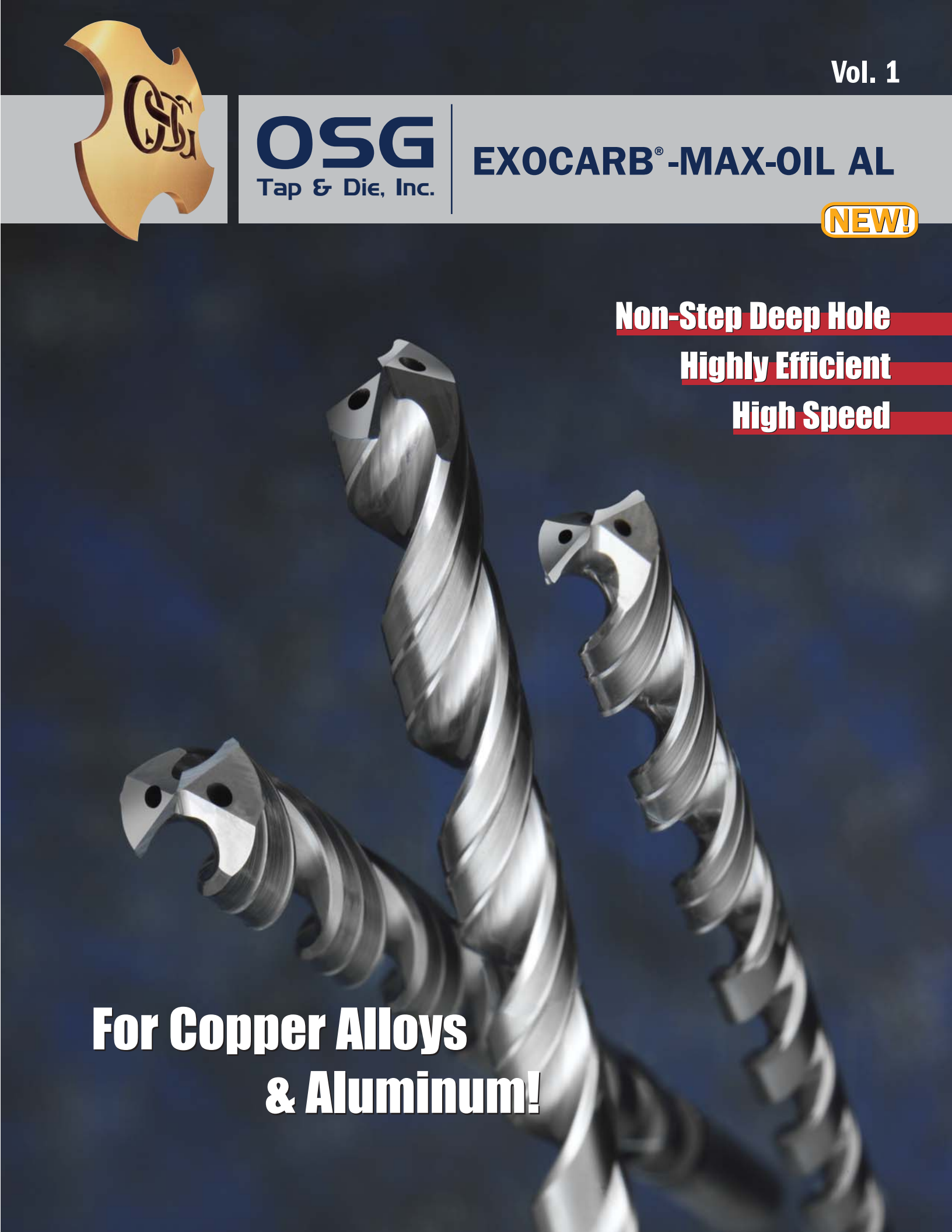
Vol. 1

OSG Tap & Die, Inc.

EXOCARB®-MAX-OIL AL

NEW!

Non-Step Deep Hole
Highly Efficient
High Speed

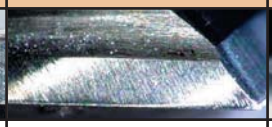
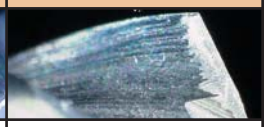


For Copper Alloys & Aluminum!

Non-step drilling of AC4B up to 23 x D

After Drilling 4,080 holes (277.4mm), wear amount is low, and in spite of drilling cross holes, no chipping was visible.

Tool Size:	Drill Dia.=3mm Flute Length=80mm Overall Length=120mm (special order)
Material:	AC4B
Drilling Speed:	308 ft/min.
Feed:	.0039 in/rev.
Depth of Hole:	2.68 in (blind hole)
Coolant:	Water Soluble
Machine:	Vertical Machining Center

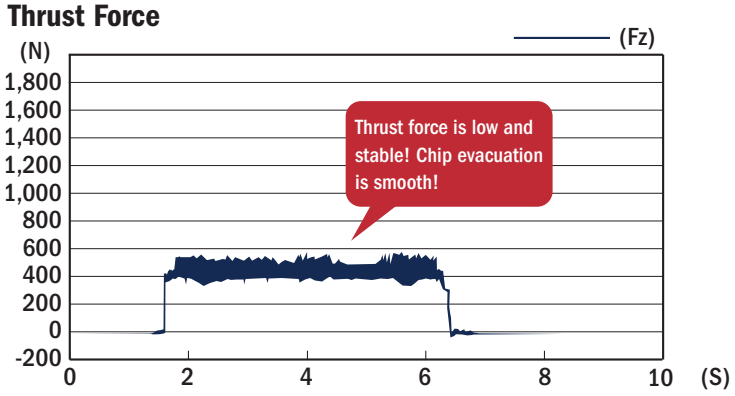
	Cutting Edge	Margin	Flute Face
Drill			
Wear Amount	.0011 in.	.0017 in.	.0108 in.

Non-step drilling using MQL Coolant of ADC12 up to 30 x D

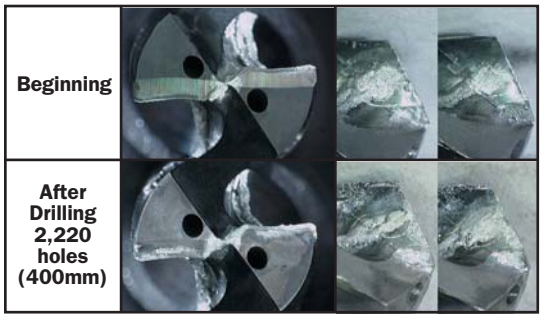
This drill can drill deep holes at high feed rates using MQL coolant. This drill features excellent welding resistance as well as great chip formation and chip evacuation, therefore it is possible to continue drilling after 2,220 holes (400m).

Tool Size:	6 x 30D
Material:	ADC12
Drilling Speed:	656 ft/min.
Feed:	.012 in/rev.
Depth of Hole:	7.09 in (blind hole)
Coolant:	MQL (0.6 MPa, 10 cc/h)
Machine:	Horizontal Machining Center

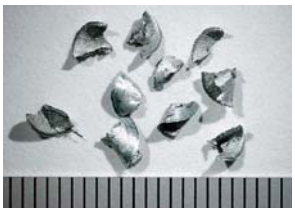
Thrust Force



Condition of Welding



The initial amount of welding did not change as drilling continued, making it possible to process more holes!

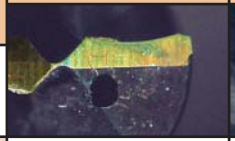
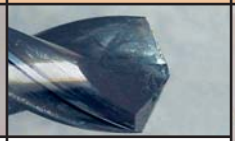
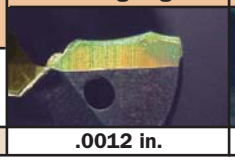
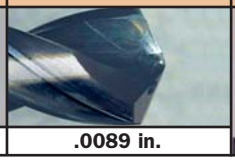


Excellent chip formation
1 scale = 1 mm

Non-step drilling using MQL Coolant of A6061 up to 20 x D

This drill can drill in aluminum using mist coolant. There was less welding and it was able to achieve stable drilling.

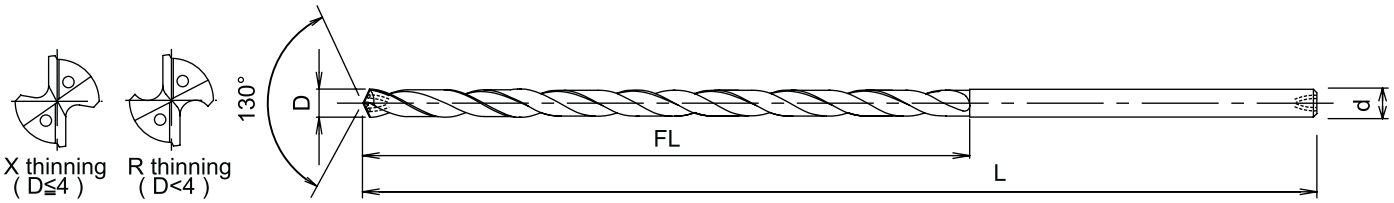
Tool Size:	6 x 30D	Feed:	.012 in/rev.	Coolant:	MQL (0.6 MPa, 10 cc/h)
Material:	ADC12	Depth of Hole:	7.09 in (blind hole)	Machine:	Horizontal Machining Center
Drilling Speed:	656 ft/min.				

Drilling Speed	Feed Rate	Cutting Edge	Margin	Flute Face	Chip
426 ft/min.	.0047 in/rev.				
Wear Amount		.0012 in.	.0027 in.	.0089 in.	
Drilling Speed	Feed Rate	Cutting Edge	Margin	Flute Face	Chip
656 ft/min.	.0047 in/rev.				
Wear Amount		.0012 in.	.0027 in.	.0089 in.	

List 5275 NEW!

15-30xD, Coolant Thru

CARBIDE | BR | EXTRA LONG | 30°



EDP Number	Size					xD	Flute Length	Overall Length	Shank Diameter	List Price (Each)
	Fractional Size	Wire Gauge	Letter Size	mm	Inch		FL	L	d	
8567130	—	—	—	3.00	0.1181	15 x D	55	105	3	223.50
8567140	—	—	—	4.00	0.1575	15 x D	75	125	4	226.50
8567150	—	—	—	5.00	0.1969	15 x D	90	140	5	258.00
8567160	—	—	—	6.00	0.2362	15 x D	110	160	6	279.00
8567165	—	—	—	6.50	0.2559	15 x D	120	175	7	298.50
8567170	—	—	—	7.00	0.2756	15 x D	125	175	7	312.00
8567180	—	—	—	8.00	0.3150	15 x D	145	195	8	349.50
8567190	—	—	—	9.00	0.3543	15 x D	160	210	9	399.00
8567200	—	—	—	10.00	0.3937	15 x D	180	240	10	430.50
8567340	—	—	—	4.00	0.1575	20 x D	90	140	4	252.00
8567345	—	16	—	4.50	0.1772	20 x D	110	165	5	271.50
8567350	—	—	—	5.00	0.1969	20 x D	115	165	5	285.00
8567355	—	—	—	5.50	0.2165	20 x D	140	190	6	292.50
8567360	—	—	—	6.00	0.2362	20 x D	140	190	6	309.00
8567370	—	—	—	7.00	0.2756	20 x D	160	210	7	342.00
8567380	—	—	—	8.00	0.3150	20 x D	180	230	8	385.50
8567390	—	—	—	9.00	0.3543	20 x D	210	260	9	451.50
8567400	—	—	—	10.00	0.3937	20 x D	230	290	10	475.50
8567450	—	—	—	5.00	0.1969	30 x D	165	215	5	385.50
8567455	—	—	—	5.50	0.2165	30 x D	200	250	6	394.50
8567460	—	—	—	6.00	0.2362	30 x D	200	250	6	414.00
8567470	—	—	—	7.00	0.2756	30 x D	230	280	7	462.00
8567480	—	—	—	8.00	0.3150	30 x D	265	315	8	514.50

Packed: 1 pc. Available Bright finish only.

Work Material

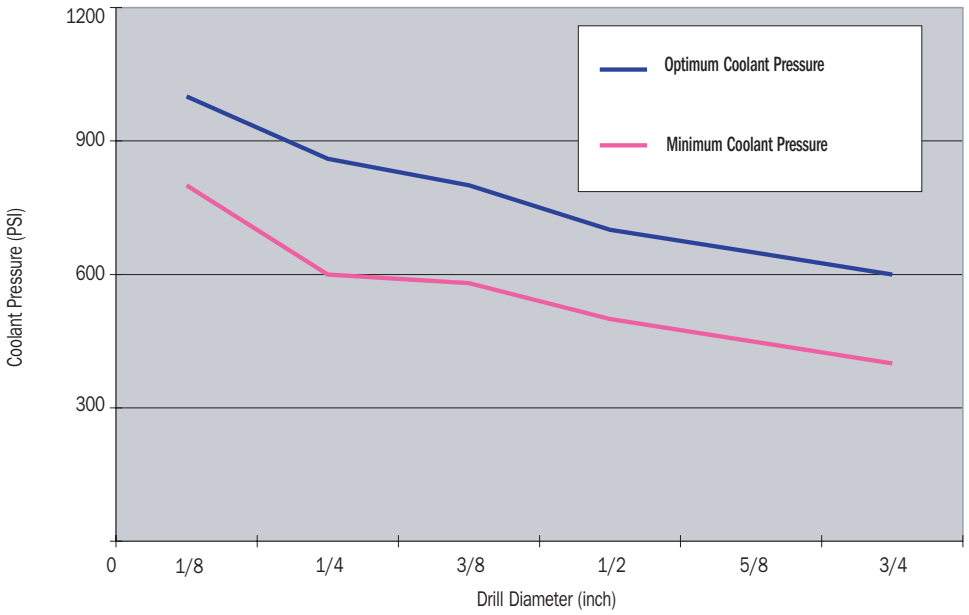
List No.	Aluminum		Cast Iron	Carbon Steel	Alloy Steel Die	Stainless Steels			Hardened Steels			High Heat Material		MMC	Copper Alloy
	6061 7075	Casting				300	400	17-4PH	~45 HrC	45-50 HrC	50-70 HrC	Ti-Alloy	Inconel & Waspaloy		
5275	◎	◎													◎

○ good ◎ best

List 5275 — EXOCARB®-MAX-OIL-AL

Work Material	Aluminum Alloy 6061, 7075		Aluminum Casting		Copper Alloy C1020	
Speed (SFM)	200-390 SFM		260-650 SFM		190-400 SFM	
Drill Dia (mm)	Speed RPM	Feed IPR	Speed RPM	Feed IPR	Speed RPM	Feed IPR
3	10,700	0.0035 – 0.0059	12,800	0.0035 – 0.0059	12,800	0.0020 – 0.0035
4	8,000	0.0047 – 0.0079	9,600	0.0047 – 0.0079	9,600	0.0024 – 0.0039
5	6,400	0.0059 – 0.0098	7,700	0.0059 – 0.0098	7,700	0.0024 – 0.0039
6	5,400	0.0071 – 0.0118	6,400	0.0071 – 0.0118	6,400	0.0024 – 0.0039
8	4,000	0.0079 – 0.0157	4,800	0.0079 – 0.0157	4,800	0.0031 – 0.0059
10	3,200	0.0098 – 0.0197	3,900	0.0098 – 0.0197	3,900	0.0031 – 0.0059

Coolant Pressure



SAFETY NOTE

- 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 strange sounds.
- Do not modify tools.
- Use correct tools for the operation. Check dimensions to ensure proper selection.

OSG TAP & DIE, INC.
676 E. Fullerton Avenue • Glendale Heights • IL 60139
800.837.2223 • FAX: 800.837.3334 • www.osgtool.com