-0.002	5,000	0.001-0.002	12,000	0.001-0.002	15,000	0.002-0.008	3,800	0.001-0.002	2,200	0.001-0.002
3	7,500	0.001-0.003	4,500	0.001-0.003	8,000	0.002-0.003	12,000	0.004-0.009	2,500	0.001-0.003	1,500	0.001-0.003
4	5,700	0.002-0.004	3,300	0.002-0.004	6,500	0.003-0.005	9,500	0.005-0.010	1,900	0.002-0.004	1,100	0.002-0.004
6	3,800	0.002-0.005	2,300	0.002-0.005	4,300	0.005-0.007	6,400	0.005-0.011	1,300	0.002-0.005	750	0.002-0.005
8	2,800	0.003-0.006	1,700	0.003-0.006	3,200	0.005-0.008	4,800	0.007-0.012	1,000	0.003-0.006	550	0.003-0.006
10	2,300	0.004-0.007	1,400	0.004-0.007	2,600	0.007-0.010	3,800	0.009-0.014	750	0.004-0.007	450	0.004-0.007
12	1,900	0.005-0.008	1,200	0.005-0.008	2,200	0.008-0.012	3,200	0.010-0.016	650	0.005-0.008	370	0.005-0.008
16	1,400	0.006-0.011	900	0.006-0.011	1,600	0.009-0.013	2,400	0.012-0.019	480	0.006-0.011	280	0.006-0.011
20	1,150	0.008-0.013	700	0.008-0.013	1,300	0.010-0.016	1,900	0.016-0.024	380	0.008-0.013	220	0.008-0.013
25	900	0.010-0.018	560	0.010-0.018	1,000	0.012-0.019	1,500	0.020-0.030	300	0.010-0.018	180	0.010-0.018

1. The indicated speeds and feeds are for drilling with water soluble oil.
2. When using non-water soluble oil, reduce the drilling speed by 20%.
3. When centering on a curved or inclined surface, reduce the feed rate accordingly.
4. For machines that cannot achieve the speeds indicated in the table, please set rotation as high as possible.



*shaping your dreams*

 **Safe use of cutting tools**

- Use safety cover, safety glasses and safety shoes during operation.
- Do not touch cutting edges with bare hands.
- Do not touch cutting chips with bare hands. Chips will be hot after cutting.
- Stop cutting when the tool becomes dull.
- Stop cutting operation immediately if you hear any abnormal cutting sounds.
- Do not modify tools.
- Please use appropriate tools for the operation. Check dimensions to ensure proper selection.

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