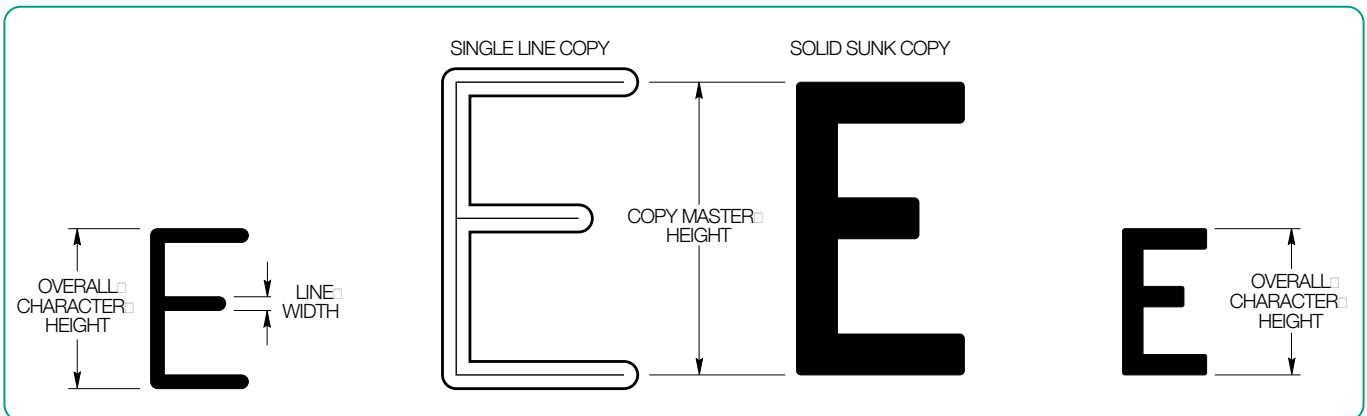


Pantograph Ratio and Cutter Selection



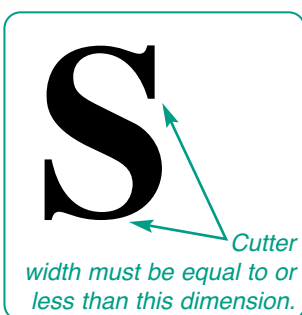
The relationship between line width and character height is a very grey area, as two important factors come into being, namely depth of cut and cutter angle, as either one will effect the overall balance of the character being engraved. Obviously the deeper the cut the wider the line will be, likewise the greater the cutter angle the wider the line. The following simple ratios can be used to determine the cutter truncation required to achieve different line widths.

BOLD LINE	MEDIUM LINE	LIGHT LINE	EXTRA LIGHT LINE
1/6 of overall character height	1/7 of overall character height	1/8 of overall character height	1/10 of overall character height

Pantograph Ratio and Cutter Selection

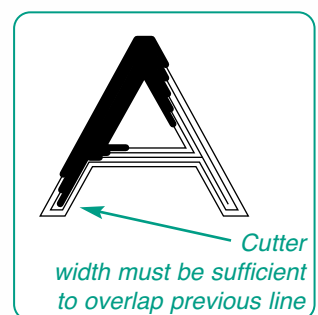
The formula below is designed to assist in finding the correct pantograph ratio and cutter width for engraving characters of a specified overall height. For example a 3/8" (0.375) overall character height with a medium line width is required using 3/4" (0.750) master copy. (The formula only applies to Single line copy).

OVERALL CHARACTER HEIGHT	÷	LINE WIDTH REQUIRED	=	CUTTER WIDTH (TRUNCATION)
0.374	÷	7	=	0.054
OVERALL CHARACTER HEIGHT	-	CUTTER WIDTH (TRUNCATION)	=	ACTUAL HEIGHT OF CHARACTER
0.374	-	0.054	=	0.321
MASTER COPY SIZE	÷	ACTUAL HEIGHT OF CHARACTER	=	PANTOGRAPH REDUCTION
0.750	÷	0.321	=	2.33



When using solid sunk copy on a manual machine the cutter width is determined by the type of copy being used ie whether it has serifs or the sharpness of the corners required. Final cutter selection is down to the individual

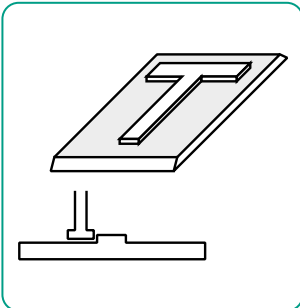
Multiline copy is designed to speed up the production of a solid sunk character and the only requirement relating to the cutter is that width must be of sufficient size to overlap the previous engraved line.



Computer controlled engraving machines adopt the same principle as that used on multiline copy to produce a solid sunk character. The programmes used to control these machines differ considerably, as do the number of passes and the distance between each overlap therefore the selection of the correct cutter truncation is largely down to experience.

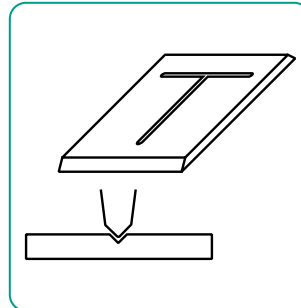
Copy Formats

Raised Copy



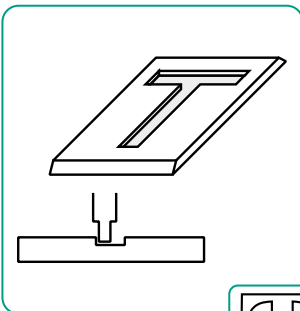
This is used to produce a raised character useful in stamp, die and mould making. The bulk of the material is removed using a large style and cutter. By progressively using smaller styles and cutters a square edged character is produced

Line Copy



This is the most commonly used copy in the engraving trade and is available in all but a few styles. Different line widths can be obtained by using varying cutter sizes, but as a general rule the line width should be 1/8th of the character height.

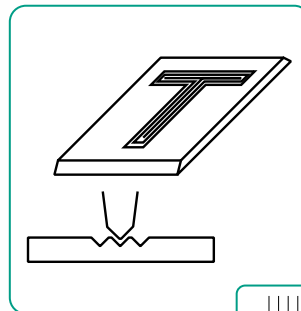
Solid Sunk Copy



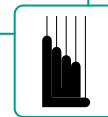
This is used where characters of varying line thickness are required, e.g. Old English, Cheltenham and Roman. It is also used for broad characters with sharp corners and is available in most styles.



Multi-Line Copy



This is used on larger characters where a square cornered letter is required. A pointed style is used to follow the grooves in conjunction with a cutter of large enough diameter to just overlap the tracks as shown.



Listed below are various standard set combinations designed to suit the general requirements of particular copy styles. These set combinations have been proved to be the most economical to the customer and can usually be supplied ex-stock. Any variations on these sets can be quoted for on application, e.g. additional characters, symbols, etc.

Set A (148 Pieces)

AAAA BBBB CCCC DDDD EEEEEEE
FFFF GGGG HHHH III JJ KK LLLLL
MMMM NNNNN OOO PPPP Q
RRRRR SSSSS TTTTT UUU VV WWW
X YY ZZ
000 111 222 333 444 555 666 777 888
999 && L^{TD} ° x - + / () ,,,, ; ; “” !

Including 30 Spacers

Set B (156 Pieces)

AAAAA BB^{BB} CC^{CC} DD^{DD} EEE^{EEEE} FF^{FF}
GG^{GG} HH^{HH} III^{III} JJ^{JJ} KK^{KK} LLL^{LLL} MM^{MM}
NN^{NNN} OO^{OOO} PP^{PP} QQ^{QQ} RRR^{RRR}
SS^{SSSS} TTT^{TTTT} UU^{UU} VV^V WW^{WW} X^X
YY^{YY} Z^Z
00 11 22 33 44 55 66 77 88 99 && x -
+ / () .. , , ; ; “” !

Including 30 Spacers

Set C (136 Pieces)

AA BB CC DD EE FF GG HH II JJ KK
LL MM NN OO PP Q RR SS TT UU V
WW X YY Z &
aaa bb cc dd eee ff gg hh ii jj kk ll mm
nnn oo pp q rrr sss ttt uu vv ww x yy z
& 00 11 22 33 44 55 66 77 88 99 - / () .
, ; ; “” !

Including 30 Spacers

Set D (131 Pieces)

AAAA BBB CCC DDD EEEEEEE FFF
GGG HHH III JJ KK LLLL MMM NNN
OOO PP Q RRR SSSS TTTT UUU VV
WWW X YY Z
000 111 222 333 444 555 666 777 888
999 && L^{TD} ° x - + / () ,,,, ; ; “” !

Including 30 Spacers

Set E (92 Pieces)

AA BB CC DD EEE FF GG HH II J K
LL MM NN OO P Q RR SS TT U V
WW X Y Z & L^{TD} ° x - + .. , , ; ; “” !
000 111 222 333 444 555 666 777 888
999

Including 30 Spacers

Set F (102 Pieces)

aaaaa bbbb cccc dddd eeeeeee ffff
ggg hhhh iiiii jjj kkk llll mmm nnnn
ooooo ppp qq rrrr sssss tttt uu vv
www xx yyy zz &&

Set H (80 Pieces)

aaaa bbb ccc ddd eeeee fff ggg hhh
iiii jj kk lll mmm nnnn ooooo ppp q rr
ssss tttt uu vv www x yy z &

Set G (43 Pieces)

A B C D E F G H I J K L M N O P Q R
S T U V W X Y Z & 0123456789 . , !!
L^{TD} ° x - +

Set I (27 Pieces)

a b c d e f g h i j k l m n o p q r s t u v
w x y z &

Single Line - Illustrations of full alphabets available on request

A STYLE line copy	ULTRA condensed	LONDON ZOO line copy
C STYLE line copy	HOSPITAL line copy	MICROGRAMMA
GILL SANS line copy	<i>SERIF ITALIC</i> line copy	Greek line copy
<i>ITALIC</i> line copy	TRANSPORT line copy	Russian line copy
UNIVERSE 57 line copy	BROAD line copy	Hebrew line copy
HELVETICA line copy	MICROGRAMMA	Polish line copy

Character Height	Set Composition	Capitals & Numerals	Lower Case	Large & Small Capitals	Blank Size	Letter Price	Set Price
3/4"	A	148 Pieces			1.25" x 20°	£1.96	£141.96
3/4"	F		102 Pieces		1.25" x 20°	£1.96	£131.04
1.5"	E	92 Pieces			2.25" x 20°	£3.28	£196.56
1.5"	H		80 Pieces		2.25" x 20°	£3.28	£180.18
3"	G	43 Pieces			3.5" x 20"	£5.02	£174.72
3"	G		43 Pieces		4.5" x 20°	£6.23	£207.48
3"	I	27 Pieces			4.5" x 20°	£6.23	£163.80
3/4"	A	148 Pieces			31.75mm x 30°	£1.96	£141.96
3/4"	F		102 Pieces		31.75mm x 30°	£1.96	£131.04
12mm & 8mm	B			156 Pieces	31.75mm x 30°	£1.96	£151.20
18mm & 12mm	B			156 Pieces	31.75mm x 30°	£1.96	£151.20
24mm & 16mm	B			156 Pieces	31.75mm x 30°	£1.96	£151.20
50mm	E	92 Pieces			69.85mm x 30°	£3.72	£218.40
50mm	H		80 Pieces		69.85mm x 30°	£3.72	£196.56

Solid Sunk - Illustrations of full alphabets available on request

A STYLE	HELVETICA medium	EGYPTIAN italic
C STYLE sunk copy	HOSPITAL	MICROGRAMMA
ULTRA condensed	TRANSPORT	TRAJAN ROMAN
GILL sans	FUTURA	
GROTESQUE No7 sunk copy	CONSORT roman	

Character Height	Set Composition	Capitals & Numerals	Lower Case	Blank Size	Letter Price	Set Price
3/4"	A	148 Pieces		1.25" x 20°	£4.15	£218.40
3/4"	F		102 Pieces	1.25" x 20°	£4.15	£207.48
1.5"	E	92 Pieces		2.25" x 20°	£4.69	£262.08
1.5"	H		80 Pieces	2.25" x 20°	£4.69	£240.24
3"	G	43 Pieces		3.5" x 20"	£8.74	£262.08
3"	G	43 Pieces		4.5" x 20°	£8.84	£273.00
3"	I	27 Pieces		4.5" x 20°	£8.84	£240.24
3/4"	A	148 Pieces		31.75mm x 30°	£4.15	£218.40
3/4"	F		102 Pieces	31.75mm x 30°	£4.15	£207.48
50mm	E	92 Pieces		69.85mm x 30°	£5.02	£273.00
50mm	H		80 Pieces	69.85mm x 30°	£5.02	£251.16

Solid Sunk - Illustrations of full alphabets available on request

ROMAN BROAD		ROMAN MEDIUM			ROMFORD		
Character Height	Set Composition	Capitals & Numerals	Lower Case	Large & Small Capitals	Blank Size	Letter Price	Set Price
1"	A	148 Pieces			1.25" x 20°	£4.20	£223.86
1.5"	E	92 Pieces			2.25" x 20°	£4.69	£262.08
3"	G	43 Pieces			3.5" x 20"	£8.74	£273.00
1"	A	148 Pieces			31.75mm x 30°	£4.20	£223.86
50mm	E	92 Pieces			69.85mm x 30°	£5.46	£300.30

CHELTENHAM *sunk copy* OLD ENGLISH *sunk copy*

Character Height	Set Composition	Capitals, Numerals & Lower Case	Blank Size	Letter Price	Set Price
7/8"	C	136 Pieces	1.25" x 20°	£4.10	£218.40
1 5/8"	C	136 Pieces	2.25" x 20°	£4.20	£354.90
7/8"	C	136 Pieces	31.75mm x 30°	£3.82	£218.40
50mm	C	136 Pieces	69.85mm x 30°	£4.26	£371.28

Arabic

Character Height	Capitals & Numerals	Blank Size	Letter Price	Set Price
7/8"	3 off each 98 Characters 294 Total	1.25" x 20°	£4.69	£464.10
1 1/2"	3 off each 98 Characters 294 Total	2.25" x 20°	£5.24	£567.84
7/8"	3 off each 98 Characters 294 Total	31.75mm x 30°	£4.51	£464.10
50mm	3 off each 98 Characters 294 Total	69.85mm x 30°	£5.24	£567.84

Double Line - Illustrations of full alphabets available on request

Roman Double Line Script Double Line

Character Height	Set Composition	Capitals, Numerals & Lower Case	Blank Size	Letter Price	Set Price
7/8"	C	136 Pieces	1.25" x 20°	£4.09	£218.40
7/8"	C	136 Pieces	31.75mm x 30°	£4.09	£218.40

Raised - Illustrations of full alphabets available on request

A STYLE
C STYLE

ITALIC RAISED
ROMAN RAISED

GILL sans

Character Height	Capitals & Numerals	Blank Size	Letter Price
3/4"	*	1.25" x 20°	£ 7.64
1.5"	*	2.25" x 20°	£15.29
3"	*	3.5" x 20°	£21.84
20mm	*	31.75mm x 30°	£ 7.64
50mm	*	69.85mm x 30°	£17.47

Outline - Illustrations of full alphabets available on request

EGYPTIAN italic
GILL SANS outline

HELVETICA outline
MOBIL outline

Character Height	Set Composition	Capitals & Numerals	Lower Case	Blank Size	Letter Price	Set Price
3/4"	A	148 Pieces		1.25" x 20°	£1.96	£218.40
3/4"	F	102 Pieces		1.25" x 20°	£1.96	£207.48
1.5"	E	92 Pieces		2.25" x 20°	£3.28	£256.62
1.5"	H		80 Pieces	2.25" x 20°	£3.28	£218.40
3"	G	43 Pieces		4.5" x 20°	£6.22	£273.00
3"	I		27 Pieces	4.5" x 20°	£6.22	£218.40
20mm	A	148 Pieces		31.75mm x 30°	£1.96	£218.40
20mm	F		102 Pieces	31.75mm x 30°	£1.96	£207.48
50mm	E	92 Pieces		69.85mm x 30°	£3.72	£257.25
50mm	H		80 Pieces	69.85mm x 30°	£3.72	£234.78

CHELTENHAM outline

OTB CASISE outline

Character Height	Set Composition	Capitals, Numerals & Lower Case	Blank Size	Letter Price	Set Price
7/8"	C	136 Pieces	1.25" x 20°	£4.69	£207.48
1 5/8"	C	136 Pieces	2.25" x 20°	£5.46	£354.90
22mm	C	136 Pieces	31.75mm x 30°	£4.69	£207.48
50mm	C	136 Pieces	69.85mm x 30°	£5.46	£354.90

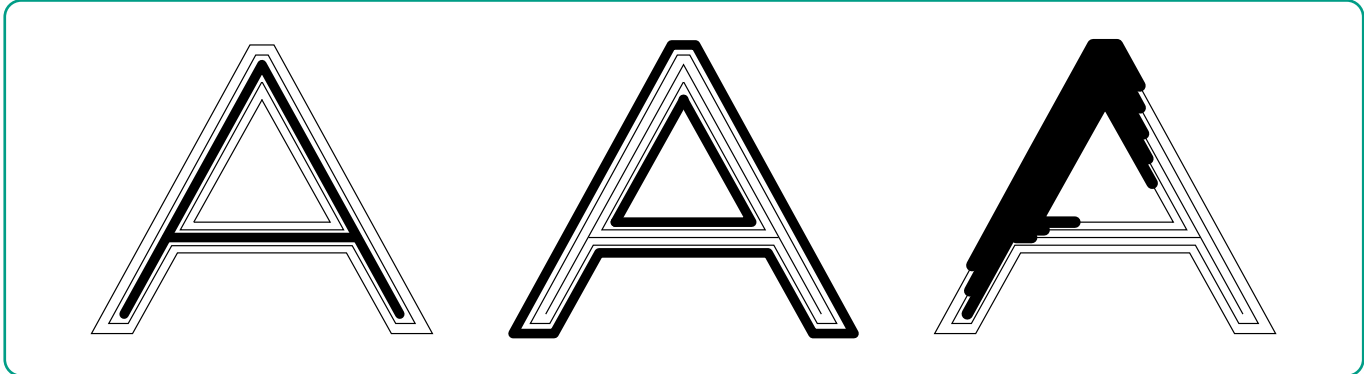
Outline - Illustrations of full alphabets available on request

Farsi

Character Height	Capitals & Numerals	Blank Size	Letter Price	Set Price
7/8"	3 off each 173 characters 519 total	1.25" x 20°	£5.46	£600.10
1 1/2"	3 off each 173 characters 519 total	2.25" x 20°	£7.31	£655.20
7/8"	3 off each 173 characters 519 total	31.75mm x 30°	£5.46	£600.10
50mm	3 off each 173 characters 519 total	69.85mm x 30°	£8.19	£655.20

Multi Line - Illustrations of full alphabets available on request

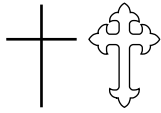
A STYLE **C STYLE**
ULTRA condensed **GILL sans**



Character Height	Set Composition	Capitals & Numerals	Lower Case	Large & Small Capitals	Blank Size	Letter Price	Set Price
2"	E	92 Pieces			2.25" x 20°	£4.37	£218.40
3"	G	92 Pieces			3.5" x 20"	£6.83	£218.40
50mm	E	92 Pieces			69.85mm x 30°	£4.69	£229.32

Funeral Directors - Specially designed for funeral directors

AAAAAA BBBB CCcc DDdd EEEEEE FFFF GGgg HHHH IIII JJJJ KKkk
 LLLL Mmmm NNNNNN OOOOO PPpp QQQQ RRRRRR SSSSSS
 TTTTTT UUUU VVvv WWww Xx Yyyy Zz
 00 11 22 33 44 55 66 77 88 99 && ., , ; ;
 JAN. FEB. MARCH APRIL MAY JUNE JULY AUG. SEPT. OCT. NOV. DEC.
 AGED DIED YEARS 199 200 ND. RD. TH. ST. R.I.P. M^c



including 30 Spacers

Character Height	Set Composition	Capitals & Numerals	Lower Case	Large & Small Capitals	Blank Size	Letter Price	Set Price
1" & 3/4"	C	136 Pieces			1.25" x 20°	£1.96	£251.16
1 7/8" & 1 1/4"	C 1	36 Pieces			2.25" x 20°	£3.37	£305.76
24mm & 16mm	C 1	36 Pieces			31.75mm x 30°	£1.96	£251.16
50mm & 35mm	C	136 Pieces			69.85mm x 30°	£5.46	£354.90

Architectural Copy

We have listed below a selection of more commonly used Architectural copy. They are available either forward or reverse in a range of sizes on Phenolic or Brass. Specific prices and sizes are available on applications. Other styles are also available.

Berling Light

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz1234567890&

Berling Bold

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz1234567890&

Claredon Medium

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz1234567890&

Claredon Bold

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz1234567890&

Futura Light

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz1234567890&

Futura Medium

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz1234567890&

Perpetua

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz1234567890&

Perpetua Italic

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz1234567890&

Times Bold

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz1234567890&

Times Bold Italic

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz1234567890&

Univers 49

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz1234567890&

Univers 55

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz1234567890&

Univers 57

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz1234567890&

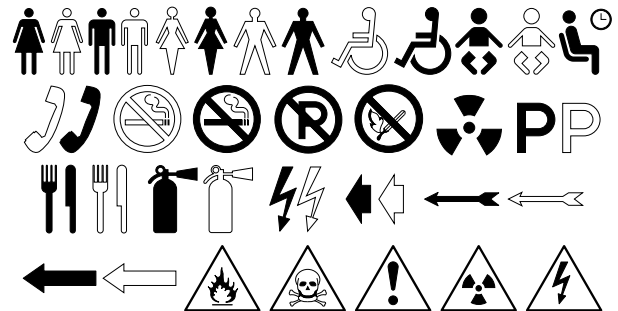
Univers 65

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz1234567890&

Univers 67

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz1234567890&

Amenity Symbols

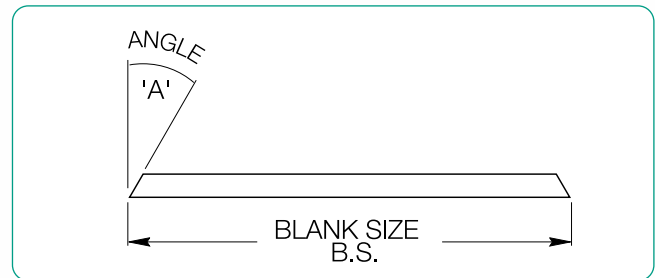


Specific prices and sizes are available on application

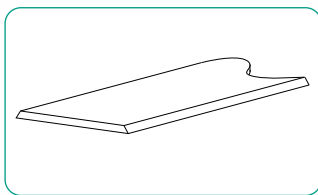
Blank Size

Manufacturer	B.S.	'A'
Newing-Hall / Taylor-Hobson	1 1/4"	20°
Newing-Hall / Taylor-Hobson	2 1/4"	20°
Newing-Hall / Taylor-Hobson	3 1/2"	20°
Newing-Hall / Taylor-Hobson	4 1/2"	20°
Alexander	1 1/4"	20°
Alexander	2 1/4"	20°
Alexander	3 1/2"	20°
Alexander	4 1/2"	20°
Alexander	32.75mm	30°
Gravograph	18.45mm	30°
Gravograph	31.75mm	30°
Gravograph	69.85mm	30°
Kanto	31.75mm	30°
Kanto	69.85mm	30°

Manufacturer	B.S.	'A'
Scripta / Multigrave / Suregrave	31.75mm	30°
Scripta / Multigrave / Suregrave	32.75mm	30°
Scripta / Multigrave / Suregrave	69.85mm	30°
David Dowling	3/4"	30°
David Dowling	1 1/4"	20°



Brass Copy Strip

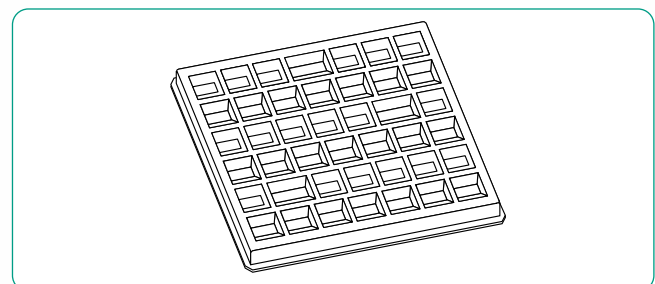


	B.S.	'A'	Thickness		Code	Price (£)
			SWG	MM		
	3/4 x 8"	30°	16	1.6	BCS 7506	6.03
	1 1/4 x 16"	20°	16	1.6	BCS 12506	9.28
	2 1/4 x 16"	20°	16	1.6	BCS 22506	13.92
	3 1/2 x 16"	20°	16	1.6	BCS 35006	16.70
	4 1/2 x 16"	20°	16	1.6	BCS 45006	19.53
	18.45 x 200mm	30°	16	1.6	BCS 18456	6.63
	31.75 x 400mm	30°	16	1.6	BCS 31756	9.28
	32.75 x 400mm	30°	16	1.6	BCS 32756	11.14
	69.85 x 400mm	30°	16	1.6	BCS 69856	17.32
	1 1/4 x 16"	20°	14	2.0	BCS 12504	10.21
	2 1/4 x 16"	20°	14	2.0	BCS 22504	18.10
	3 1/2 x 16"	20°	14	2.0	BCS 35004	21.71
	4 1/2 x 16"	20°	14	2.0	BCS 45004	25.39
	1 1/4 x 16"	20°	12	2.6	BCS 12502	13.27
	32.75 X 400mm	20°	12	2.6	BCS 32752	14.48
	2 1/4 x 16"	20°	12	2.6	BCS 22502	23.53
	1 1/4 x 16"	20°	10	3.3	BCS 12501	17.25
	32.75 x 400mm	30°	10	3.3	BCS 32751	18.83

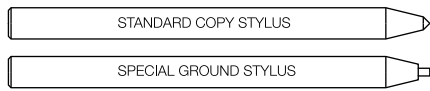
Blank Size

Manufacturer	Code	Price (£)
Single Set Tray	CTSS	9.50
Double Set Tray	CTDS	13.50

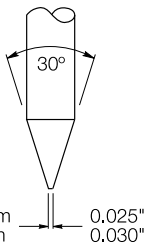
Vacuum formed plastic copy tray and lid with a firm base in which copy may be kept and selected with ease



Copy Stylus

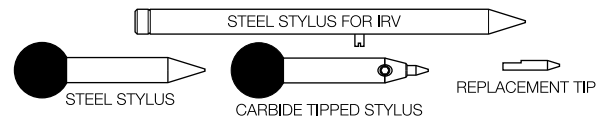


Machine Model	Code	Price (£)
K Inches & Metric	CS KI	£4.37
K Spring Loaded	CS KSL	£3.74
D Metric	CS DM	£3.74
D, A & CX Inches	CS DI	£3.74
Pantocut	CS PC	£9.10
Alexander	CS AI	£3.74
Kanto	CS KM	£9.10

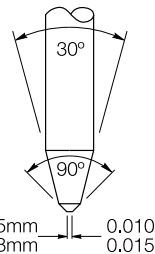


For use on:-
 Gravograph
 Kanto Graph
 Multigrave
 Micom
 Scripta
 Suregrave

Copy Stylus



Machine Model	Code	Price (£)
Steel IN2, IM3, ITM, ITL	GCS SIM3	£9.06
Steel IRV	GCS SIRV	£18.02
Carbide Tipped IN2, IM3, ITM, ITL	GCS CT	£29.48
Replacement tip for above	GCS RCT	£12.01
Stylus Regrind	CGCSRGR	£3.06
Specials made to order		



For use on:-
 Alexander
 Taylor Hobson
 Newing Hall