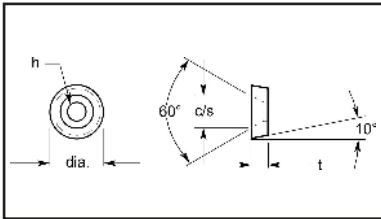


Round Positive

TURNING

Round Positive With Hole & Countersink

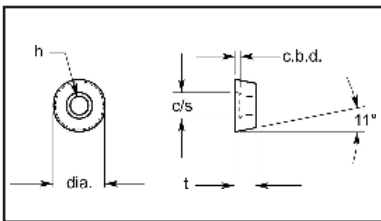


Part No.	Dimensional Specifications				
	t	dia.	h	c/s	a
RPRW43-60	.198/.206	.514/.520	.200/.206	.275/.281	10°

MILLING

GROOVING

Utility Round Positive With ISO Style Hole

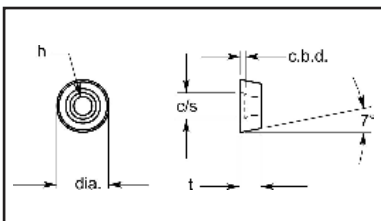


Part No.	Dimensional Specifications				
	t	dia.	h	c/s	c.b.d
RPSW1204MO	.198/.206	.469/.475	.170/.176	.233/.239	.022/.028
RPSW1605MO	.229/.237	.627/.633	.214/.220	.292/.298	.022/.028

DRILLING

THREADING

Round Positive With Chipbreaker and ISO Hole

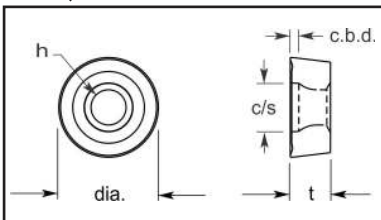


Part No.	Dimensional Specifications				
	t	dia.	h	c/s	c.b.d.
RCRX1204MOF1	.191/.197	.486/.492	.170/.176	.233/.239	.037/.043

BRAZED  
BLANKS



Round Positive With HP Chipbreaker

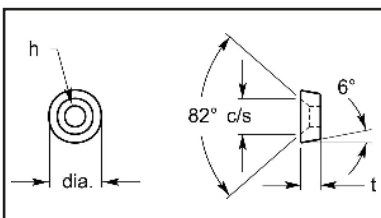


Part No.	Dimensional Specifications				
	t	dia.	h	c/s	c.b.d
RCRT1204MOHP	.194/.200	.486/.492	.170/.176	.233/.239	.032/.038

RECTANGLES  
STB

WOOD  
WORKING

Round Positive With Hole

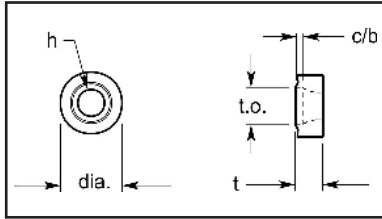


Part No.	Dimensional Specifications			
	t	dia.	h	c/s
URD12P	.198/.206	.764/.770	.201/.207	.425/.431

OIL & GAS  
MINING

MISC.  
SHAPES

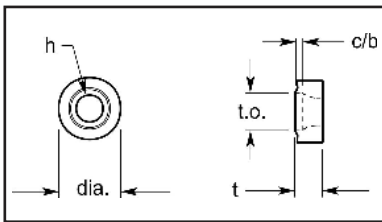
## Round Negative F5 Chipbreaker With ISO Style Hole



- to be ground positive

Part No.	Dimensional Specifications				
	t	dia.	h	t.o.	c/b
RNRT32.5F5	.169/.175	.389/.395	.170/.176	.233/.239	.040/.046
RNRT32F5	.138/.144	.389/.395	.170/.176	.233/.239	.040/.046
RNRT43F5	.204/.210	.514/.520	.213/.219	.292/.298	.037/.043
RNRT53F5	.205/.211	.639/.645	.213/.219	.292/.298	.040
RNRT54F5	.267/.273	.639/.645	.213/.219	.292/.298	.040
RNRT21.51F5	.109/.115	.262/.268	.107/.113	.143/.149	.029/.035
RNRT21.5F5	.109/.115	.262/.268	.107/.113	.143/.149	.029/.035
RNRT22F5	.141/.147	.262/.268	.107/.113	.143/.149	.029/.035
RNRT32.5F5	.169/.175	.389/.395	.170/.176	.233/.239	.040/.046
RNRT32F5	.138/.144	.389/.395	.170/.176	.233/.239	.040/.046
RNRT43F5	.204/.210	.514/.520	.213/.219	.292/.298	.037/.043
RNRT53F5	.205/.211	.639/.645	.213/.219	.292/.298	.040
RNRT54F5	.267/.273	.639/.645	.213/.219	.292/.298	.040

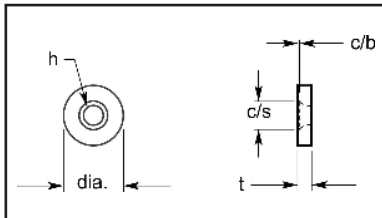
## Round Negative Chipbreaker With ISO Style Hole



- to be ground positive

Part No.	Dimensional Specifications				
	t	dia.	h	t.o.	c/b
RNRT10T3MO	.169/.175	.407/.413	.170/.176	.233/.239	.040/.046

## Round Negative With ISO Style Hole

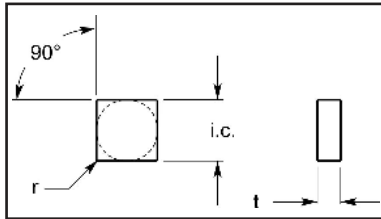


- to be ground positive

Part No.	Dimensional Specifications				
	t	dia.	h	c/s	c/b
RNRW21.5	.105/.111	.262/.268	.107/.113	.143/.149	.036/.042
RNRW22	.135/.143	.262/.268	.107/.113	.143/.149	.036/.042
RNRW32.5	.166/.174	.389/.395	.170/.176	.233/.239	.046/.052
RNRW42.5	.166/.174	.514/.520	.213/.219	.292/.298	.042/.050
RNRW43	.198/.206	.514/.520	.213/.219	.292/.298	.042/.050
RNRW53	.198/.206	.644/.650	.213/.219	.292/.298	.042/.050
RNRW53.5	.228/.236	.644/.650	.213/.219	.292/.298	.042/.050
RNRW160400	.198/.206	.644/.650	.205/.211	.301/.307	.023/.031
RNRW1604MO	.198/.206	.644/.650	.213/.219	.292/.298	.042/.050
RNRW1605MO	.228/.236	.644/.650	.213/.219	.292/.298	.042/.050

Square Negative

Square Negative • variable thickness quoted on request



Part No.	Dimensional Specifications		
	i.c.	t	r
SNR1.81.50	.233/.239	.104/.112	0
SNR1.810	.233/.239	.073/.081	0
SNR1.820	.233/.239	.135/.143	0
DWG#CD-0775	.252/.268	.135/.145	0
SNR21.50	.265/.271	.104/.112	0
SNR210	.265/.271	.077/.082	0
SNR220	.265/.271	.135/.143	0
SNR240	.265/.271	.265/.271	0
SNR2.51.50	.327/.333	.104/.112	0
SNR2.52.50	.327/.333	.166/.186	0
SNR2.520	.327/.333	.135/.143	0
SNR2.530	.327/.333	.198/.206	0
SNR321	.383/.389	.135/.143	1/64
SNR310	.389/.395	.072/.080	0
SNR32.50	.389/.395	.166/.174	0
SNR320	.389/.395	.135/.143	0
SNR322	.389/.395	.135/.143	1/32
SNR330	.389/.395	.198/.206	0
SNR34.50	.389/.395	.291/.299	0
SNR340	.389/.395	.260/.268	0
SNR380	.389/.395	.515/.523	0
SNR420	.514/.520	.135/.143	0
SNR422	.514/.520	.135/.143	1/32
SNR424	.514/.520	.135/.143	1/16
SNR428	.514/.520	.135/.143	1/8
SNR43.118RAD	.514/.520	.198/.206	.118
SNR430	.514/.520	.198/.206	0
SNR432	.514/.520	.198/.206	1/32
SNR433	.514/.520	.198/.206	3/64
SNR434	.514/.520	.198/.206	1/16
SNR438	.514/.520	.198/.206	1/8
SNR440	.514/.520	.260/.268	0
SNR450	.514/.520	.322/.330	0
SNR460	.514/.520	.385/.393	0

TURNING

MILLING

GROOVING

DRILLING

THREADING

BRAZED  
BLANKS

RECTANGLES  
STB

WOOD  
WORKING

OIL & GAS  
MINING

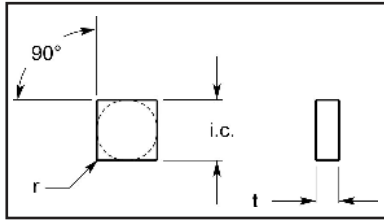
MISC.  
SHAPES

TURNING

# Square Negative

MILLING

## Square Negative • variable thickness quoted on request



GROOVING

DRILLING

THREADING

BRAZED  
BLANKS

RECTANGLES  
STB

WOOD  
WORKING

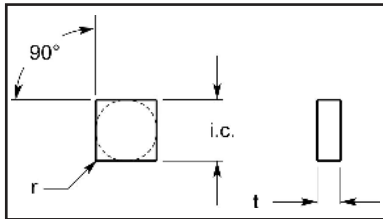
OIL & GAS  
MINING

MISC.  
SHAPES

Part No.	Dimensional Specifications		
	i.c.	t	r
SNR520	.639/.645	.135/.143	0
SNR526	.639/.645	.135/.143	3/32
SNR530	.639/.645	.198/.206	0
SNR536	.639/.645	.198/.206	3/32
SNR540	.639/.645	.260/.268	0
SNR546	.639/.645	.260/.268	3/32
SNR550	.639/.645	.322/.330	0
SNR560	.639/.645	.385/.393	0
SNR642-MOD	.745/.755	.265/.270	1/32
S66NR2U	.762/.772	.198/.206	1/32
SNR61.50	.764/.770	.104/.112	0
SNR620	.764/.770	.135/.143	0
SNR628	.764/.770	.135/.143	1/8
SNR630	.764/.770	.198/.206	0
SNR630-OS	.840/.846	.198/.206	0
125X750CB-BLK	.764/.770	.137/.143	0
SNR632	.764/.770	.198/.206	1/32
SNR633	.764/.770	.198/.206	3/64
SNR634	.764/.770	.198/.206	1/16
SNR636	.764/.770	.198/.206	3/32
SNR638	.764/.770	.198/.206	1/8
SNR640	.764/.770	.260/.268	0
SNR642	.764/.770	.260/.268	1/32
SNR643	.764/.770	.260/.268	3/64
SNR644	.764/.770	.260/.268	1/16
SNR646	.764/.770	.260/.268	3/32
SNR648	.764/.770	.260/.268	1/8
SNR650	.764/.770	.322/.330	0
SNR654	.764/.770	.322/.330	1/16
SNR656	.764/.770	.322/.330	3/32
SNR720	.889/.895	.135/.143	0
SNR730	.889/.895	.198/.206	0
SNR740	.889/.895	.267/.272	0
SNR760	.889/.895	.385/.393	0
SNR.975SQX188T	.990/1.000	.202/.207	0

Square Negative

Square Negative • variable thickness quoted on request



Part No.	Dimensional Specifications		
	i.c.	t	r
SNR81.50	1.020/1.030	.109/.117	0
SNR82.50	1.020/1.030	.176/.184	0
SNR820	1.020/1.030	.142/.150	0
SNR830	1.020/1.030	.205/.213	0
SNR833	1.020/1.030	.205/.213	3/64
SNR834	1.020/1.030	.205/.213	1/16
SNR840	1.020/1.030	.267/.275	0
SNR843	1.020/1.030	.267/.275	3/64
SNR844	1.020/1.030	.267/.275	1/16
SNR850	1.020/1.030	.329/.335	0
SNR853	1.020/1.030	.329/.335	3/64
SNR854	1.020/1.030	.329/.335	1/16
SNR860	1.020/1.030	.392/.397	0
SNR864	1.020/1.030	.392/.397	1/16
SNR880	1.020/1.030	.515/.521	0
SNR10120	1.270/1.290	.765/.775	0
SNR1030	1.270/1.290	.205/.210	0
SNR1050	1.270/1.290	.323/.331	0
SNR1230	1.520/1.540	.203/.211	0
SNR1240	1.520/1.540	.267/.272	0
SNR1280	1.520/1.540	.517/.522	0
SNR1680	2.020/2.040	.515/.525	0

TURNING

MILLING

GROOVING

DRILLING

THREADING

BRAZED  
BLANKS

RECTANGLES  
STB

WOOD  
WORKING

OIL & GAS  
MINING

MISC.  
SHAPES

TURNING

Ultra-met<sup>®</sup>

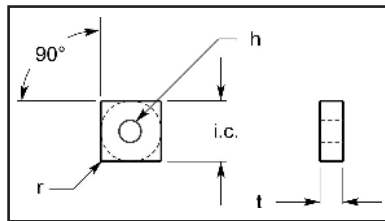
carbide technologies

FABRICATOR & TOOLMAKER  
Capabilities Catalog

Square Negative

MILLING

## Square Negative With Hole • variable thickness quoted on request



GROOVING

DRILLING

THREADING

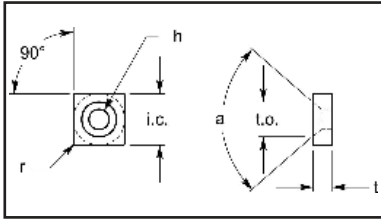
BRAZED  
BLANKSRECTANGLES  
STBWOOD  
WORKINGOIL & GAS  
MININGMISC.  
SHAPES

Part No.	Dimensional Specifications			
	i.c.	t	h	r
SNRA.635SQ.250THK	.649/.655	.260/.268	.246/.256	0
SNRA32.50	.389/.395	.166/.174	.147/.153	0
SNRA320	.389/.395	.135/.143	.147/.153	0
SNRA322	.389/.395	.135/.143	.147/.153	1/32
SNRA330	.389/.395	.198/.206	.147/.153	0
SNRA332	.389/.395	.198/.206	.147/.153	1/32
SNRA336	.389/.395	.198/.206	.147/.153	3/32
SNRA340	.389/.395	.260/.268	.147/.153	0
SNRA360	.389/.395	.385/.393	.147/.153	0
SNRA420	.514/.520	.135/.143	.200/.206	0
SNRA430	.514/.520	.198/.206	.200/.206	0
SNRA440	.514/.520	.260/.268	.200/.206	0
SNRA520	.639/.645	.135/.143	.247/.253	0
SNRA530	.639/.645	.198/.206	.247/.253	0
SNRA540	.639/.645	.260/.268	.247/.253	0
SNRA540.202HOLE	.639/.645	.260/.268	.199/.205	0
SNRA540.254HOLE	.639/.645	.260/.268	.254/.262	0
SNRA620	.764/.770	.135/.143	.309/.315	0
SNRA63-252/257H	.764/.770	.198/.206	.252/.257	0
SNRA630	.764/.770	.198/.206	.309/.315	0
SNRA630.250HOLE	.764/.770	.198/.206	.247/.253	0
SNRA640	.764/.770	.260/.268	.309/.315	0
SNRA640.250HOLE	.764/.770	.260/.268	.247/.253	0
SNRA830	1.020/1.030	.205/.210	.360/.366	0
SNRA830.250HOLE	1.020/1.030	.205/.210	.247/.253	0
SNRA840	1.020/1.030	.267/.275	.360/.366	0
SNRA840.250HOLE	1.020/1.030	.267/.275	.247/.253	0
SNRA840.312HOLE	1.020/1.030	.267/.275	.309/.315	0
SNRA850	1.020/1.030	.329/.334	.360/.366	0
SNRA850.250H	1.020/1.030	.329/.337	.248/.252	0
SNRA860	1.020/1.030	.392/.397	.360/.366	0
SNRA860.250HOLE	1.020/1.030	.392/.397	.247/.253	0

Square Negative

TURNING

Square Negative With Hole



Part No.	Dimensional Specifications					
	i.c.	t	h	t.o.	a	r
SNRB2.61.50	.341/.347	.101/.107	.138/.142	.229/.235	90°	0
SNRB21.50	.264/.270	.104/.112	.102/.108	.185/.191	82°	0
SNRB220	.264/.270	.135/.143	.102/.108	.185/.191	82°	0
SNRB32.50	.389/.395	.166/.174	.147/.153	.297/.307	82°	0
SNRB32.50-90°	.389/.395	.166/.174	.155/.161	.249/.255	90°	0
SNRB320	.389/.395	.135/.143	.146/.156	.297/.307	82°	0
SNRB320-40	.389/.395	.135/.143	.169/.175	.214/.220	40°	0
SNRB320-90°	.389/.395	.135/.143	.156/.160	.249/.255	90°	0
SNRB330	.389/.395	.198/.206	.146/.156	.297/.307	82°	0
SNRB330-40	.389/.395	.198/.206	.169/.175	.214/.220	40°	0
SNRB42.50-#4FHCS	.514/.520	.166/.174	.123/.129	.267/.273	82°	0
SNRB420-#4FHCS	.514/.520	.135/.143	.123/.129	.267/.273	82°	0
SNRB420-#8	.514/.520	.145/.152	.175/.181	.373/.379	82°	0
SNRB430-#4FHCS	.514/.520	.198/.206	.123/.129	.267/.273	82°	0
SNRB430-#8	.514/.520	.198/.206	.175/.181	.373/.379	82°	0
SNRB440	.514/.520	.260/.268	.176/.180	.373/.379	82°	0
SNRB440-#8SCREW	.514/.520	.260/.268	.175/.181	.373/.379	82°	0
DWG#122193-01A	.515/.525	.265/.275	.209/.214	.329/.339		0
SNR-44-03/ICS	.566/.572	.260/.268	.171/.175	.254/.260	60°	0.005
SNRB520-#8	.639/.645	.135/.143	.175/.181	.373/.379		0
SNRB530-#10	.639/.645	.198/.206	.200/.206	.452/.458	82°	0
SNRB530-#8FHCS	.639/.645	.198/.206	.175/.181	.373/.379	82°	0
SNRB540-#10	.639/.645	.260/.268	.200/.206	.452/.458	82°	0
SNRB630-#10	.764/.770	.198/.206	.200/.206	.435/.441	82°	0
SNRB640-#10	.764/.770	.260/.268	.200/.206	.435/.441	82°	0
SNRB840UM	1.020/1.030	.267/.272	.274/.280	.583/.589	82°	0
SNRB850UM	1.020/1.030	.3295/.3345	.274/.280	.583/.590	82°	0
SNRB860UM	1.020/1.030	.392/.397	.274/.280	.583/.589	82°	0

MILLING

GROOVING

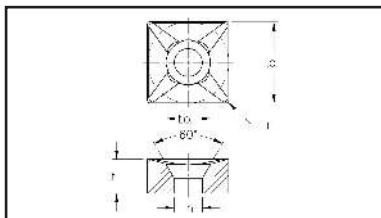
DRILLING

THREADING

BRAZED  
BLANKS



Square Negative With Hole



Part No.	Dimensional Specifications					
	i.c.	t	h	t.o.	a	r
SNRB2.521P	.322/.332	.131/.141	.108/.118	.173/.183	60°	.003/.013

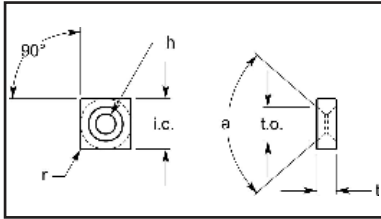
RECTANGLES  
STB

WOOD  
WORKING

OIL & GAS  
MINING

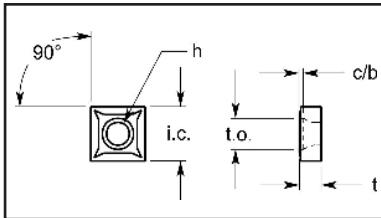
MISC.  
SHAPES

## Square Negative With Hole And Dbl Countersinks



Part No.	Dimensional Specifications					
	i.c.	t	h	t.o.	a	r
SNRC3.540-60	.451/.457	.260/.268	.165/.171	.257/.263	60°	0
SNRC330-60	.389/.395	.200/.206	.162/.174	.247/.259	60°	0
SNRC4-0.310T209H	.514/.520	.321/.327	.206/.212	.326/.332	82°	0
SNRC430-60-MOD	.557/.562	.202/.207	.171/.175	.254/.260	60°	0
SNRC430.209HOLE	.514/.520	.198/.206	.206/.212	.326/.332	82°	0
SNRC440	.514/.520	.260/.268	.216/.222	.379/.385	82°	0
SNRC440-60	.514/.520	.260/.268	.163/.173	.259/.271	60°	0
SNRC440.209HOLE	.514/.520	.260/.268	.206/.212	.326/.332	82°	0
SNRC440.217HOLE	.515/.525	.266/.274	.214/.220	.341/.347	82°	0
SNRC450.209HOLE	.514/.520	.322/.330	.206/.212	.326/.332	82°	0
SNRC450.219HOLE	.514/.520	.322/.330	.217/.221	.379/.385	82°	0
SNRC460.209HOLE	.514/.520	.392/.398	.206/.212	.326/.332	82°	0
SNRC550	.639/.645	.322/.330	.203/.209	.452/.458	82°	0
SNRC630	.764/.770	.198/.206	.309/.315	.432/.438	82°	0
SNRC640.248HOLE	.764/.770	.260/.268	.245/.251	.439/.445	82°	0
SNRC640.312HOLE	.764/.770	.260/.268	.309/.315	.432/.438	82°	0
SNRC650	.764/.770	.322/.330	.206/.212	.432/.438	82°	0

## Square Negative F5 Chipbreaker With ISO Style Hole



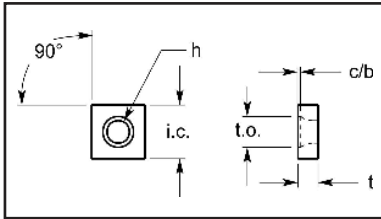
Part No.	Dimensional Specifications				
	i.c.	t	h	t.o.	c/b
SNRT21.51F5	.264/.270	.109/.115	.107/.113	.143/.149	.029/.035
SNRT32.51F5	.389/.395	.173/.179	.164/.170	.233/.239	.030/.036
SNRT32.52F5	.389/.395	.173/.179	.164/.170	.233/.239	.030/.036
SNRT32.53F5	.389/.395	.173/.179	.164/.170	.233/.239	.030/.036
SNRT321F5	.389/.395	.142/.148	.164/.170	.233/.239	.030/.036
SNRT322F5	.389/.395	.142/.148	.164/.170	.233/.239	.030/.036
SNRT431F5	.514/.520	.205/.211	.213/.219	.292/.298	.037/.043
SNRT432F5	.514/.520	.205/.211	.213/.219	.292/.298	.037/.043



Square Negative

TURNING

Square Negative With ISO Style Hole



Part No.	Dimensional Specifications				
	i.c.	t	h	t.o.	c/b
SNRW2.51.50	.327/.333	.104/.112	.131/.137	.174/.180	.031
SNRW2.52.50	.327/.333	.166/.174	.131/.137	.174/.180	0.034
SNRW2.520	.327/.333	.135/.143	.131/.137	.174/.180	.028/.034
SNRW2.530	.327/.333	.198/.206	.131/.137	.174/.180	.028/.034
SNRW21.50	.264/.270	.104/.112	.111/.117	.145/.151	.036/.042
SNRW220	.264/.270	.135/.143	.111/.117	.145/.151	.036/.042
SNRW32.50	.389/.395	.166/.174	.171/.177	.233/.239	.046/.052
SNRW32.50-MOD	.389/.395	.176/.184	.171/.177	.233/.239	.046/.052
SNRW320	.389/.395	.140/.146	.171/.177	.233/.239	.046/.052
SNRW330	.389/.395	.198/.206	.171/.177	.233/.239	.046/.052
SNRW42.50	.514/.520	.166/.174	.213/.219	.292/.298	.043/.049
SNRW43.50	.514/.520	.228/.236	.213/.219	.292/.298	.043/.049
SNRW430	.514/.520	.198/.206	.213/.219	.292/.298	.043/.049
SNRW430-M3.5	.514/.520	.198/.206	.170/.176	.233/.239	0.138
SNRW440	.514/.520	.260/.268	.213/.219	.292/.298	.043/.049
SNRW530-M3.5	.639/.645	.198/.206	.173/.177	.233/.239	.038/.046
SNRW540-M3.5	.639/.645	.260/.268	.173/.177	.233/.239	.038/.046
ELPR-125	1.020/1.030	.144/.154	.210/.220	.360/.370	.032/.042
ELPR-250	1.020/1.030	.269/.279	.210/.220	.360/370	.032/.042

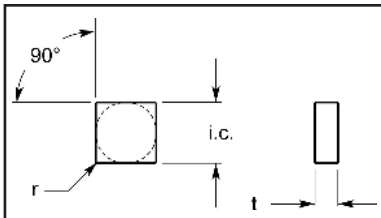
MILLING

GROOVING

DRILLING

THREADING

Utility Square Negative • variable thickness quoted on request



Part No.	Dimensional Specifications		
	i.c.	t	r
SNS322	.372/.378	.135/.143	1/32
SNS332	.372/.378	.198/.206	1/32
SNS422	.495/.505	.135/.143	1/32
SNS424	.495/.505	.135/.143	1/16
SNS432	.495/.505	.198/.206	1/32
SNS433	.495/.505	.198/.206	3/64
SNS434	.495/.505	.198/.206	1/16
SNS436	.495/.505	.198/.206	3/32
SNS532	.620/.630	.198/.206	1/32
SNS533	.620/.630	.198/.206	3/64
SNS544	.620/.630	.260/.268	1/16
SNS632	.743/.757	.198/.206	1/32
SNS633	.743/.757	.198/.206	3/64
SNS634	.743/.757	.198/.206	1/16
SNS64-4.0RAD	.747/.753	.260/.268	4.0 MM
SNS643	.743/.757	.260/.268	3/64
SNS644	.743/.757	.260/.268	1/16
SNS654	.743/.757	.322/.330	1/16
SNS6616	.743/.757	.392/.398	1/4
SNS844	.990/1.010	.267/.272	1/16
SNS852	.980/1.000	.326/.334	1/32
SNS854	.990/1.010	.326/.334	1/16
SNS866	.990/1.010	.392/.400	3/32

BRAZED  
BLANKS

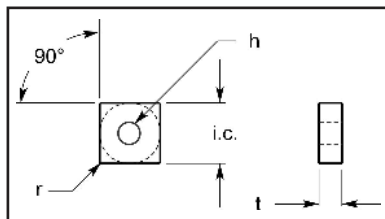
RECTANGLES  
STB

WOOD  
WORKING

OIL & GAS  
MINING

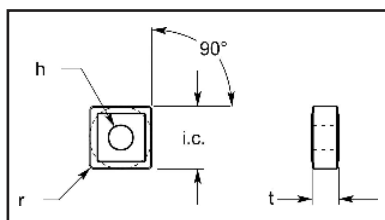
MISC.  
SHAPES

## Utility Square Negative With Hole • variable thickness quoted on request



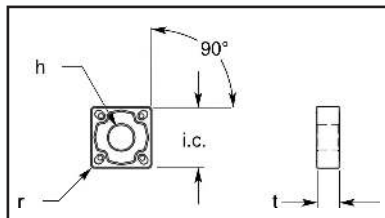
Part No.	Dimensional Specifications			
	i.c.	t	h	r
SNSA322	.372/.378	.135/.143	.147/.153	1/32
SNSA323	.372/.378	.135/.143	.147/.153	3/64
SNSA332	.372/.378	.198/.206	.147/.153	1/32
SNSA422	.497/.503	.135/.143	.200/.206	1/32
SNSA432	.497/.503	.198/.206	.200/.206	1/32
SNSA433	.497/.503	.198/.206	.200/.206	3/64
SNSA434	.497/.503	.198/.206	.200/.206	1/16
SNSA443	.497/.503	.260/.268	.200/.206	3/64
SNSA542	.622/.628	.260/.268	.247/.253	1/32
SNSA543	.622/.628	.260/.268	.247/.253	3/64
SNSA544	.622/.628	.260/.268	.247/.253	1/16
SNSA548	.622/.628	.260/.268	.247/.253	1/8
SNSA634	.747/.753	.198/.206	.309/.315	1/16
SNSA642	.747/.753	.260/.268	.309/.315	1/32
SNSA643	.747/.753	.260/.268	.309/.315	3/64
SNSA644	.747/.753	.260/.268	.309/.315	1/16
SNSA846	.996/1.004	.267/.272	.360/.366	3/32
SNSA856	.996/1.004	.324/.332	.361/.365	3/32
SNSA866	.996/1.004	.381/.387	.360/.366	3/32

## Utility Square Negative F1 Chipbreaker With Hole



Part No.	Dimensional Specifications			
	i.c.	t	h	r
SNSG321F1	.373/.377	.129/.135	.147/.153	1/64
SNSG322F1	.373/.377	.129/.135	.147/.153	1/32
SNSG332F1	.373/.377	.191/.197	.147/.153	1/32
SNSG432F1	.497/.503	.191/.197	.200/.206	1/32
SNSG433F1	.497/.503	.191/.197	.200/.206	3/64
SNSG542F1	.622/.628	.256/.262	.247/.253	1/32
SNSG543F1	.622/.628	.256/.262	.247/.253	3/64
SNSG544F1	.622/.628	.256/.262	.247/.253	1/16
SNSG643F1	.747/.753	.256/.262	.309/.315	3/64
SNSG644F1	.747/.753	.256/.262	.309/.315	1/16

## Utility Square Negative GP3 Chipbreaker With Hole

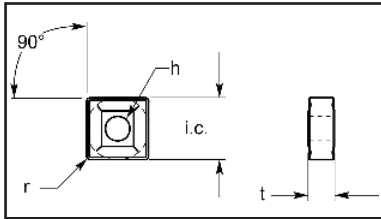


Part No.	Dimensional Specifications			
	i.c.	t	h	r
SNSG432GP3	.497/.503	.197/.203	.200/.206	1/32

Square Negative

TURNING

Utility Square Negative R1 Chipbreaker With Hole



Part No.	Dimensional Specifications			
	i.c.	t	h	r
SNSG432R1	.497/.503	.191/.197	.200/.206	1/32
SNSG433R1	.497/.503	.191/.197	.200/.206	3/64
SNSG434R1	.497/.503	.191/.197	.200/.206	1/16
SNSG442R1	.497/.503	.254/.260	.200/.206	1/32
SNSG533R1	.622/.628	.194/.200	.247/.253	3/64
SNSG543R1	.622/.628	.256/.262	.247/.253	3/64
SNSG544R1	.622/.628	.256/.262	.247/.253	1/16
SNSG633R1	.747/.753	.193/.199	.309/.315	3/64
SNSG634R1	.747/.753	.193/.199	.309/.315	1/16
SNSG642R1	.747/.753	.256/.262	.309/.315	1/32
SNSG643R1	.747/.753	.256/.262	.309/.315	3/64
SNSG644R1	.747/.753	.256/.262	.309/.315	1/16
SNSG6610R1	.747/.753	.387/.393	.309/.315	3/32
SNSG664R1	.747/.753	.380/.385	.309/.315	1/16
SNSG856R1	.996/1.004	.318/.324	.360/.366	3/32
SNSG866R1	.996/1.004	.386/.392	.360/.366	3/32

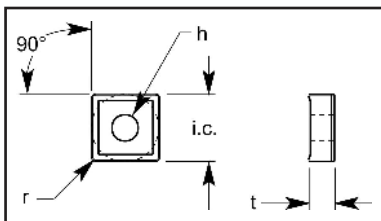
MILLING

GROOVING

DRILLING

THREADING

Utility Square Negative R3 Chipbreaker With Hole

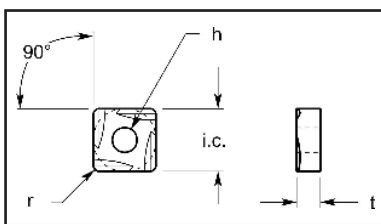


Part No.	Dimensional Specifications			
	i.c.	t	h	r
SNSM432R3	.497/.503	.199/.205	.200/.206	1/32
SNSM433R3	.497/.503	.199/.205	.200/.206	3/64
SNSM434R3	.497/.503	.199/.205	.200/.206	1/16
SNSM543R3	.622/.628	.254/.260	.247/.253	3/64
SNSM643R3	.747/.753	.254/.260	.309/.315	3/64
SNSM644R3	.747/.753	.254/.260	.309/.315	1/16

BRAZED  
BLANKS

RECTANGLES  
STB

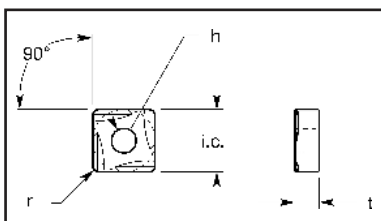
Utility Square Negative R4 Chipbreaker With Hole



Right Hand Shown

Part No.	Dimensional Specifications			
	i.c.	t	h	r
SNSM322ER-R4	.373/.377	.132/.138	.147/.153	1/32
SNSM323ER-R4	.373/.377	.132/.138	.147/.153	3/64
SNSM432ER-R4	.497/.503	.199/.205	.200/.206	1/32
SNSM433ER-R4	.497/.503	.199/.205	.200/.206	3/64
SNSM542ER-R4	.622/.628	.263/.269	.247/.253	1/32
SNSM543ER-R4	.622/.628	.263/.269	.247/.253	3/64
SNSM544ER-R4	.622/.628	.263/.269	.247/.253	1/16

WOOD  
WORKING



Left Hand Shown

Part No.	Dimensional Specifications			
	i.c.	t	h	r
SNSM321EL-R4	.373/.377	.132/.138	.147/.153	1/64
SNSM322EL-R4	.373/.377	.132/.138	.147/.153	1/32
SNSM323EL-R4	.373/.377	.132/.138	.147/.153	3/64
SNSM432EL-R4	.497/.503	.199/.205	.200/.206	1/32
SNSM433EL-R4	.497/.503	.199/.205	.200/.206	3/64
SNSM542EL-R4	.622/.628	.263/.269	.247/.253	1/32
SNSM543EL-R4	.622/.628	.263/.269	.247/.253	3/64
SNSM544EL-R4	.622/.628	.263/.269	.247/.253	1/16

OIL & GAS  
MINING

MISC.  
SHAPES

TURNING

Ultra-met®

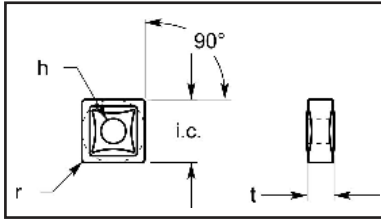
carbide technologies

FABRICATOR & TOOLMAKER  
Capabilities Catalog

Square Negative

MILLING

## Utility Square Negative GP1 Chipbreaker With Hole



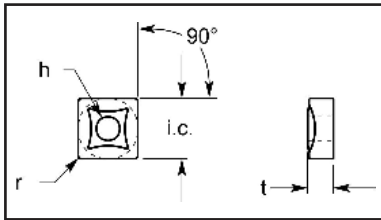
Part No.	Dimensional Specifications			
	i.c.	t	h	r
SNSP431GP1	.497/.503	.200/.206	.200/.206	1/64
SNSP432GP1	.497/.503	.200/.206	.200/.206	1/32
SNSP433GP1	.497/.503	.200/.206	.200/.206	3/64
SNSP434GP1	.497/.503	.200/.206	.200/.206	1/16
SNSP532GP1	.622/.628	.200/.206	.247/.253	1/32
SNSP533GP1	.622/.628	.200/.206	.247/.253	3/64
SNSP542GP1	.622/.628	.263/.269	.247/.253	1/32
SNSP543GP1	.622/.628	.263/.269	.247/.253	3/64
SNSP632GP1	.747/.753	.200/.206	.309/.315	1/32
SNSP633GP1	.747/.753	.192/.198	.309/.315	3/64
SNSP642GP1	.747/.753	.263/.269	.309/.315	1/32
SNSP643GP1	.747/.753	.263/.269	.309/.315	3/64
SNSP6610GP1	.747/.753	.405/.411	.309/.315	5/32

GROOVING

DRILLING

THREADING

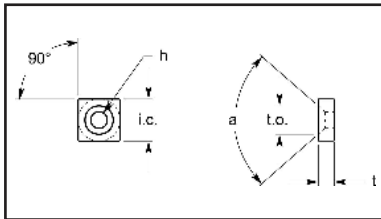
## Utility Square Negative R5 Chipbreaker With Hole



Part No.	Dimensional Specifications			
	i.c.	t	h	r
SNSS432R5	.497/.503	.194/.200	.200/.206	1/32
SNSS433R5	.497/.503	.194/.200	.200/.206	3/64
SNSS643R5	.747/.753	.257/.263	.309/.315	3/64

BRAZED  
BLANKS

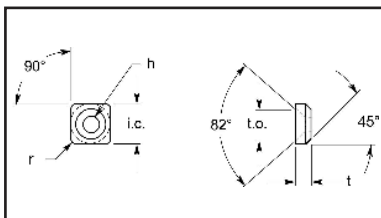
## Square Negative With Hole and Dbl Countersink



Part No.	Dimensional Specifications				
	i.c.	t	h	t.o.	a
USD12P-NEG	.764/.770	.202/.207	.200/.206	.435/.441	82°
USD320P-NEG	.389/.395	.135/.143	.156/.160	.249/.255	90°
USD330P-NEG	.389/.395	.135/.143	.155/.161	.249/.255	90°
USD420P-NEG	.514/.520	.135/.143	.175/.181	.289/.295	90°
USD430P-NEG	.514/.520	.198/.206	.175/.181	.289/.295	90°
USD8P-NEG	.514/.520	.135/.143	.175/.181	.373/.379	82°
USD9P-NEG	.577/.583	.135/.143	.175/.181	.373/.379	82°

RECTANGLES  
STBWOOD  
WORKING

## Utility Square Negative With Hole And Countersink



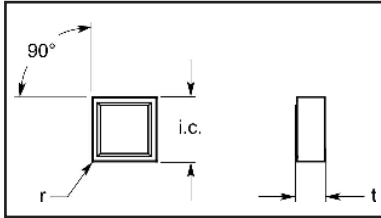
Part No.	Dimensional Specifications				
	i.c.	t	h	t.o.	r
USST1222	.360/.370	.140/.145	.123/.127	.294/.300	.030
USST1624	.485/.495	.138/.148	.138/.142	.327/.333	.060
USST1634	.485/.495	.202/.207	.138/.142	.327/.333	.060

OIL & GAS  
MININGMISC.  
SHAPES

**Square Negative**

TURNING

**Square Negative Chipbreaker**

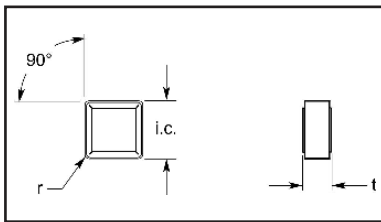


Part No.	Dimensional Specifications		
	i.c.	t	r
SNRR320	.389/.395	.147/.153	0

MILLING

GROOVING

**Utility Square Negative Chipbreaker**

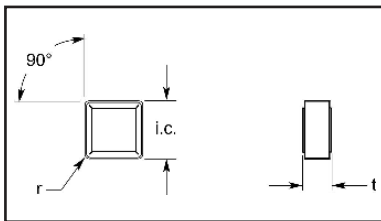


Part No.	Dimensional Specifications		
	i.c.	t	r
SNSF322	.373/.377	.129/.135	1/32
SNSF433	.497/.503	.191/.197	3/64
SNSF534	.620/.630	.200/.208	1/16
SNSF544	.620/.630	.284/.290	1/16
SNSF634	.747/.753	.193/.199	1/16

DRILLING

THREADING

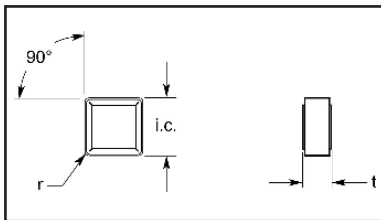
**Utility Square Negative F1 Chipbreaker**



Part No.	Dimensional Specifications		
	i.c.	t	r
SNSF633F1	.747/.753	.193/.199	3/64

BRAZED  
BLANKS

**Utility Square Negative Wide Chipbreaker**

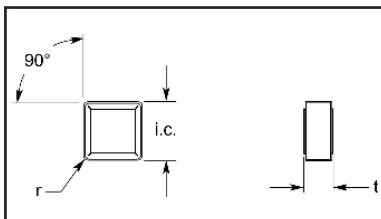


Part No.	Dimensional Specifications		
	i.c.	t	r
SNSF634W	.747/.753	.193/.199	1/16

RECTANGLES  
STB

WOOD  
WORKING

**Utility Square Negative R1 Chipbreaker**

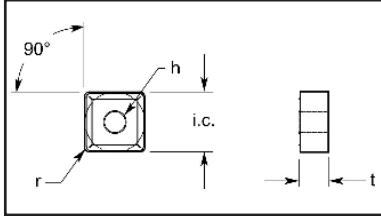


Part No.	Dimensional Specifications		
	i.c.	t	r
SNSF856R1	.996/1.004	.318/.324	3/32
SNSF866R1	.996/1.004	.385/.391	3/32

OIL & GAS  
MINING

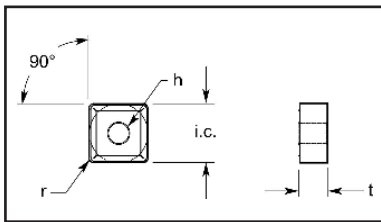
MISC.  
SHAPES

## Utility Square Negative R1 Chipbreaker Single Sided With Hole



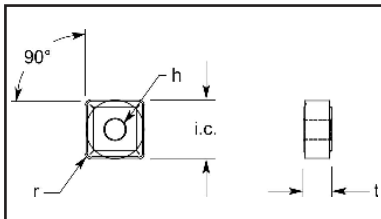
Part No.	Dimensional Specifications			
	i.c.	t	h	r
SNSG856R1-1C/B	.996/1.004	.321/.327	.361/.365	3/32
SNSG866R1-1C/B	.996/1.004	.383/.389	.361/.365	3/32

## Utility Square Negative Wide Chipbreaker On One Side With Hole



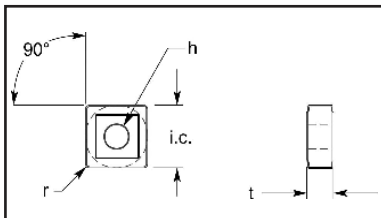
Part No.	Dimensional Specifications			
	i.c.	t	h	r
SNSG433W-1C/B	.497/.503	.197/.203	.201/.205	3/64

## Utility Square Negative FS Chipbreaker With Hole



Part No.	Dimensional Specifications			
	i.c.	t	h	r
SNSG434FS	.497/.503	.196/.202	.201/.205	1/16

## Utility Square Negative Chipbreaker With Hole

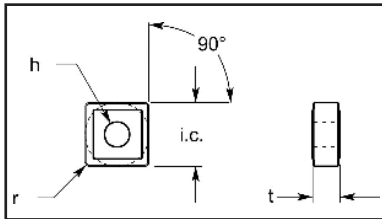


Part No.	Dimensional Specifications			
	t	l	h	r
SNSG866K	.386/.394	.996/1.004	.360/.366	3/32

Square Negative

TURNING

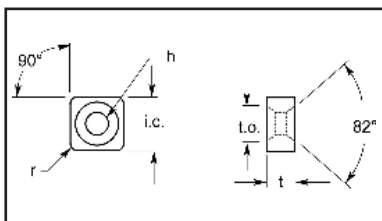
Square Negative Chipbreaker With Hole



Part No.	Dimensional Specifications			
	i.c.	t	h	r
SNMG866EW	.996/1.004	.370/.380	.356/.362	3/32

MILLING

Utility Square Negative With Hole And Countersinks

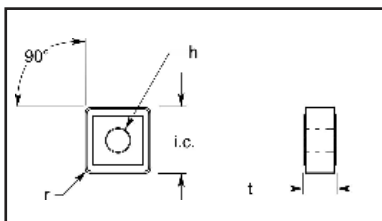


Part No.	Dimensional Specifications				
	i.c.	t	h	t.o.	r
SNRQ550SQX250T	.566/.572	.265/.270	.171/.175	.254/.260	.005
DWG#M59783-131	.764/.770	.325/.333	.210/.220	.458/.463	0
SNMC834	.992/1.008	.182/.194	.375/.385	.495/.505	1/16
SNMC864	.992/1.008	.369/.381	.375/.385	.495/.505	1/16

GROOVING

DRILLING

Utility Square Negative Chipbreaker With Hole



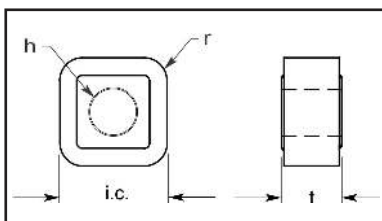
Part No.	Dimensional Specifications			
	i.c.	t	h	r
SNSP643E36	.747/.753	.259/.265	.310/.314	3/64

THREADING

BRAZED  
BLANKS



Utility Square Negative Chipbreaker With Hole

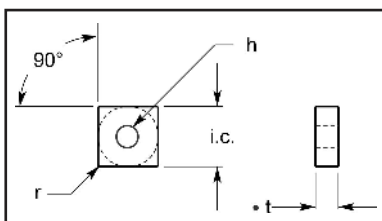


Part No.	Dimensional Specifications			
	i.c.	t	h	r
SNSP6610	.747/.753	.405/.411	.309/.315	0.156

RECTANGLES  
STB

WOOD  
WORKING

Square Negative With Hole • variable thickness quoted on request



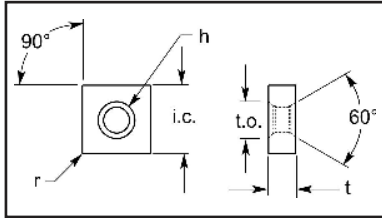
Part No.	Dimensional Specifications		
	i.c.	h	r
SNMA8-2	.996/1.004	.252/.258	1/32

OIL & GAS  
MINING

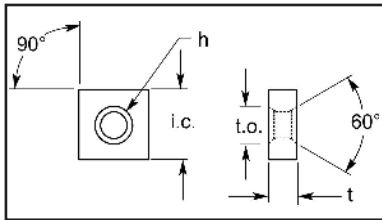
MISC.  
SHAPES



## Square Negative With Hole and Dbl. Countersinks

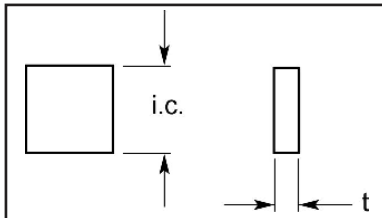


Part No.	Dimensional Specifications				
	i.c.	t	h	t.o.	r
SNR-34-01	.448/.458	.260/.268	.163/.173	.269/.279	0
SNR-44-03	.571/.583	.260/.268	.171/.175	.254/.260	.005
SNR-44-08	.561/.573	.260/.268	.163/.173	.251/.261	.005



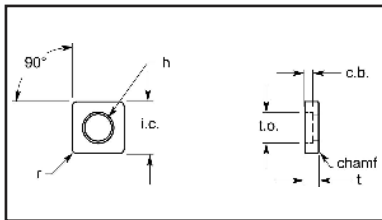
Part No.	Dimensional Specifications			
	i.c.	t	h	t.o.
SNRQ3.540	.451/.457	.260/.268	.165/.171	.271/.277
107DD-136845	.514/.520	.195/.200	.194/.200	.284/.290
#T372670	.514/.520	.203/.211	.206/.212	.326/.332
DWG#95103-1	.515/.525	.266/.274	.214/.220	.341/.347
DWG#U-4368	.764/.770	.260/.268	.245/.251	.439/.445
U9ZE2095-1	.764/.770	.340/.345	.209/.215	.431/.437

## Utility Square Negative • variable thickness quoted on request



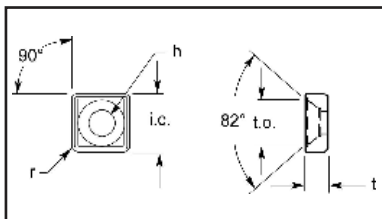
Part No.	Dimensional Specifications	
	i.c.	t
USM10-3-0	.327/.333	.104/.112

## Square Negative With Hole



Part No.	Dimensional Specifications						
	i.c.	t	h	t.o.	c/b	r	chamf
UISSN433	.485/.495	.201/.207	.285/.293	.311/.323	.108/.116	3/64	.036x45°
USSN64C	.735/.745	.202/.207	.376/.380	.438/.442	.107/.113	1/16	.021x45°

## Utility Square Negative Chipbreaker With Hole



Part No.	Dimensional Specifications				
	i.c.	t	h	t.o.	r
USN4334520C	.497/.503	.194/.198	.200/.206	.342/.348	.047



**Square Negative**

TURNING

MILLING

GROOVING

DRILLING

THREADING

BRAZED  
BLANKS

RECTANGLES  
STB

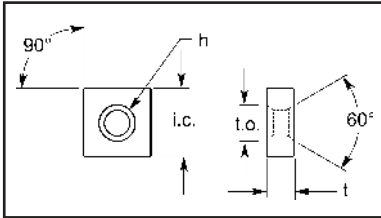
WOOD  
WORKING

OIL & GAS  
MINING

MISC.  
SHAPES



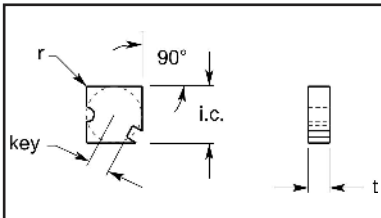
**Square Negative With Dbl. ISO Countersinks**



Part No.	Dimensional Specifications				
	i.c.	t	h	t.o.	c/b
NAC42-MOD	.639/.645	.265/.270	.220/.224	.295/.301	.030
21.001800.100.2	.639/.645	.322/.330	.226/.230	.292/.298	.065

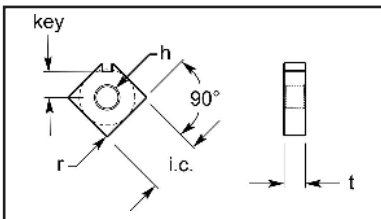
**Square CBN**

**Square Negative Indexable CBN Pocket**



Part No.	Dimensional Specifications			
	i.c.	t	key	r
CH4121	.515/.525	.195/.205	.195/.205	0

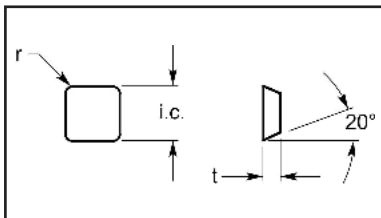
**Square Negative With Hole Indexable CBN Pocket**



Part No.	Dimensional Specifications				
	i.c.	t	h	key	r
LX-0846-1	.512/.522	.195/.205	.202/.208	.235/.241	.012

**Square Positive**

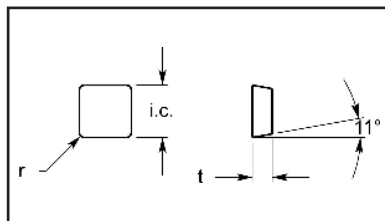
**Square Positive**



Part No.	Dimensional Specifications		
	i.c.	t	r
SER631	.764/.770	.198/.206	1/64
DWG#U-4487	.514/.522	.135/.140	.039
SERN43AFN	.514/.520	.198/.206	.075
SERN53AFN	.638/.646	.198/.206	.075

TURNING  
MILLING  
GROOVING  
DRILLING  
THREADING  
BRAZED BLANKS  
RECTANGLES STB  
WOOD WORKING  
OIL & GAS MINING  
MISC. SHAPES

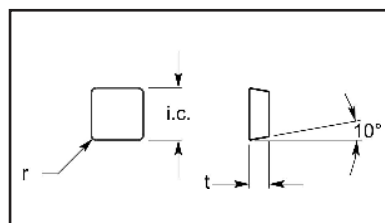
### Utility Square Positive



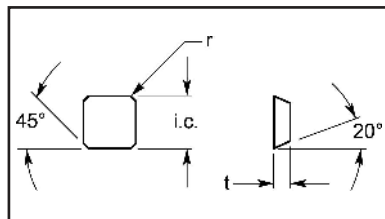
Part No.	Dimensional Specifications		
	i.c.	t	r
SPS322	.372/.378	.135/.140	1/32
SPS422	.495/.505	.135/.140	1/32
SPS424	.495/.505	.135/.140	1/16
SPS632	.743/.757	.198/.203	1/32
SPS633	.743/.757	.198/.203	3/64
SPS634	.743/.757	.198/.203	1/16
* SPS634T025-11	.747/.753	.198/.206	1/16
SPS638	.743/.757	.198/.203	1/8
SPS844	.993/1.007	.265/.270	1/16

\* with .064 X 11° T-Land

### Square Positive



Part No.	Dimensional Specifications		
	i.c.	t	r
SPR320	.389/.395	.135/.143	0
SPR322	.389/.395	.135/.143	1/32
SPR420	.514/.520	.135/.143	0
SPR422	.514/.520	.135/.143	1/32
SPR430	.514/.520	.198/.206	0
SPR432	.514/.520	.198/.206	1/32
SPR433	.514/.520	.198/.206	3/64
SPR530	.639/.645	.198/.206	0
SPR534	.639/.645	.198/.206	1/16
SPR538	.639/.645	.198/.206	1/8
SPR630	.764/.770	.198/.206	0
SPR6312	.764/.770	.198/.206	3/16
SPR632	.764/.770	.198/.206	1/32
SPR634	.764/.770	.198/.206	1/16
SPR636	.764/.770	.198/.206	3/32
SPR638	.764/.770	.198/.206	1/8
SPR738	.889/.895	.198/.206	1/8
SPR830	1.020/1.030	.205/.210	0
SPR833	1.020/1.030	.205/.210	3/64
SPR840	1.020/1.030	.267/.272	0

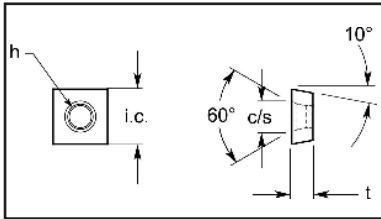


Part No.	Dimensional Specifications		
	i.c.	t	r
SERN42AFN	.517/.522	.135/.140	.039

**Square Positive**

TURNING

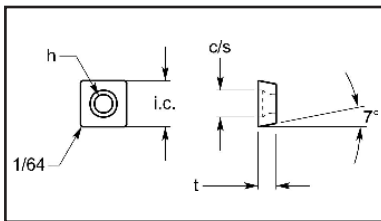
**Square Positive With Hole And Countersink**



Part No.	Dimensional Specifications			
	i.c.	t	h	c/s
DWG#U-3905	.517/.523	.198/.206	.203/.207	.286/.292

MILLING

**Square Positive With ISO Style Hole**

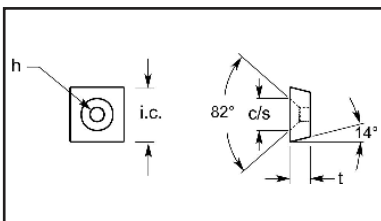


Part No.	Dimensional Specifications			
	i.c.	t	h	c/s
SCRW53.51	.639/.645	.228/.236	.214/.218	.293/.297
SCRW531	.639/.645	.198/.206	.214/.218	.293/.297
SCRW541	.639/.645	.260/.268	.214/.218	.293/.297

GROOVING

DRILLING

**Square Positive Hole**

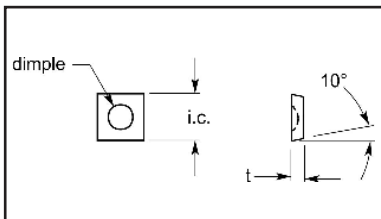


Part No.	Dimensional Specifications			
	i.c.	t	h	c/s
SDRB-86.40	1.026/1.036	.404/.412	.260/.270	.598/.608
SDRB8-2.190THK	1.018/1.032	.206/.214	.276/.282	.568/.574
SDRB860	1.026/1.036	.392/.397	.260/.270	.598/.608

THREADING

BRAZED  
BLANKS

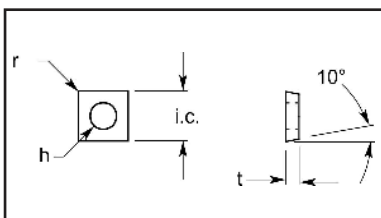
**Square Positive With Dimple**



Part No.	Dimensional Specifications		
	i.c.	t	dimple
DWG#U-4153	.389/.395	.135/.143	.187

RECTANGLES  
STB

**Square Positive With Hole**



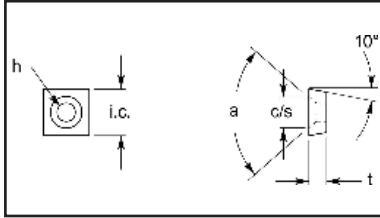
Part No.	Dimensional Specifications			
	i.c.	t	h	r
SPRA422.125H	.514/.521	.137/.145	.122/.128	0
SPRA530	.639/.645	.198/.206	.248/.252	0
SPRA634.125HOLE	.764/.770	.198/.206	.127/.137	1/16

WOOD  
WORKING

OIL & GAS  
MINING

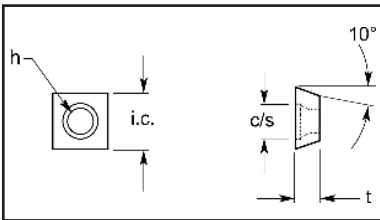
MISC.  
SHAPES

## Square Positive With Hole



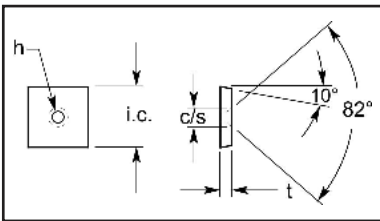
Part No.	Dimensional Specifications			
	i.c.	t	h	c/s
USD12P	.764/.770	.202/.207	.201/.205	.435/.441
USD320P	.389/.395	.135/.143	.152/.158	.249/.255
USD320P-82°	.389/.395	.135/.143	.155/.161	.264/.270
USD420P	.514/.520	.135/.143	.176/.180	.289/.295
USD420P-82°	.514/.520	.135/.143	.175/.181	.289/.295
USD530P	.639/.645	.198/.206	.215/.219	.332/.338
USD7P	.452/.458	.135/.143	.123/.127	.267/.273

## Square Positive With ISO Style Hole



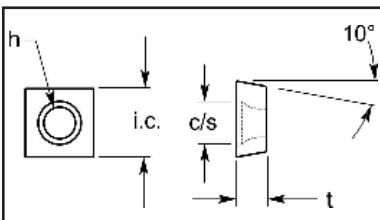
Part No.	Dimensional Specifications			
	i.c.	t	h	c/s
819020R1.2	.514/.520	.198/.206	.217/.221	.297/.301

## Square Positive With Hole And Countersink On Bottom



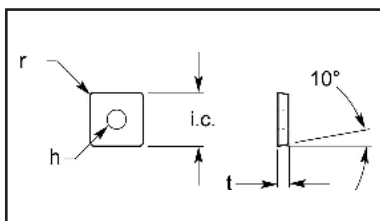
Part No.	Dimensional Specifications			
	i.c.	t	h	c/s
SPRB630-1127AS	.764/.770	.198/.206	.185/.189	.327/.333
SPRB830-1126AS	1.020/1.030	.205/.210	.185/.189	.327/.333

## Square Positive With ISO Style Hole



Part No.	Dimensional Specifications			
	i.c.	t	h	c/s
SPRW430	.514/.520	.198/.206	.213/.219	.295/.305

## Utility Square Positive With Hole



Part No.	Dimensional Specifications			
	i.c.	t	h	r
SPSA322	.370/.380	.135/.140	.148/.152	1/32

Diamond Negative



TURNING

MILLING

GROOVING

DRILLING

THREADING

BRAZED  
BLANKS

RECTANGLES  
STB

WOOD  
WORKING

OIL & GAS  
MINING

MISC.  
SHAPES

TURNING

MILLING

GROOVING

DRILLING

THREADING

BRAZED  
BLANKS

RECTANGLES  
STB

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MINING

MISC.  
SHAPES

**1000 Series**

**TURNING**

**MILLING**

**GROOVING**

**DRILLING**

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SHAPES**

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MINING**

**MISC.  
SHAPES**