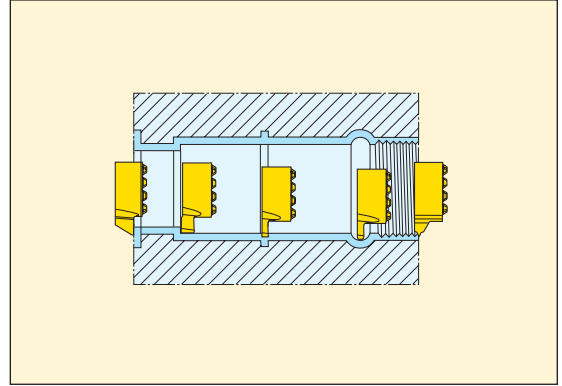
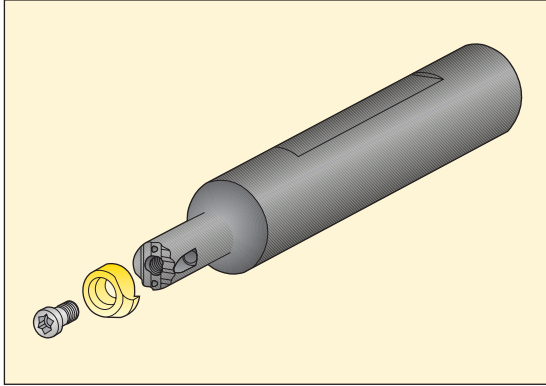




Mini Shaft	Page
General information	359
Code keys	360-362
Cutting data	363

Seco-Carboloy's Mini Shaft consists of holders and inserts for internal turning, grooving, precision grooving, profiling, backfacing and threading. To be used in holes as small as .315" (Mini Shaft 08) or .433" (Mini Shaft 11).



Seco-Carboloy's Mini Shaft features a new type of joint, with a double serration, which makes the connection both stable and secure.

It also gives very good repeatability (± 0.0008 ”).

All toolholders are used for both R and L -handed inserts, and have 'through coolant' possibility.

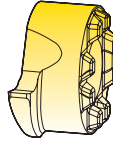
Toolholders



A	10	G	-	S	G	X	N	08	-	078	-	R
1	2	3		4	5	6	7	8		9		10

<p>1. Toolholder type</p> <p>A = Steel with coolant passage E = Solid carbide with brazed cutting head and coolant passage</p>	<p>2. Shank diameter</p> <p>04 = .250 in 05 = .312 in 10 = .625 in</p>	<p>3. Tool length</p> <p>G = 3.58 in H = 3.98 in</p>
<p>4. Insert clamping</p> <p>S = Screw</p>	<p>5. Toolholder setting angle</p> <p>G = 0° F = 90°</p>	<p>6. Max grooving/turning depth</p> <p>X = Special</p>
<p>7. Version</p> <p>N = Neutral version</p>	<p>8. Insert size</p> <p>08 = Insert size</p>	<p>9. Extension length</p> <p>078 = .730 in 098 = .890 in</p>
<p>10. Manufacturers option</p> <p>R = Round shank with no flats</p>		

Inserts, turning and grooving



L	C	E	X	08	04	02	-	0150	R	-	FG
1	2	3	4	5	6	7		8	9		10

1. Shape

L = Insert Shape

2. Front clearance angle

C = 7°

4. Insert type

X = Special

7. Corner Radius

8. Insert width

0075 = .029 in
0080 = .031 in
0090 = .035 in
etc.

3. Tolerances

Tol. class	Tolerance ± in		
	a _p	d	r _ε
E	.001	.001	.001

5. Insert size

6. Thickness

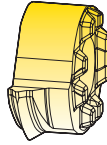
04 = .155 in
05 = .191 in

9. Version

10. Insert type code

FG = For locking
R = Full radius
etc.

Threading inserts



L	C	E	X	11	05	-	1.5	ISO	R
1	2	3	4	5	6		7	8	9

1. Shape

L = Insert Shape

2. Front clearance angle

$C = 7^\circ$

4. Insert type

X = Special

7. Pitch

Full profile: (mm)	1.0	1.5	2.0	2.5	3.0
Part profile: (mm)	A = 0,5–0,75 (in) 48-16				
	AG = 0,75–1,25 48-8				
	G = 1,25–1,75 14-8				
Full profile: (TPI)	14, 16, 19, 20, 24, 27, 32				

3. Tolerances

Tol. class	Tolerance \pm in		
	a_p	d	r_E
E	.001	.001	.001

5. Insert size

6. Thickness

04 = .155 in
05 = .191 in

8. Thread profile

60 = V profile 60°
ISO = ISO, metric
W = Whitworth, BSW
TR = Trapezoidal, DIN 103
UN = Am. UN
NPT = Am. NPT

9. Version

R L

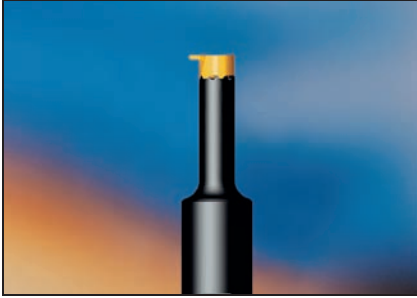
Tables below show recommended start values for turning and grooving applications. For cutting data, number of passes and infeed depth on threading, please see page 388 and following pages.

Use the tables beginning on page 584 to classify the workpiece material into a Seco-Carboly material group.

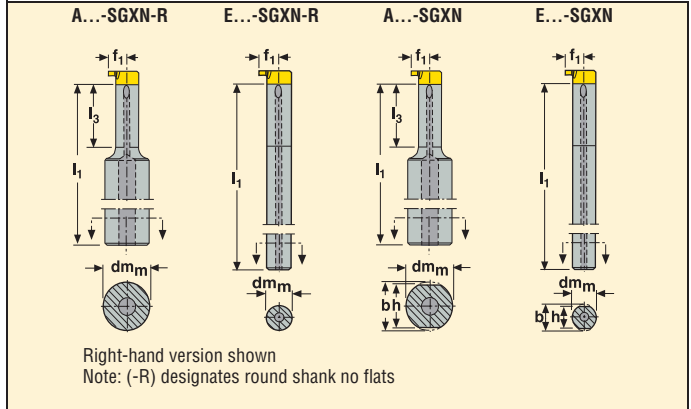
Cutting data/Start values for Seco MiniShaft

Seco material group No.	Cutting speed v_c (ft/min) CP500	Turning f in/rev	Grooving f in/rev
1	445	.003	.002
2	410	.003	.002
3	345	.002	.001
4	295	.002	.001
5	260	.002	.001
6	245	.002	.001
7	130	.001	.000
8	330	.002	.001
9	260	.002	.001
10	230	.002	.000
11	165	.002	.000
12	330	.003	.001
13	330	.002	.001
14	280	.002	.001
15	245	.002	.001
16	1230	.004	.002
17	1000	.004	.002
20	100	.001	.000
21	100	.001	.000
22	150	.001	.001

Toolholders for inserts LCEX



• Inserts, please see page 366-373



Application		Part No.	Dimensions in inch							lbs	
			dm	h	b	l ₁	f ₁	l ₃	D _m min		
	08	A10G-SGXN08-078	.625	.585	.605	3.52	.189	.730	.310	.11	LCEX08..
		A10G-SGXN08-078-R	.625	-	-	3.52	.189	.730	.310	.11	LCEX08..
	11	A10H-SGXN11-098	.625	.585	.605	3.88	.264	.890	.430	.22	LCEX11..
		A10H-SGXN11-098-R	.625	-	-	3.88	.264	.890	.430	.22	LCEX11..
	08	E04G-SGXN08	.250	.210	.230	3.5	.189	-	.310	.07	LCEX08..
		E04G-SGXN08-R	.250	-	-	3.5	.189	-	.310	.07	LCEX08..
	11	E05H-SGXN11	.312	.272	.292	4.0	.264	-	.430	.11	LCEX11..
		E05H-SGXN11-R	.312	-	-	4.0	.264	-	.430	.11	LCEX11..

Spare Parts, Parts included in delivery

Toolholder/ Insert dimension	Screw/ Key	
A10G..	C02506-T08P	T08P-2
A10H..	C03509-T10P	T10P-2
E04G..	C02506-T08P	T08P-2
E05H..	C03509-T10P	T10P-2

Please check availability in current price and stock-list



Turning

Tolerances:
 $a_p = \pm .0008$
 $f_1 = \pm .0004$
 $l_1 = \pm .0008$
 $r_e = \pm .0008$

Size	Dimensions in inch	
	l	
08	.306	
11	.421	

Inserts	For lock-ring	Dimensions in inch						Part No.	Grades				
		a_p	a_r	f_1	l_1	r_e	κ°		Coated				
									CP500				
	-	.079	.067	.190	.137	.004	-	LCEX 080401-0200R	■				
	-	.079	.067	.190	.137	.004	-	080401-0200L	■				
	-	.060	.067	.190	.137	.008	-	LCEX 080402-0150R	■				
	-	.060	.067	.190	.137	.008	-	080402-0150L	■				
	-	.079	.107	.266	.165	.004	-	LCEX 110501-0200R	■				
	-	.079	.107	.266	.165	.004	-	110501-0200L	■				
	-	.060	.107	.266	.165	.008	-	LCEX 110502-0150R	■				
	-	.060	.107	.266	.165	.008	-	110502-0150L	■				

Profiling

Tolerances:
 $f_1 = \pm .0004$
 $l_1 = \pm .0008$
 $r_e = \pm .0008$

Size	Dimensions in inch	
	l	
08	.306	
11	.421	

Inserts	For lock-ring	Dimensions in inch						Part No.	Grades				
		a_p	a_r	f_1	l_1	r_e	κ°		Coated				
									CP500				
	-	-	-	.188	.140	.008	18	LCEX 080402-0250R-L18	■				
	-	-	-	.188	.140	.008	18	080402-0250L-R18	■				
	-	-	-	.188	.136	.008	47	LCEX 080402-0250R-L47	■				
	-	-	-	.188	.136	.008	47	080402-0250L-R47	■				
	-	-	-	.264	.167	.008	18	LCEX 110502-0270R-L18	■				
	-	-	-	.264	.167	.008	18	110502-0270L-R18	■				
	-	-	-	.264	.163	.008	47	LCEX 110502-0250R-L47	■				
	-	-	-	.264	.163	.008	47	110502-0250L-R47	■				

■ Stock standard
 Subject to change refer to current price and stock-list

Back facing

Tolerances:
 $f_1 = \pm .0004$
 $l_1 = \pm .0008$
 $r_e = \pm .0008$

Size	Dimensions in inch	
	l	
08	.306	
11	.421	

Inserts	For lock-ring	Dimensions in inch						Part No.	Grades					
		a_p	a_r	f_1	l_1	r_e	κ°		Coated					
									CP500					
	-	-	-	.188	.030	.008	30	LCEX	080402-0250R-R30	■				
	-	-	-	.188	.030	.008	30		080402-0250L-L30	■				
	-	-	-	.264	.049	.008	30	LCEX	110502-0270R-R30	■				
	-	-	-	.264	.049	.008	30		110502-0270L-L30	■				

Chamfering

Tolerances:
 $f_1 = \pm .0004$
 $l_1 = \pm .002$
 $r_e = \pm .0008$

Size	Dimensions in inch	
	l	
08	.306	
11	.421	

Inserts	For lock-ring	Dimensions in inch						Part No.	Grades					
		a_p	a_r	f_1	l_1	r_e	κ°		Coated					
									CP500					
	-	-	-	.188	.067	.008	45	LCEX	080402-0310R-N45	■				
	-	-	-	.188	.067	.008	45		080402-0310L-N45	■				
	-	-	-	.264	.087	.008	45	LCEX	110502-0350R-N45	■				
	-	-	-	.264	.087	.008	45		110502-0350L-N45	■				

■ Stock standard
 Subject to change refer to current price and stock-list

Lock ring

Tolerances:
 $a_p = \pm .0008$
 $f_1 = \pm .0004$
 $l_1 = \pm .0008$
 $r_e = \pm .0008$

Size	Dimensions in inch	
	l	
08	.306	
11	.421	

Inserts	For lock-ring	Dimensions in inch						Part No.	Grades					
		a _p	a _r	f ₁	l ₁	r _e	κ°		Coated					
									CP500					
	.028	.030	.067	.188	.130	.000	-	LCEX	080400-0075R-FG	■				
	.028	.030	.067	.188	.130	.000	-		080400-0075L-FG	■				
	.031	.033	.067	.189	.130	.000	-	LCEX	080400-0085R-FG	■				
	.031	.033	.067	.189	.130	.000	-		080400-0085L-FG	■				
	.035	.037	.067	.189	.130	.000	-	LCEX	080400-0095R-FG	■				
	.035	.037	.067	.189	.130	.000	-		080400-0095L-FG	■				
	.039	.045	.067	.188	.130	.000	-	LCEX	080400-0115R-FG	■				
	.039	.045	.067	.188	.130	.000	-		080400-0115L-FG	■				
	.047	.053	.067	.188	.130	.000	-	LCEX	080400-0135R-FG	■				
	.047	.053	.067	.188	.130	.000	-		080400-0135L-FG	■				
	.059	.065	.067	.188	.130	.004	-	LCEX	080401-0165R-FG	■				
	.059	.065	.067	.188	.130	.004	-		080401-0165L-FG	■				
	.028	.030	.106	.264	.157	.000	-	LCEX	110500-0075R-FG	■				
	.028	.030	.106	.264	.157	.000	-		110500-0075L-FG	■				
	.031	.033	.106	.264	.157	.000	-	LCEX	110500-0085R-FG	■				
	.031	.033	.106	.264	.157	.000	-		110500-0085L-FG	■				
	.035	.037	.106	.264	.157	.000	-	LCEX	110500-0095R-FG	■				
	.035	.037	.106	.264	.157	.000	-		110500-0095L-FG	■				
	.039	.045	.106	.264	.157	.000	-	LCEX	110500-0115R-FG	■				
	.039	.045	.106	.264	.157	.000	-		110500-0115L-FG	■				
.047	.053	.106	.264	.157	.000	-	LCEX	110500-0135R-FG	■					
.047	.053	.106	.264	.157	.000	-		110500-0135L-FG	■					
.059	.065	.106	.264	.157	.004	-	LCEX	110501-0165R-FG	■					
.059	.065	.106	.264	.157	.004	-		110501-0165L-FG	■					

■ Stock standard
 Subject to change refer to current price and stock-list

Threading – Partial profile 60°

Tolerances:
 $f_1 = \pm .0004$
 $l_1 = \pm .002$

Size	Dimensions in inch		
	f_1	l	l_1
08	.188	.306	.128
11	.264	.421	.155

Inserts	Pitch		Dimensions in inch		Part No.	Grades					
	mm	TPI	t	r_e		Coated					
						CP500					
	0.5-1.5	48-16	.019	.001	LCEX 0804-A60R	■					
	0.5-1.5	48-16	.019	.001	0804-A60L	■					
	0.5-3.0	48-8	.029	.003	0804-AG60R	■					
	0.5-3.0	48-8	.029	.003	0804-AG60L	■					
	1.75-3.0	14-8	.039	.005	0804-G60R	■					
	1.75-3.0	14-8	.039	.005	0804-G60L	■					
	0.5-1.5	48-16	.019	.001	LCEX 1105-A60R	■					
	0.5-1.5	48-16	.019	.001	1105-A60L	■					
	0.5-3.0	48-8	.029	.003	1105-AG60R	■					
	0.5-3.0	48-8	.029	.003	1105-AG60L	■					
	1.75-3.0	14-8	.039	.005	1105-G60R	■					
	1.75-3.0	14-8	.039	.005	1105-G60L	■					

Threading – ISO Metric

Tolerances:
 $f_1 = \pm .0004$
 $l_1 = \pm .002$

Size	Dimensions in inch		
	f_1	l	l_1
11	.264	.421	.155

Inserts	Pitch		Dimensions in inch		Part No.	Grades				
	mm	TPI	t	r_e		Coated				
						CP500				
	1.0	-	.024	.003	LCEX 1105-1.0ISOR	■				
	1.0	-	.024	.003	1105-1.0ISOL	■				
	1.5	-	.031	.005	1105-1.5ISOR	■				
	1.5	-	.031	.005	1105-1.5ISOL	■				
	2.0	-	.043	.007	1105-2.0ISOR	■				
	2.0	-	.043	.007	1105-2.0ISOL	■				
	2.5	-	.053	.007	1105-2.5ISOR	■				
	2.5	-	.053	.007	1105-2.5ISOL	■				
	3.0	-	.063	.008	1105-3.0ISOR	■				
	3.0	-	.063	.008	1105-3.0ISOL	■				

■ Stock standard
 Subject to change refer to current price and stock-list

