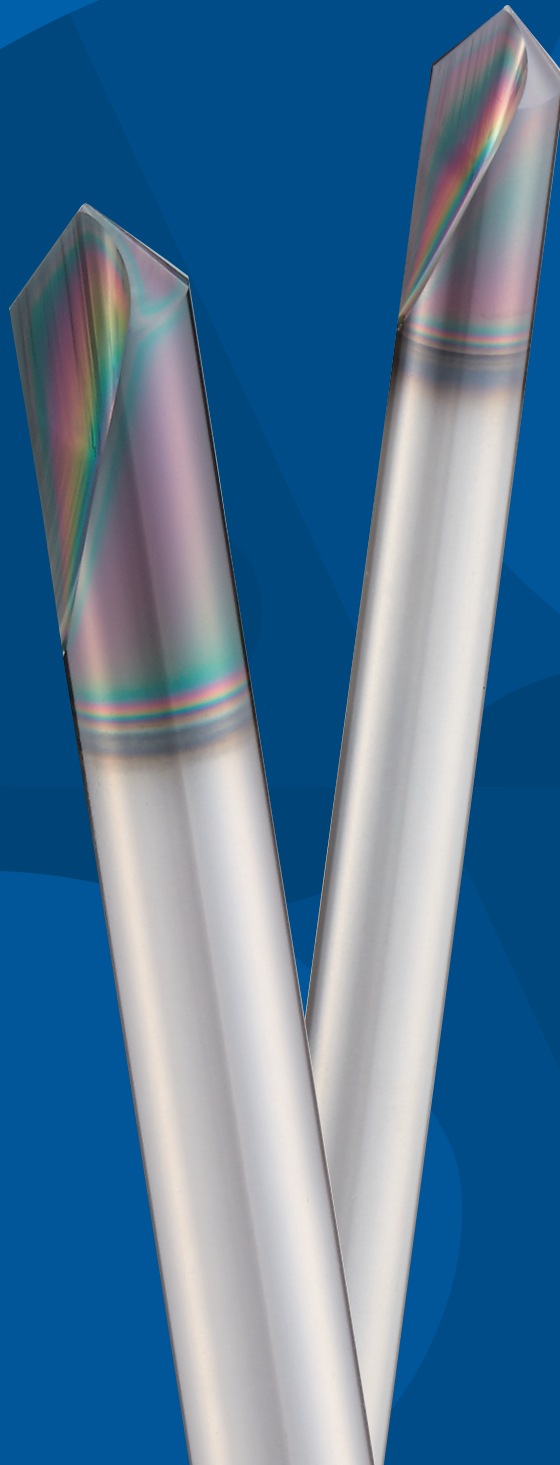




EgiAs Coated Carbide Starter Drill

# AD-(LS)-LDS

Volume 2.1



# FEATURES: AD-LDS • AD-LS-LDS

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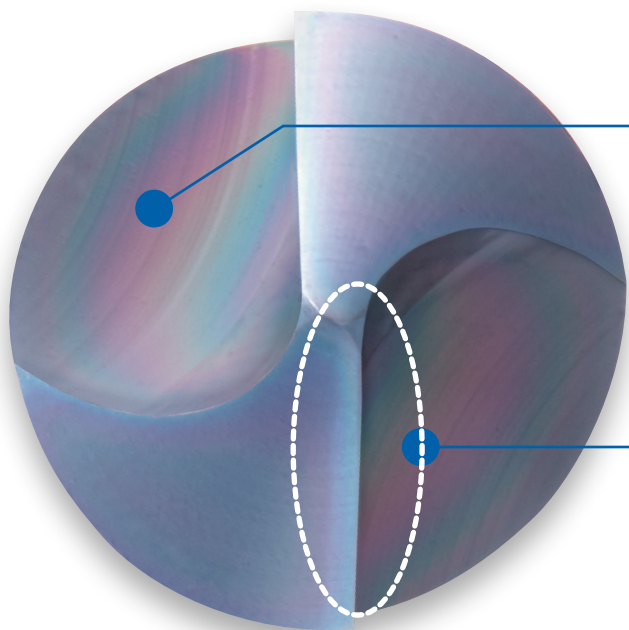
**1** Designed for a wide variety of materials

**2** New EgiAs Coating:  
Exceptional wear resistance  
& toughness

**3** Unique end cut geometry  
Stable cutting resistance



# KEY FEATURES & BENEFITS



EgiAs coating applies only to diameter sizes above 2mm.

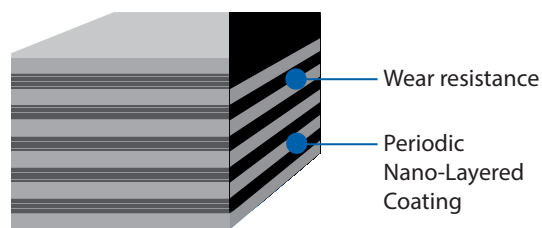
EgiAs is a registered trademark of OSG Corporation.

Cutting geometry with superior sharpness and high chipping resistance

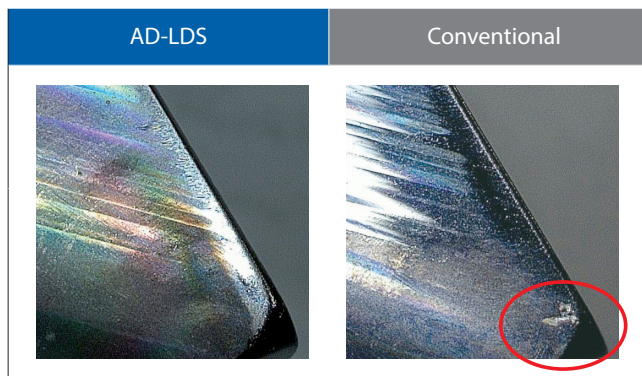
## EgiAs coating

### Exceptional Wear resistance and toughness

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



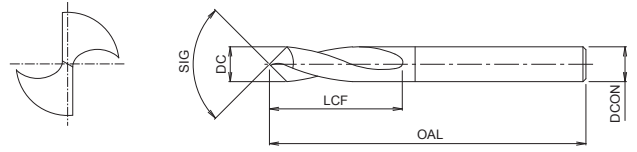
Tool	AD-LDS Ø12 X 90°
Work Material	S50C
Cutting Method	Centering
Cutting Speed	50 m/min (1.326 min <sup>-1</sup> )
Feed Rate	239 mm/min (0,18 mm/rev)
Coolant	Water Soluble
Machine	Horizontal Machining Center



# EgiAs

# AD-LDS

Drilling | Solid carbide | Centring



- Carbide drill with EgiAs coating
- Carbide starter drill
- 30 sizes

<b>P</b> ●	<b>P</b> ●	<b>P</b> ●	<b>P</b> ●	<b>M</b> ○	<b>K</b> ●	<b>K</b> ●	<b>N</b> ○	<b>N</b> ●	<b>S</b> ○	<b>S</b> ○	<b>H</b> ●	<b>H</b> ●
C < 0,2%	0,25 < C < 0,4	C ≥ 0,45%	SCM	INOX	GG	GGG	Al	AC, ADC	Ti	Ni	25-35 HRC	35-45 HRC

<b>A</b>	<b>CARBIDE</b>	<b>EgiAs</b>	<b>WXL</b>	<b>h7</b>	<b>12°</b>	<b>25°</b>	<b>60°</b>	<b>90°</b>	<b>120°</b>	<b>140°</b>
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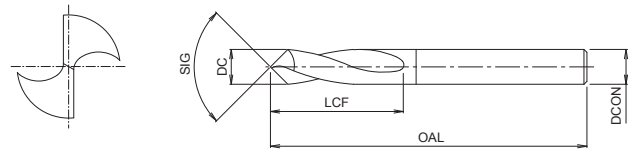
Drilling | Solid carbide

Centring

EDP	DC	SIG	LCF	OAL	DCON	Minimum drill hole	EDP	DC	SIG	LCF	OAL	DCON	Minimum drill hole
8688930	0,5	90	1	38	3	0,25							
8688963	0,5	140	1	38	3	-							
8688931	1	90	1,8	38	3	0,4							
8688964	1	140	1,8	38	3	-							
8688932	2	90	2,5	38	3	1							
8688965	2	140	2,5	38	3	-							
8688951	3	60	9	48	3	1,2							
8688933	3	90	9	48	3	1,2							
8688957	3	120	9	48	3	-							
8688966	3	140	9	48	3	-							
8688952	4	60	12	54	4	1,5							
8688934	4	90	12	54	4	1,5							
8688958	4	120	12	54	4	-							
8688967	4	140	12	54	4	-							
8688953	6	60	15	72	6	1,9							
8688935	6	90	15	72	6	1,9							
8688959	6	120	15	72	6	-							
8688968	6	140	15	72	6	-							
8688954	8	60	20	81	8	2,1							
8688936	8	90	20	81	8	2,1							
8688960	8	120	20	81	8	-							
8688969	8	140	20	81	8	-							
8688955	10	60	24	93	10	2,5							
8688937	10	90	24	93	10	2,5							
8688961	10	120	24	93	10	-							
8688970	10	140	24	93	10	-							
8688956	12	60	28	108	12	2,5							
8688938	12	90	28	108	12	2,5							
8688962	12	120	28	108	12	-							
8688971	12	140	28	108	12	-							

# AD-LS-LDS

Drilling | Solid carbide | Centring



- Carbide drill with EgiAs coating
- Carbide long shank starter drill
- 6 sizes

<b>P</b>	<b>P</b>	<b>P</b>	<b>P</b>	<b>M</b>	<b>K</b>	<b>K</b>	<b>N</b>	<b>N</b>	<b>S</b>	<b>S</b>	<b>H</b>	<b>H</b>
C < 0,2%	0,25 < C < 0,4	C ≥ 0,45%	SCM	INOX	GG	GGG	Al	AC, ADC	Ti	Ni	25-35 HRC	35-45 HRC

<b>A</b>	<b>CARBIDE</b>	<b>EgiAs</b>	<b>h7</b>	<b>12°</b>	<b>90°</b>
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EDP	DC	LCF	OAL	DCON	Minimum drill hole
8688942	3	9	75	3	1,2
8688943	4	12	100	4	1,5
8688944	6	15	150	6	1,9
8688945	8	20	150	8	2,1
8688946	10	24	200	10	2,5
8688947	12	28	200	12	2,5

EDP	DC	LCF	OAL	DCON	Minimum drill hole

# CUTTING CONDITIONS

Drilling | Solid carbide | Cutting conditions

## AD-LDS / AD-LS-LDS

### Centering

Vc	Low Carbon Steel - Mild Steel SS400 ~500N/mm <sup>2</sup>		Carbon Steel S50C 500 ~ 710N/mm <sup>2</sup>		Alloy Steel SCM 710 ~ 900N/mm <sup>2</sup>		Special Alloy Steel-Hardened SKD61 ~28HRC ~ 900N/mm <sup>2</sup>	
	63~80m/min		40~63m/min		32~50m/min		20~30m/min	
Ø	Speed (min <sup>-1</sup> )	Feed Rate (mm/rev.)	Speed (min <sup>-1</sup> )	Feed Rate (mm/rev.)	Speed (min <sup>-1</sup> )	Feed Rate (mm/rev.)	Speed (min <sup>-1</sup> )	Feed Rate (mm/rev.)
0,5	20.000	0,005 ~ 0,02	25.000	0,005 ~ 0,02	20.000	0,005 ~ 0,02	16.000	0,005 ~ 0,02
1	10.000	0,01 ~ 0,03	16.000	0,01 ~ 0,03	10.000	0,01 ~ 0,03	8.000	0,01 ~ 0,03
2	5.000	0,03 ~ 0,06	8.000	0,03 ~ 0,06	5.000	0,03 ~ 0,06	4.000	0,03 ~ 0,06
3	7.500	0,04 ~ 0,08	5.500	0,04 ~ 0,08	4.500	0,04 ~ 0,08	2.700	0,04 ~ 0,08
4	5.700	0,05 ~ 0,1	4.100	0,05 ~ 0,1	3.300	0,05 ~ 0,1	2.000	0,05 ~ 0,1
6	3.800	0,06 ~ 0,12	2.700	0,06 ~ 0,12	2.300	0,06 ~ 0,12	1.300	0,06 ~ 0,12
8	2.800	0,08 ~ 0,15	2.000	0,08 ~ 0,15	1.700	0,08 ~ 0,15	1.000	0,08 ~ 0,15
10	2.300	0,1 ~ 0,18	1.700	0,1 ~ 0,18	1.400	0,1 ~ 0,18	800	0,1 ~ 0,18
12	1.900	0,12 ~ 0,21	1.400	0,12 ~ 0,21	1.200	0,12 ~ 0,21	650	0,12 ~ 0,21

Vc	Special Alloy Steel-Hardened SKD11 ~34HRC ~ 1060N/mm <sup>2</sup>		Tool Steel		Cast Iron - Ductile cast iron FCD250-FC400 ~ 500N/mm <sup>2</sup>		Aluminium - Alloy Casting ADC - AC4D	
	16~22m/min		16~22m/min		63~100m/min		80~160m/min	
Ø	Speed (min <sup>-1</sup> )	Feed Rate (mm/rev.)	Speed (min <sup>-1</sup> )	Feed Rate (mm/rev.)	Speed (min <sup>-1</sup> )	Feed Rate (mm/rev.)	Speed (min <sup>-1</sup> )	Feed Rate (mm/rev.)
0,5	12.000	0,005 ~ 0,02	12.000	0,005 ~ 0,02	Note 2.	0,005 ~ 0,015	Note 2.	0,02 ~ 0,04
1	6.000	0,01 ~ 0,03	6.000	0,01 ~ 0,03	20.000	0,01 ~ 0,03	Note 2.	0,04 ~ 0,07
2	3.000	0,03 ~ 0,06	3.000	0,03 ~ 0,06	12.000	0,03 ~ 0,06	15.000	0,06 ~ 0,14
3	2.000	0,04 ~ 0,08	2.000	0,04 ~ 0,08	8.000	0,05 ~ 0,09	12.000	0,1 ~ 0,22
4	1.500	0,05 ~ 0,1	1.500	0,05 ~ 0,1	6.500	0,07 ~ 0,12	9.500	0,12 ~ 0,25
6	1.000	0,06 ~ 0,12	1.000	0,06 ~ 0,12	4.300	0,12 ~ 0,18	6.400	0,14 ~ 0,28
8	750	0,08 ~ 0,15	750	0,08 ~ 0,15	3.200	0,13 ~ 0,2	4.800	0,18 ~ 0,32
10	600	0,1 ~ 0,18	600	0,1 ~ 0,18	2.600	0,17 ~ 0,25	3.800	0,22 ~ 0,36
12	500	0,12 ~ 0,21	500	0,12 ~ 0,21	2.200	0,21 ~ 0,3	3.200	0,25 ~ 0,4

Note1. When using AD-LS-LDS, reduce the feed rate accordingly.

Note2. For machines that cannot achieve the speeds indicated in the table please set rotation as high as possible.

1. The indicated speeds and feeds are for drilling with [water-soluble coolant](#).
2. When using non-water-soluble coolant, reduce the drilling speed by 20%.
3. When centering on a curved or inclined surface, reduce the feed rate accordingly.
4. Centering on [Austenitic Stainless Steels](#) is not recommended. For these procedures, use the TIN-NC-LDS or the NC-LDS.

# CUTTING CONDITIONS

Drilling | Solid carbide | Cutting conditions

## AD-LDS / AD-LS-LDS

### Counter Sinking

Vc	Low Carbon Steel - Mild Steel SS400 ~500N/mm <sup>2</sup>		Carbon Steel S50C 500 ~ 710N/mm <sup>2</sup>		Alloy Steel SCM 710 ~ 900N/mm <sup>2</sup>		Special Alloy Steel-Hardened SKD61 ~28HRC ~ 900N/mm <sup>2</sup>	
	63~80m/min		40~63m/min		32~50m/min		20~30m/min	
Ø	Speed (min <sup>-1</sup> )	Feed Rate (mm/rev.)	Speed (min <sup>-1</sup> )	Feed Rate (mm/rev.)	Speed (min <sup>-1</sup> )	Feed Rate (mm/rev.)	Speed (min <sup>-1</sup> )	Feed Rate (mm/rev.)
0,5	20.000	0,005 ~ 0,05	25.000	0,005 ~ 0,05	20.000	0,005 ~ 0,05	16.000	0,005 ~ 0,05
1	10.000	0,01 ~ 0,1	16.000	0,01 ~ 0,1	10.000	0,01 ~ 0,1	8.000	0,01 ~ 0,01
2	5.000	0,02 ~ 0,18	8.000	0,02 ~ 0,18	5.000	0,02 ~ 0,18	4.000	0,02 ~ 0,18
3	7.500	0,04 ~ 0,24	5.500	0,04 ~ 0,24	4.500	0,04 ~ 0,24	2.700	0,04 ~ 0,24
4	5.700	0,04 ~ 0,24	4.100	0,04 ~ 0,24	3.300	0,04 ~ 0,24	2.000	0,04 ~ 0,24
6	3.800	0,06 ~ 0,36	2.700	0,06 ~ 0,36	2.300	0,06 ~ 0,36	1.300	0,06 ~ 0,36
8	2.800	0,08 ~ 0,38	2.000	0,08 ~ 0,38	1.700	0,08 ~ 0,38	1.000	0,08 ~ 0,38
10	2.300	0,1 ~ 0,4	1.700	0,1 ~ 0,4	1.400	0,1 ~ 0,4	800	0,1 ~ 0,4
12	1.900	0,12 ~ 0,42	1.400	0,12 ~ 0,42	1.200	0,12 ~ 0,42	650	0,12 ~ 0,42

Vc	Special Alloy Steel-Hardened SKD11 ~34HRC ~ 1060N/mm <sup>2</sup>		Quenched and Tempered Steel 45~50HRC		Cast Iron - Ductile cast iron FCD250-FC400 ~ 500N/mm <sup>2</sup>		Aluminium - Alloy Casting ADC - AC4D	
	20~30m/min		20~30m/min		63~100m/min		80~160m/min	
Ø	Speed (min <sup>-1</sup> )	Feed Rate (mm/rev.)	Speed (min <sup>-1</sup> )	Feed Rate (mm/rev.)	Speed (min <sup>-1</sup> )	Feed Rate (mm/rev.)	Speed (min <sup>-1</sup> )	Feed Rate (mm/rev.)
0,5	16.000	0,005 ~ 0,05	16.000	0,005 ~ 0,02	Note 2.	0,005 ~ 0,05	Note 2.	0,005 ~ 0,05
1	8.000	0,01 ~ 0,1	8.000	0,01 ~ 0,03	20.000	0,01 ~ 0,1	Note 2.	0,01 ~ 0,1
2	4.000	0,02 ~ 0,18	4.000	0,03 ~ 0,06	12.000	0,02 ~ 0,18	15.000	0,02 ~ 0,18
3	2.700	0,04 ~ 0,24	2.700	0,04 ~ 0,08	8.000	0,04 ~ 0,24	12.000	0,04 ~ 0,24
4	2.000	0,04 ~ 0,24	2.000	0,05 ~ 0,1	6.500	0,04 ~ 0,24	9.500	0,04 ~ 0,24
6	1.300	0,06 ~ 0,36	1.300	0,06 ~ 0,12	4.300	0,06 ~ 0,36	6.400	0,06 ~ 0,36
8	1.000	0,08 ~ 0,38	1.000	0,08 ~ 0,15	3.200	0,08 ~ 0,38	4.800	0,08 ~ 0,38
10	800	0,1 ~ 0,4	800	0,1 ~ 0,18	2.600	0,1 ~ 0,4	3.800	0,1 ~ 0,4
12	650	0,12 ~ 0,42	650	0,12 ~ 0,21	2.200	0,12 ~ 0,42	3.200	0,12 ~ 0,42

Note1 ) When using AD-LS-LDS, reduce the feed rate accordingly.

Note2 ) For machines that cannot achieve the speeds indicated in the table please set rotation as high as possible.

1. The indicated speeds and feeds are for drilling with water-soluble coolant.
2. When using non-water-soluble coolant, reduce the drilling speed by 20%.
3. When counter sinking on a curved or inclined surface, reduce the feed rate accordingly.
4. For high-speed machining, double the median value of the above cutting condition to use as upper limit.



*shaping your dreams*

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