



*sutton*tools

# COUNTERSINKS

▪ Counterbores ▪ Cross Hole ▪ Single Flute ▪ Three Flute



# *Smooth Cutting... Perfect Chamfering*

## **Catalogue Code: C107**

This new generation of countersink applies the three most important areas for optimal tool life in its design.

Constant rake angle along the entire cutting face, latest developments in coating and superior tool material.

- De-burring
- Countersinking / Counterboring screw holes
- Chamfering of tapping holes
- For use in machine applications

## **Features**

- 5% Cobalt grade High Speed Steel
- Constant flute rake along entire cutting face
- Axial and radial adjusted relief
- Higher dimensional precision
- Improved and sharper cutting edge

## **Benefits**

- Chatter-free countersinking and de-burring
- Longer lasting
- Excellent chip flow

ISO	VDI	Material Group	Sutton
P	A	Steel	N
M	R	Stainless Steel	VA
K	F	Cast Iron	GG
N	N	Non-Ferrous Metals, Aluminiums & Coppers	Al W
S	S	Titaniums & Super Alloys	Ti
H	H	Hard Materials (≥ 45 HRC)	H

Page

60	60	61	61	62	62	63
C105	C106	C103	C104	C101	C102	C100
HSS		HSS		HSS		HSS Co
Br	TiN	Br	TiN	Br	TiN	Br
N		N		N		N
Sutton Standard		Sutton Standard		Sutton Standard		DIN 373
-		-		-		-
-		-		-		h6

^ VDI 3323 material groups can also be determined by referring to the material cross reference listing in the application guide at the back of this catalogue.

For expert tooling recommendations, go to:  
[www.suttontools.com/expert-tool-selector](http://www.suttontools.com/expert-tool-selector)

Catalogue Code  
 Material  
 Surface Finish  
 Sutton Designation  
 Standard  
 Depth of Cut  
 Shank Tolerance

ISO	VDI <sup>3323</sup>	Material	Condition	HB	N/mm <sup>2</sup>							
P	1	Steel - Non-alloy, cast & free cutting	~ 0.15 %C	A	125	440	●	●	●	●	●	●
	2			A	190	640	●	●	●	●	●	●
	3		QT	250	840	○	●	○	●	○	○	
	4		~ 0.75 %C	A	270	910	○	●	○	●	○	○
	5			QT	300	1010		○		○	○	○
	6	Steel - Low alloy & cast < 5% of alloying elements	A	180	610	●	●	○	●	●	●	
	7		QT	275	930	○	●	○	●	○	○	
	8		QT	300	1010		○		○	○	○	
	9		QT	350	1180			○		○	○	
	10	Steel - High alloy, cast & tool	A	200	680	○	●	○	●	○	○	
	11		HT	325	1100			○		○	○	
12	Steel - Corrosion resistant & cast	Ferritic / Martensitic	A	200	680			○		○	○	
13		Martensitic	QT	240	810			○		○	○	
M	14.1	Stainless Steel	Austenitic	AH	180	610		●		●	○	
	14.2		Duplex		250	840		●		●	○	
	14.3		Precipitation Hardening		250	840		○		○	○	
K	15	Cast Iron - Grey (GG)	Ferritic / Pearlitic		180	610	●	●	●	●	●	
	16		Pearlitic		260	880	○	○	○	○	○	
	17	Cast Iron - Nodular (GGG)	Ferritic		160	570	○	●	○	●	○	
	18		Pearlitic		250	840	○	○	○	○	○	
	19		Ferritic		130	460	○	●	○	●	○	
20	Cast Iron - Malleable	Pearlitic		230	780		○		○	○		
N	21	Aluminum & Magnesium - wrought alloy	Non Heat Treatable		60	210	●	○	●	○	○	
	22		Heat Treatable	AH	100	360	●	●	○	●	○	
	23	Aluminum & Magnesium - cast alloy ≤12% Si	Non Heat Treatable		75	270	○	●	○	●	○	
	24		Heat Treatable	AH	90	320	○	●	○	●	○	
	25	Al & Mg - cast alloy >12% Si	Non Heat Treatable		130	460						
	26	Copper & Cu alloys (Brass/Bronze)	Free cutting, Pb > 1%		110	390	○	●	○	●	○	
	27		Brass (CuZn, CuSnZn)		90	320	○	○	○	○	○	
	28		Bronze (CuSn)		100	360	○	○	○	○	○	
29	Non-metallic - Thermosetting & fiber-reinforced plastics											
30	Non-metallic - Hard rubber, wood etc.											
S	31	High temp. alloys	Fe based	A	200	680						
	32			AH	280	950						
	33		Ni / Co based	A	250	840						
	34			AH	350	1180						
	35			C	320	1080						
	36	Titanium & Ti alloys	CP Titanium		400 MPa							
	37.1		Alpha alloys		860 MPa							
	37.2		Alpha / Beta alloys	A	960 MPa							
	37.3			AH	1170 MPa							
	37.4		Beta alloys	A	830 MPa							
37.5	AH	1400 MPa										
H	38.1	Hardened steel		HT	45 HRC							
	38.2			HT	55 HRC							
	39.1			HT	58 HRC							
	39.2			HT	62 HRC							
	40	Cast Iron	Chilled	C	400	1350	○	○	○	○	○	
41	HT			55 HRC								

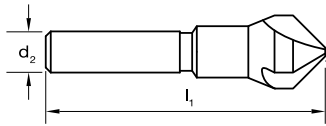
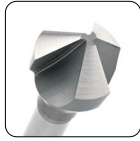
Condition: A (Annealed), AH (Age Hardened), C (Cast), HT (Hardened & Tempered), QT (Quenched & Tempered)

● Optimal ○ Effective

# Countersinks Three Flute, 90°

## suttontools

- Countersinking tool
- For machine use
- For use on most materials including plastics, non-ferrous & ferrous metals



Catalogue Code	<b>C105</b>	<b>C106</b>
Discount Group	<b>A1106</b>	<b>A1108</b>
Material	<b>HSS</b>	<b>HSS</b>
Surface Finish	<b>Brf</b>	<b>TIN</b>
Sutton Designation	<b>N</b>	<b>N</b>
Geometry	-	-
Point Type	90°	90°
Shank Tolerance	-	-

Size Ref.	Range	l <sub>1</sub>	d <sub>2</sub>	Pieces	Item #	Item #
<b>0901</b>	4-10mm	43	6.35 (1/4)		C105 0901	C106 0901
<b>0902</b>	4-14mm	48	6.35 (1/4)		C105 0902	C106 0902
<b>0903</b>	5-20mm	67	12.7 (1/2)		C105 0903	C106 0903
<b>0904</b>	6-28mm	72	12.7 (1/2)		C105 0904	C106 0904
<b>0905</b>	6-37mm	89	12.7 (1/2)		C105 0905	C106 0905

### Set

<b>STF1</b>	0901, 0902, 0903, 0904	4	C105 STF1	
<b>STF1T</b>	0901, 0902, 0903, 0904	4		C106 STF1T



C105 STF1



C106 STF1T

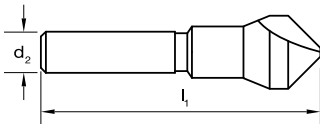
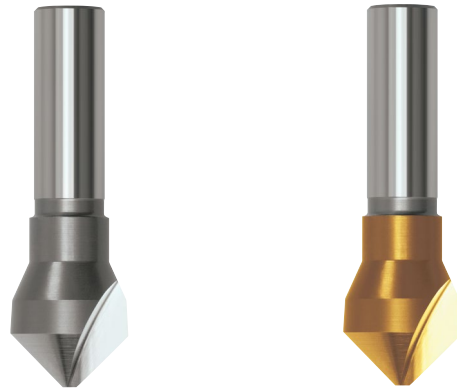
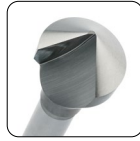
ISO	P										M			K						N						S						H																								
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41							
<b>C105</b>	●	●	○	○		●	○			○							●	○	○	○	○	○	●	○	○	○	○	○	○	○																										
<b>C106</b>	●	●	●	○	○	○	○			○				●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○																										

P Steel 
 M Stainless Steel 
 K Cast Iron 
 N Non-Ferrous Metals 
 S Titanium & Super Alloys 
 H Hard Materials 
 ● Optimal ○ Effective

# Countersinks Single Flute, 90°

**suttontools**

- Countersinking tool
- For use in portable drills or drilling machines
- For use on most materials including plastics, non-ferrous & ferrous metals



Catalogue Code	C103	C104
Discount Group	A1106	A1108
Material	HSS	HSS
Surface Finish	Brt	TiN
Sutton Designation	N	N
Geometry	-	-
Point Type	90°	90°
Shank Tolerance	-	-

Section Finder

Size Ref.	Range	$l_1$	$d_2$	Item #	Item #
0901	4-10mm	43	6.35 (1/4)	C103 0901	C104 0901
0902	4-14mm	48	6.35 (1/4)	C103 0902	C104 0902
0903	5-20mm	67	12.7 (1/2)	C103 0903	C104 0903
0904	6-28mm	72	12.7 (1/2)	C103 0904	

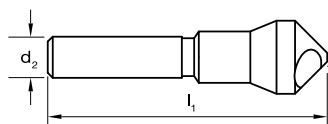
ISO	P										M			K							N							S							H																						
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41								
C103	●	●	●	●	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○					
C104	●	●	●	●	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metals S Titanium & Super Alloys H Hard Materials ● Optimal ○ Effective

# Countersinks Deburring Cross Hole, 90°

## suttontools

- Deburring tool
- Smooth cutting action



Catalogue Code	<b>C101</b>	<b>C102</b>
Discount Group	A1106	A1108
Material	<b>HSS</b>	<b>HSS</b>
Surface Finish	<b>Brt</b>	<b>TiN</b>
Sutton Designation	<b>N</b>	<b>N</b>
Geometry	-	-
Point Type	90°	90°
Shank Tolerance	-	-

Size Ref.	Range	l <sub>1</sub>	d <sub>2</sub>	Pieces	Item #	Item #
<b>0901</b>	3-6mm	45	6.35 (1/4)	Double Ended	C101 0901	C102 0901
<b>0902</b>	4-10mm	43	6.35 (1/4)		C101 0902	C102 0902
<b>0903</b>	5-13mm	48	6.35 (1/4)		C101 0903	C102 0903
<b>0904</b>	8-20mm	67	12.7 (1/2)		C101 0904	C102 0904
<b>0905</b>	14-28mm	72	12.7 (1/2)		C101 0905	C102 0905
<b>0906</b>	13-37mm	89	12.7 (1/2)		C101 0906	C102 0906

### Set

<b>SC1</b>	0901, 0902, 0903, 0904, 0905	5	C101 SC1
<b>SC1T</b>	0901, 0902, 0903, 0904, 0905	5	C102 SC1T



C101 SC1



C102 SC1T

ISO	P										M			K				N						S							H																			
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41	
C101	●	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
C102	●	●	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metals S Titanium & Super Alloys H Hard Materials

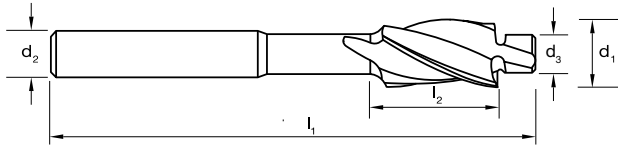
● Optimal ○ Effective

# Countersinks Counterbore

**suttontools**

- Solid pilot style
- 3 flute design
- Right-hand cutting
- Nominal size to suit metric socket head cap screws
- Cobalt High Speed Steel enables counterboring in high alloy steels

**DIN 373**



Catalogue Code	<b>C100</b>
Discount Group	B0709
Material	HSS Co
Surface Finish	Brt
Sutton Designation	N
Geometry	-
Point Type	-
Shank Tolerance	h6

Size Ref.	Size	d <sub>3</sub>	d <sub>1</sub>	l <sub>1</sub>	l <sub>2</sub>	d <sub>2</sub>	Item #
<b>0300</b>	<b>3.0</b>	3.2	6.0	71.0	14.0	5.0	C100 0300
<b>0400</b>	<b>4.0</b>	4.3	8.0	71.0	14.0	5.0	C100 0400
<b>0500</b>	<b>5.0</b>	5.3	10.0	80.0	18.0	8.0	C100 0500
<b>0600</b>	<b>6.0</b>	6.4	11.0	80.0	18.0	8.0	C100 0600
<b>0800</b>	<b>8.0</b>	8.4	15.0	100.0	22.0	12.5	C100 0800
<b>1000</b>	<b>10.0</b>	10.5	18.0	100.0	22.0	12.5	C100 1000
<b>1200</b>	<b>12.0</b>	13.0	20.0	100.0	22.0	12.5	C100 1200

ISO	P										M					K					N					S					H																				
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41		
<b>C100</b>	●	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

**P** Steel **M** Stainless Steel **K** Cast Iron **N** Non-Ferrous Metals **S** Titanium & Super Alloys **H** Hard Materials

● Optimal ○ Effective

Section Finder

