

## DIAMOND the solution for graphite machining

The DIAMOND coating protects the cutting edge of the end mill to such an extent that tool life is 8 to 10 times longer than that of an end mill with conventional coating.

In addition to the standard DIAMOND range we also supply DIAMOND coated special (custom) end mills

### MINI DIAMOND

Shank description:

- L = Long
- XL = Extra long
- SL = Super long
- KXL = Tapered reduction extra long
- KSL = Tapered reduction super long

### DIAMOND tools

Shank description:

- S = Normal length
- L = Long
- V = Normal length with OD reduction
- VL = Long with OD reduction
- VSL = Super long with OD reduction
- KL = Tapered reduction long
- KSL = Tapered reduction super long

MINI DIAMOND		DIAMOND TOOLS	
Tool designation	Page	Tool designation	Page
JM600.....	95	JD620 .....	99
JM610.....	96	JD630 .....	100
JM650.....	97	JD640 .....	101
JM655.....	98	JD660 (L-V-VL).....	102
		JD660 KL .....	104
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		JD670 .....	105

## MINI DIAMOND

Seco Material group No.	Length Type	Slotting		Side milling		Copy milling	
		$a_e$	$a_p$	$a_e$	$a_p$	$a_e$	$a_p$
Graphite	<b>S</b>	$1,00 \times D_c$	$0,50 \times D_c$	$0,50 \times D_c$	$0,50 \times D_c$	$0,02 \times D_c$	$0,02 \times D_c$
	<b>L</b>	$1,00 \times D_c$	$0,50 \times D_c$	$0,50 \times D_c$	$0,50 \times D_c$	$0,02 \times D_c$	$0,02 \times D_c$
	<b>XL</b>	$1,00 \times D_c$	$0,15 \times D_c$	$0,30 \times D_c$	$0,50 \times D_c$	$0,02 \times D_c$	$0,02 \times D_c$
	<b>SL</b>	$1,00 \times D_c$	$0,15 \times D_c$	$0,30 \times D_c$	$0,50 \times D_c$	$0,02 \times D_c$	$0,02 \times D_c$
	<b>KXL</b>	$1,00 \times D_c$	$0,10 \times D_c$	$0,20 \times D_c$	$0,10 \times D_c$	$0,02 \times D_c$	$0,02 \times D_c$
	<b>KSL</b>	$1,00 \times D_c$	$0,10 \times D_c$	$0,20 \times D_c$	$0,10 \times D_c$	$0,02 \times D_c$	$0,02 \times D_c$
	<b>Diameter</b>	$V_c$	$f_z$	$V_c$	$f_z$	$V_c$	$f_z$
	<b>0,2</b>	Max	0,002	Max	0,003	Max	0,004
	<b>0,4</b>	Max	0,004	Max	0,005	Max	0,006
	<b>0,5</b>	Max	0,005	Max	0,007	Max	0,008
	<b>0,6</b>	Max	0,006	Max	0,008	Max	0,010
	<b>0,8</b>	Max	0,008	Max	0,010	Max	0,012
	<b>1,0</b>	Max	0,010	Max	0,012	Max	0,015
	<b>1,2</b>	Max	0,012	Max	0,015	Max	0,018
<b>1,5</b>	Max	0,014	Max	0,018	Max	0,020	
<b>2,0</b>	Max	0,016	Max	0,020	Max	0,025	

## DIAMOND TOOLS

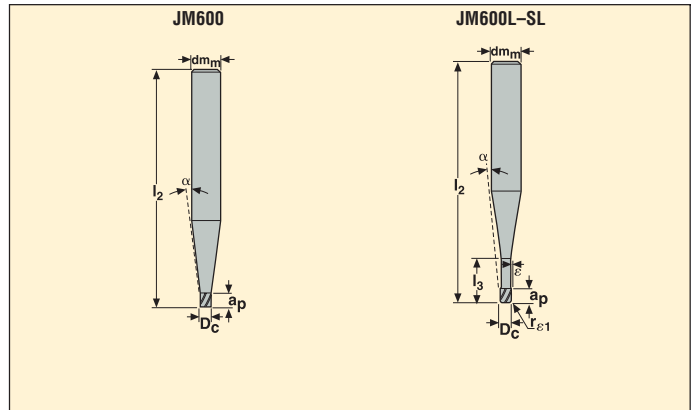
Seco Material group No.	Length Type	Slotting		Side milling		Copy milling	
		$a_e$	$a_p$	$a_e$	$a_p$	$a_e$	$a_p$
Graphite	<b>S</b>	$1,00 \times D_c$	$0,50 \times D_c$	$0,50 \times D_c$	$0,50 \times D_c$	$0,02 \times D_c$	$0,02 \times D_c$
	<b>L</b>	$1,00 \times D_c$	$0,50 \times D_c$	$0,50 \times D_c$	$0,50 \times D_c$	$0,02 \times D_c$	$0,02 \times D_c$
	<b>V</b>	$1,00 \times D_c$	$0,50 \times D_c$	$0,50 \times D_c$	$0,50 \times D_c$	$0,02 \times D_c$	$0,02 \times D_c$
	<b>VL</b>	$1,00 \times D_c$	$0,50 \times D_c$	$0,50 \times D_c$	$0,50 \times D_c$	$0,02 \times D_c$	$0,02 \times D_c$
	<b>VSL</b>	$1,00 \times D_c$	$0,10 \times D_c$	$0,30 \times D_c$	$0,30 \times D_c$	$0,02 \times D_c$	$0,02 \times D_c$
	<b>KL</b>	$1,00 \times D_c$	$0,10 \times D_c$	$0,30 \times D_c$	$0,30 \times D_c$	$0,02 \times D_c$	$0,02 \times D_c$
	<b>KSL</b>	$1,00 \times D_c$	$0,10 \times D_c$	$0,30 \times D_c$	$0,30 \times D_c$	$0,02 \times D_c$	$0,02 \times D_c$
	<b>Diameter</b>	$V_c^*$	$f_z$	$V_c^*$	$f_z$	$V_c^*$	$f_z$
	<b>3</b>	600	0,024	600	0,025	600	0,035
	<b>4</b>	600	0,032	600	0,040	600	0,050
	<b>5</b>	600	0,040	600	0,050	600	0,060
	<b>6</b>	600	0,048	600	0,065	600	0,070
	<b>8</b>	600	0,064	600	0,080	600	0,085
	<b>10</b>	600	0,080	600	0,100	600	0,110
<b>12</b>	600	0,100	600	0,120	600	0,130	

\* Or max rpm/min i n machine.

## Solid carbide sharp or corner radius cutter



- Tolerances
- Run-out = 0.005
- $dm_m = h5$
- $D_c = -0.01/-0.02$
- $r_{\epsilon 1} = +/-0.02$



Type	Part No.	Dimensions in mm							$\alpha^\circ$	$Z_n$
		$D_c$	$dm_m$	$l_2$	$l_3$	$a_p$	$\epsilon$	$r_{\epsilon 1}$		
<b>JM600-DIAMOND</b>	600002-DIAMOND	0,2	3	40	—	0,3	—	—	13°30'	2
	600003-DIAMOND	0,3	3	40	—	0,45	—	—	13°	2
	600004-DIAMOND	0,4	3	40	—	0,6	—	—	12°15'	2
	600L005-DIAMOND	0,5	3	40	2,5	0,7	0,025	0,05	9°15'	2
<b>13</b>	600XL005-DIAMOND	0,5	3	40	4,0	0,7	0,025	0,05	7°45'	2
	600L006-DIAMOND	0,6	3	40	3,0	0,9	0,025	0,05	8°15'	2
	600XL006-DIAMOND	0,6	3	40	5,0	0,9	0,025	0,05	6°45'	2
	600L008-DIAMOND	0,8	3	40	4,0	1,2	0,025	0,05	7°	2
<b>15</b>	600XL008-DIAMOND	0,8	3	40	7,0	1,2	0,025	0,05	5°15'	2
	600L010-DIAMOND	1	3	40	5,0	1,5	0,025	0,10	5°45'	2
	600XL010-DIAMOND	1	3	40	8,5	1,5	0,025	0,10	4°15'	2
	600SL010-DIAMOND	1	3	40	12	1,5	0,025	0,10	3°30'	2
<b>DIAMOND</b>	600L012-DIAMOND	1,2	3	50	6,0	1,8	0,025	0,10	4°45'	2
	600XL012-DIAMOND	1,2	3	50	10,0	1,8	0,025	0,10	3°30'	2
	600L015-DIAMOND	1,5	3	50	7,5	2,2	0,05	0,15	3°30'	2
	600XL015-DIAMOND	1,5	3	50	12,0	2,2	0,05	0,15	2°45'	2
<b>22</b>	600SL015-DIAMOND	1,5	3	50	18	2,2	0,05	0,15	2°	2
	600L020-DIAMOND	2	3	60	10,0	2,2	0,05	0,15	5°15'	2
	600XL020-DIAMOND	2	3	60	16,0	2,2	0,05	0,15	1°30'	2
	600SL020-DIAMOND	2	3	60	25	2,2	0,05	0,15	1°	2
<b>23</b>	600SL021-DIAMOND	2	3	70	30	5	0,05	0,50	1°	2
<b>32</b>										
<b>44</b>										
<b>47</b>										

For cutting data see page 94.

Picture key symbols see pages 14-15.

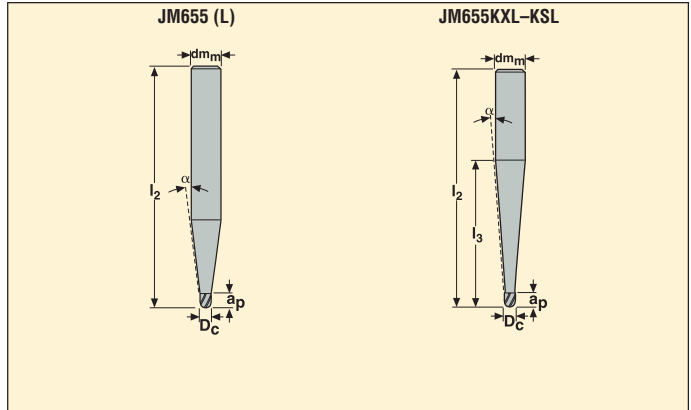




## Solid carbide radius cutter



- Tolerances
- Run-out = 0.01
- $dm_m = h5$
- $D_c = 0.01/-0.05$
- Radius =  $\pm 0.02$



Type	Part No.	Dimensions in mm					$\alpha^\circ$	$z_n$
		$D_c$	$dm_m$	$l_2$	$l_3$	$a_p$		
3	655010-DIAMOND	1,0	3	40	—	2,0	8°30'	2
	655L010-DIAMOND	1,0	3	40	—	5,0	6°	2
	655KXL010-DIAMOND	1,0	3	60	30	2,0	2°	2
13	655KSL010-DIAMOND	1,0	3	100	70	2,0	1°	2
	655015-DIAMOND	1,5	3	40	—	3,0	6°15'	2
	655L015-DIAMOND	1,5	3	40	—	6,0	4°30'	2
15	655KXL015-DIAMOND	1,5	3	60	30	3,0	1°30'	2
	655KSL015-DIAMOND	1,5	3	100	50	3,0	45'	2
	655020-DIAMOND	2,0	3	40	—	4,0	4°15'	2
15	655L020-DIAMOND	2,0	3	40	—	9,0	2°30'	2
	655KXL020-DIAMOND	2,0	3	60	30	4,0	1°	2
	655KSL020-DIAMOND	2,0	4	100	70	4,0	1°	2
25								
35								
43								
52								

For cutting data see page 94.

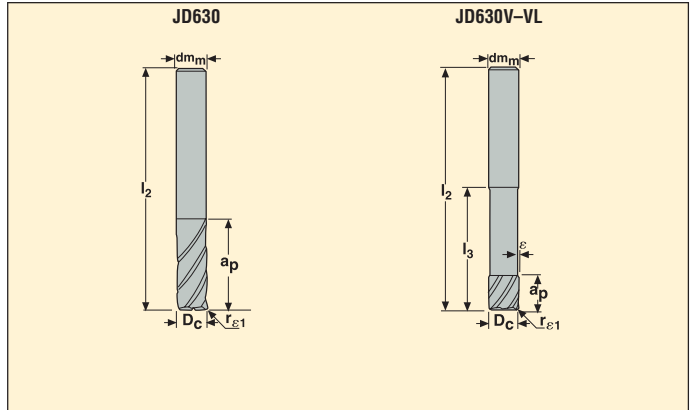
Picture key symbols see pages 14-15.



## Solid carbide corner radius cutter



- Tolerances
- Run-out = 0.01
- $dm_m = h5$
- $D_c = -0.02/-0.04$
- $r_{\epsilon 1} = +/-0.05$



Type	Part No.	Dimensions in mm							$Z_n$
		$D_c$	$dm_m$	$l_2$	$l_3$	$a_p$	$\epsilon$	$r_{\epsilon 1}$	
4	630030R015-DIAMOND	3	3	40	—	12	—	0,15	3
	630V030R030-DIAMOND	3	3	40	15	5	0,05	0,3	3
	630VL030R020-DIAMOND	3	3	60	25	5	0,05	0,2	3
13	630040R020-DIAMOND	4	4	50	—	14	—	0,20	3
	630V040R030-DIAMOND	4	4	50	20	5	0,05	0,3	3
	630VL040R020-DIAMOND	4	4	60	30	5	0,05	0,2	3
15	630050R030-DIAMOND	5	5	50	—	16	—	0,30	3
	630V050R030-DIAMOND	5	5	50	20	6	0,05	0,3	3
	630VL050R020-DIAMOND	5	5	70	40	6	0,05	0,2	3
23	630060R030-DIAMOND	6	6	65	—	20	—	0,30	3
	630VL060R050-DIAMOND	6	6	100	60	10	0,05	0,5	3
	630080R050-DIAMOND	8	8	65	—	20	—	0,50	3
37	630VL080R100-DIAMOND	8	8	100	60	10	0,10	1,0	3
44									
54									

For cutting data see page 94.

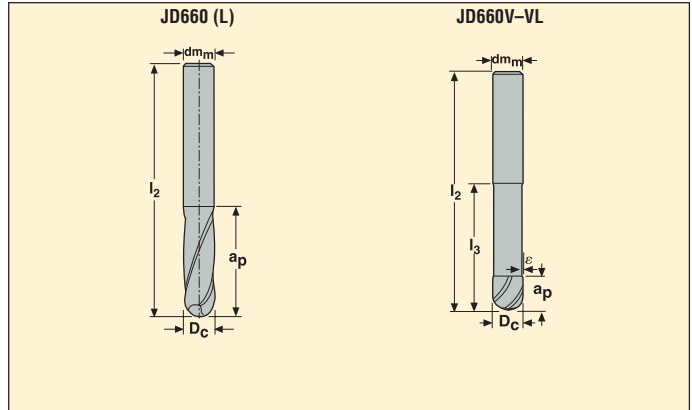
Picture key symbols see pages 14-15.



## Solid carbide radius cutter



- Tolerances
- Run-out = 0.01
- $dm_m = h5$
- $D_c = -0.02/-0.04$
- Radius =  $\pm 0.01$



Type	Part No.	Dimensions in mm						$Z_n$
		$D_c$	$dm_m$	$l_2$	$l_3$	$a_p$	$\epsilon$	
3	660V030-DIAMOND	3	3	40	15	6	0,05	2
	660VL030-DIAMOND	3	3	60	30	6	0,05	2
	660030-DIAMOND	3	3	40	-	8	-	2
13	660L030-DIAMOND	3	3	60	-	20	-	2
	660V040-DIAMOND	4	4	40	15	6	0,05	2
	660VL040-DIAMOND	4	4	60	30	6	0,05	2
	660040-DIAMOND	4	4	50	-	14	-	2
	660L040-DIAMOND	4	4	60	-	30	-	2
	660V050-DIAMOND	5	5	40	15	8	0,05	2
15	660VL050-DIAMOND	5	5	70	40	8	0,05	2
	660050-DIAMOND	5	5	50	-	20	-	2
	660L050-DIAMOND	5	5	70	-	35	-	2
	660V060-DIAMOND	6	6	65	35	10	0,05	2
	660VL060-DIAMOND	6	6	100	70	10	0,1	2
	660060-DIAMOND	6	6	65	-	20	-	2
25	660L060-DIAMOND	6	6	100	-	40	-	2
	660V080-DIAMOND	8	8	65	35	10	0,1	2
	660VL080-DIAMOND	8	8	100	70	10	0,1	2
	660080-DIAMOND	8	8	65	-	20	-	2
	660L080-DIAMOND	8	8	100	-	40	-	2
	660V100-DIAMOND	10	10	75	40	10	0,1	2
35	660VL100-DIAMOND	10	10	100	70	10	0,1	2
	660100-DIAMOND	10	10	75	-	25	-	2
	660L100-DIAMOND	10	10	100	-	40	-	2
	660V120-DIAMOND	12	12	75	40	10	0,1	2
	660VL120-DIAMOND	12	12	100	70	10	0,1	2
43								
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For cutting data see page 94.

Picture key symbols see pages 14-15.





