



*sutton*tools

# COUNTERSINKS

▪ Counterbores ▪ Cross Hole ▪ Single Flute ▪ Three Flute



# *Smooth Cutting... Perfect Chamfering*

## **Catalogue Code: C108**

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 & 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
- TiAlN Futura coated
- 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 Ni
H	H	Hard Materials (≥ 45 HRC)	H

^ 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)

Page	60	60	61	61	62	62	63
Catalogue Code	C105	C106	C103	C104	C101	C102	C100
Material	HSS		HSS		HSS		HSS Co
Surface Finish	Brt	TiN	Brt	TiN	Brt	TiN	Brt
Sutton Designation	N		N		N		N
Standard	-		-		-		DIN 373
Depth of Cut	-		-		-		-
Shank Tolerance	-		-		-		h6

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	Cast Iron - Malleable	Ferritic		130	460	○	●	○	●	○	
20	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								

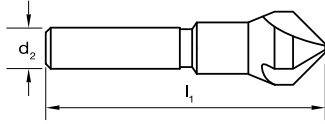
Condition: A (Annealed), AH (Age Hardened), C (Cast), HT (Hardened & Tempered), QT (Quenched & Tempered)

● 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	A1106	A1108
Material	HSS	HSS
Surface Finish	Brt	TIN
Sutton Designation	N	N
Geometry	-	-
Point Type	90°	90°
Shank Tolerance	-	-

Size Ref.	Range	l <sub>1</sub>	d <sub>2</sub>	Pieces	Item #	List Price	Item #	List Price
0901	4-10mm	43	6.35 (1/4)		C105 0901	\$40.41	C106 0901	\$57.82
0902	4-14mm	48	6.35 (1/4)		C105 0902	\$54.04	C106 0902	\$73.00
0903	5-20mm	67	12.7 (1/2)		C105 0903	\$91.58	C106 0903	\$130.81
0904	6-28mm	72	12.7 (1/2)		C105 0904	\$159.26	C106 0904	\$209.91
0905	6-37mm	89	12.7 (1/2)		C105 0905	\$372.54	C106 0905	\$459.28

### Set

<b>STF1</b>	0901, 0902, 0903, 0904	4	C105 STF1	\$345.22	
<b>STF1T</b>	0901, 0902, 0903, 0904	4			C106 STF1T \$434.95



C105 STF1



C106 STF1T

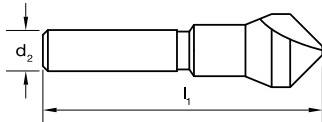
ISO	P										M			K						N						S						H																	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
C105	●	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○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

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  
Discount Group  
Material  
Surface Finish  
Sutton Designation  
Geometry  
Point Type  
Shank Tolerance

C103	C104
A1106	A1108
HSS	HSS
Brt	TIN
N	N
-	-
90°	90°
-	-

Size Ref.	Range	l <sub>1</sub>	d <sub>2</sub>	Item #	List Price	Item #	List Price
0901	1 – 10mm	43	6.35 (1/4)	C103 0901	\$40.41	C104 0901	\$57.82
0902	2 – 14mm	48	6.35 (1/4)	C103 0902	\$54.04	C104 0902	\$73.00
0903	2 – 20mm	67	12.7 (1/2)	C103 0903	\$91.58	C104 0903	\$130.81
0904	3 – 28mm	72	12.7 (1/2)	C103 0904	\$159.26	C104 0904	\$209.91

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	●	●	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

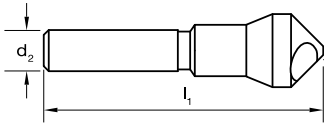
P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metals S Titanium & Super Alloys H Hard Materials

● 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	HSS	HSS
Surface Finish	Brt	TiN
Sutton Designation	N	N
Geometry	-	-
Point Type	90°	90°
Shank Tolerance	-	-

Size Ref.	Range	$l_1$	$d_2$	Pieces	Item #	List Price	Item #	List Price
0901	3-6mm	45	6.35 (1/4)	Double Ended	C101 0901	\$34.12	C102 0901	\$42.60
0902	4-10mm	43	6.35 (1/4)		C101 0902	\$40.41	C102 0902	\$57.82
0903	5-13mm	48	6.35 (1/4)		C101 0903	\$54.04	C102 0903	\$73.00
0904	8-20mm	67	12.7 (1/2)		C101 0904	\$91.58	C102 0904	\$130.81
0905	14-28mm	72	12.7 (1/2)		C101 0905	\$159.26	C102 0905	\$209.91
0906	13-37mm	89	12.7 (1/2)		C101 0906	\$372.54	C102 0906	\$459.28

### Set

SC1	0901, 0902, 0903, 0904, 0905	5	C101 SC1	\$379.34	
SC1T	0901, 0902, 0903, 0904, 0905	5	C102 SC1T	\$471.46	



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	●	●	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

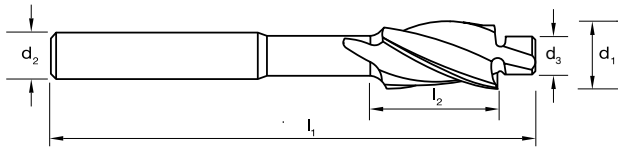
P Steel 
 M Stainless Steel 
 K Cast Iron 
 N Non-Ferrous Metals 
 S Titanium & Super Alloys 
 H Hard Materials 
 ● Optimal ○ Effective

# 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 #	List Price
<b>0300</b>	<b>3.0</b>	3.2	6.0	71.0	14.0	5.0	C100 0300	<b>\$123.33</b>
<b>0400</b>	<b>4.0</b>	4.3	8.0	71.0	14.0	5.0	C100 0400	<b>\$113.63</b>
<b>0500</b>	<b>5.0</b>	5.3	10.0	80.0	18.0	8.0	C100 0500	<b>\$125.10</b>
<b>0600</b>	<b>6.0</b>	6.4	11.0	80.0	18.0	8.0	C100 0600	<b>\$130.97</b>
<b>0800</b>	<b>8.0</b>	8.4	15.0	100.0	22.0	12.5	C100 0800	<b>\$219.56</b>
<b>1000</b>	<b>10.0</b>	10.5	18.0	100.0	22.0	12.5	C100 1000	<b>\$270.62</b>
<b>1200</b>	<b>12.0</b>	13.0	20.0	100.0	22.0	12.5	C100 1200	<b>\$283.39</b>

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 
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 ● Optimal ○ Effective

