



Beckhoff TwinCAT ®

The Window Control and Automation Technology

Application:

Schirmer BAZ – Data server (\$TX)

Format notation

1	Record format	4
1.1	Production data format.....	4
1.2	Identification data for production run	5
1.3	Data for PVC loading table	6
1.4	Data specification for part processing.....	7
1.5	Residual part identification	11
1.6	Label data specifications.....	12
1.7	Cutting data for steel production	13
2	Examples	14
2.1	PVC data.....	14
2.2	Labelling data.....	15
2.3	Steel data	16
3	Specific features	17
3.1	Two steel parts in one PVC piece.....	17
3.1.1	PVC-data (\$TX-file)	17
3.1.2	Steel-data (\$SX-file)	18

1 Record format

1.1 Production data format

General + characteristics

The data set format described below corresponds to the data format for Schirmer BAZ machines with S2000-application. It can also be used if the information transferred via this format is sufficient for the production. In other words, you can use existing data set formats for machining centres with Twin-CAT-application.

Please note the following special features and differences with regard to the format used under S2000:

- Bar numbers and part numbers must start with "1 " and must be unique.
- Comment data records (identification "KO") are ignored, although they can be transferred.
- In the KB data records only the field "TB" may be used for selecting the profile.
- The specification in field "B" of bar data set "KS" is ignored, i.e. it can be transferred as a fixed value e.g. "B00" or numbered consecutively.
- The label number of a PVC part must be identical to the piece number of the PVC part.
- The label number of a residual part must match the part number of the residual part.
- If no residual part number is transferred, the residual label number is assumed to be 'last bar part number + 1'
- Use the field SA for selecting steel in the KT data set.
- The steel part number must match the PVC part number. (Conversion may be activated on the data server, provided certain rules are adhered to.)
- If associated label and steel data are transferred with the cutting data, the first character from the label file and the steel file extension must be identical (e.g. \$ET and \$SX).

If the newer, extended data format you liked to use, this is possible by the employment of another data server. In addition you contact the company Schirmer please directly.

The BAZ Data server (baz:\$TX) evaluates only the following format.

The Schirmer cutting centre is designed for the following functions:

1. Removal of profiles from a magazine
2. Cutting and processing of individual parts
3. Output of individual components with assignment of case no.

These functions require the following functions:

1. Data to identify the production run
2. Loading table for profiles
3. Cutting and processing data for individual parts
4. Residual part processing

All data are consolidated in an ASCII file in the specified order. Each line of the text starts with two code characters that specify the line's data type. The relevant identifying letters are listed below and then described in more detail.

Identification for production run

Identification letters for the production procedure:

OP Name of optimisation run
KO Commentary line

Identification PVC-loading table

Loading table data – PVC:

KB Loading table - PVC

Identification part data

Data for cutting and machining of individual PVC-parts:

KS bar data set
KT part data set

Identification residual information

Data for residual parts:

KR residual part data set

1.2

Identification data for production run

Optimisation data

OPT Optimisation run 3 / profile: 0815\$

OP

OP Identification letters for optimisation name

Tx...x\$

T Identification for text
x...x ASCII-text 30 character maximal
\$ Mark for end of text
This field is not used from the TwinCAT-application.

Comment lines

KON00T Comment: job includes\$

KO

KO Identification letters for comment line

Nxx

N Identification letter for line number.
xx 00 <= xx <= 14: line number

Tx...x

T Identification letter for text
x...x ASCII-text, maximum 80 characters. '\$' can be set as an end marker for shorter entries.

\$

\$ Mark for end of text
The TwinCAT-application does not analyse this text.

1.3

Data for PVC loading table

Data set for PVC

Loading table

KB

KBNxxxAxxExBx...xLxxxxxTBxxxxxxxx

KB Identification letters for PVC-input table

Nxxx.....

N

Identification letter for bar number

xxx

001 <= xxx <= 999

(Reference to the bar number under bar data)

Axx.....

A

Identification letter for quantity of profile bars

xx

A = 01 (Fixed value)

Ex

E

Track identifier

x

x = 1 : individual bar, rear track

x = 2 : individual bar, front track

x = 3 : dual track processing

The default mode for the Schirmer BAZ is track = 1 (E1).

Bx...x

B

Identification letter for profile designation

x...x

ASCII-text, 20 digit. The text should only contain digits from 0 – 9, letters from a – z, A – Z and spaces.

Lxxxxx.....

L

Identification letter for uncut bar length,

xxxxx

Bar length in 0.1 mm

ATTENTION: For residual parts the whole profile length must be measured.

TBxxxxxxxx.....

TB

Identification letters for profile type designation

xxxxxxxx

8 character ASCII, for profile type designation. Only digits between 0 – 9, letters between a – z, A – Z no spaces. Special characters can also be used, except: '\ / < > * " ?'.

SBxxxxxxxx

SB

Identifier for steel profile type..

xxx...xxx

8 digit, ASCII, only digits between 0-9, letters between a - z, A - Z and spaces. This field is only use if you will say witch steel-profile is standard for this pvc-profile when you are using the optimizing function on the machine.

(Under DOS applications these data were specified in the part sets (KT). This is still possible.)

TFxxx...xxx.....

TF

Identification letters for profile colour coding of the profile.

xxx...xxx

20 digit, ASCII, only digits between 0 – 9, letters between a – z, A – Z no spaces. Special characters can also be used, except: '\ / < > * " ?'.

!! In the DOS version of S2000-based BAZ's this field cannot be transferred and would lead to an error.

1.4 Data specification for part processing

Bar data

KSNxxxLxxxxxBxx

KS	KS	Identification letters for PVC bars
Nxxx	N xxx	Identification letter for bar consecutive number 001 <= xxx <= 999: bar number (Reference to the profile bar loading table)
Lxxxxx.....	L xxxxx	Identification letter for uncut bar length Bar length in 1/10mm
Bxx.....	B xx	Identification letter for row in loading table. 00 <= xx <= 99 (This information is not evaluated)

Piece data

KTNxxxxFxxxKxxxxxxPxxxTxxLxxxxGxyWB,xxx,yyyyy;SAxyzzzzuuu...C

KT	KT	Identification letters for part data
Nxxx.....	N xxxx	Identification letter for consecutive part number 0001 <= xxxx <= 9999: part number
Fxxx.....	F xxx	Identification letter for case number 000 <= xxx <= 999: code for case number
FWxxxxyy.....	FW xxx yyy	Identification letter for trolley number and shelf location 000 <= xxx <= 999: trolley number 000 <= yyy <= 999: case number coding If this entry is used, the individual transfer of the case number/code via Fxxx ID mutually exclusive.
Kxxxxxxx.....	K xxxxxxx	Identification letter for commission 7 digit, ASCII, may only contain digits between 0 – 9, letters between a – z, A – Z or spaces.
Pxxxxx.....	P xxxxx	Identification letter for position name/number 5 digit, ASCII, may only contain digits between 0 – 9, letters between a – z, A – Z or spaces.
Txx.....	T xx	Identification letter for part designation/coding 2 digit, ASCII, may only contain digits between 0 – 9, letters between a – z, A – Z or spaces.
Lxxxxx.....	L xxxxx	Identification letter part length 5 digit, Part length from tip to tip in 1/10mm

Gxy	G	Identification letter for mitre
	x	Mitre incision x = 1 : 45 degrees x = 2 : 90 degrees x = 3 : transom pointing x = 4 : cut for butt weld x = 5 : cut for inverse butt weld The cutting height must be specified under code Q separately.
	y	Mitre cut off y = 1 : 45 degrees y = 2 : 90 degrees y = 3 : transom pointing y = 4 : cut for butt weld y = 5 : cut for inverse butt weld The cutting height must be specified under code Q separately.

For cut codes from, 3' the machine must be equipped accordingly.

GG±xxxx±yyyy.....	GG	Identification letters for mitre in degrees
	+/-	Identification sign prior to mitre cut
	xxxx	First cut angle in 1/100 degrees
	+/-	Identification sign prior to mitre cut off
	yyyy	Last cut angle in 1/100 degrees The angle settings go from + to -, i.e. over zero. GG0000 = 90° cut. The machine must be equipped accordingly.

Qxxxxxyyyyy.....	Q	Identification letter for cutting height when carrying out cut for butt weld.
	xxxxx	Cutting height in 1/10mm for first cut (Measured from the upper edge of the profile up to mitre).
	yyyyy	Cutting height in 1/10mm for last cut (Measured from the upper edge of the profile up to mitre).

Sxyyyzzz	S	Identification letter for steel specification. If the machine is not equipped for steel machining, the steel command is omitted.
	x	Steel selection x = 0 : no steel x = 1 : Steel, inserted manually x = 2 : Steel, inserted automatically x = 3 : Special steel, inserted manually, but it is provided from externally x = 5 : Special part for special equipment or special treatment of the PVC part at the manual steel insertion unit
	yyyyy	Length of the steel in 1/10mm
	zzz	Number or steel type designation. 000 <= zzz <= 999.

For machines with automatic insertion station, the insertion depth relative to the reference edge of the part must be specified over a agreed WB-ident).

SA xbnnnnnyyyyyzzzzttt	SA	Identification letters for steel specification for machines with automatic steel insertion. If the machine is not equipped for steel machining, steel command is omitted.
	x	Steel selection x = 0 : no steel x = 1 : Steel inserted manually x = 2 : Steel inserted automatically x = 3 : Special steel inserted manually, but it is provided from externally x = 5 : Special part for special equipment or special treatment of the PVC part at manual steel insertion unit.
	b	track in direction of movement Since BAZ only uses a single profile, a fixed value b=1 is transferred.
	nnnn	part assignment number in steel data, if automatic steel insertion is used.
	yyyyy	Length of steel in 1/10mm
	zzzzz	Steel insertion depth in 1/10mm, relative to the reference edge of the PVC part.
	ttt	steel type number 000 <= ttt <= 199
SBxxxxxxx	SB	Identifying letters for steel profile type designation can be used as an alternative to the type number in the SA field.
	xxxxxxx	8 character ASCII, may only contain digits between 0 – 9, letters between a – z, A – Z or spaces.
DEbdnnnnxxxxx.....	DE	Identification letters for printer request (optional)
	b	b = 1 : track in direction of movement (fix value for BAZ)
	d	d = 1 : Standard machine, with one printer number, if several printers are available, the required printer number must be specified. d = 0 : no label printing
	nnnn	Label number of the label to be printed in the label data (This number must be equal to the part number of the PVC-part)
	xxxxx	Label position in 1/10 mm on the part, relative to the profile start in direction of movement.

<i>WB,bbb,xxxxx;.....</i>	WB	Identification letters for tool processing, with variable handing of parameters.
,		Parameter separation code
bbbbbbbbb		Machining process code = 8 character ASCII maximal. In each case the process can be taken from the enclosed operation list with the appropriate additional parameters. Normally a number of 3 digits are used. When not on DOS compatibility must be respected, you can edit numbers up, 9999 'pass.
,		Parameter separation character
+/-		Identification sign prior to processing position (no indication = +)
xxxxx		Processing position in 1/10 mm, relative to the profile start in direction of movement.
,		Parameter separation code
....		Next parameter
,		Parameter separation code
....		Parameter must be in indication depending on the selected processing code.
,		Parameter separation code
....		Last parameter
;		End code of parameter list.

Normally only the treatment number and the treatment position will transferred. If more parameters must be handed over, follow please the meaning of the subsequent parameters which can be configured in the data server.

<i>Blx...x.....</i>	BI	Barcode Identifier (Optional)
xxx...xx		20 digit, ASCII, may only contain digits between 0 – 9, letters between a – z, A – Z or spaces.
<i>C.....</i>	C	Identification letter for continuation of parts description in the next line. This is necessary if the line would longer than 120 characters. The maximum numbers of successive lines is 10.

1.5

Residual part identification

Residual part data

KRLxxxxxAx

transfer
KR

KR Identification letters for residual part

Nxxxx.....

N Identification letter for residual part number
xxxx 0001 <= xxxx <= 9999, is used as reference for residual pieces labelling.

If no residual part number is transferred, the part number of the last part in bar + 1 is automatically assumed as the residual part number and used for any label printing.

Lxxxxx.....

L Identification letter for residual part length
xxxxx 5 digit, Length from tip to tip in 1/10mm

Between the remainder residual length produced on the machine, and given here, can it possibly to differences come, depending upon which like is well the inclusion of the cut loss in the AV-software realized.

Ax

A Identification letter residual part code
x x = 1 = residual part
x = 2 = waste material

Residual part code (rest code) - the differentiation between residual part and waste depends on the length and is determined by the machine construction and other factors. The limit lengths are specified by Schirmer.

DEbdnnnnxxxxx.....

DE Identification letter for printer request (optional)
b b = 1 : Track in direction movement, fixed value for BAZ
d d = 1 : Standard machine, with only one printer
Printer number, if several printers are available, the required printer number must be specified.
nnnn Label number of the label to be printed in the label data (reference number). This must be identical to the part number!
xxxxx Label position in 1/10 mm on the part, relative to the profile start in direction of movement.

The machine is configurable such that it automatically generates a residual label without requiring separate data specifications.

1.6

Label data specifications

General

Label data are only required for machines and machining centres with an option for label printing. The labels are printed on the connected label printer synchronous with the cutting process, at the steel loading station or at the part discharge station.

All labels associated with a production lot (based on a production data file) are consolidated in an ASCII text file. Like the production data, the information in this text file starts with two identifying letters that determine the data type for the line, followed by the number of the part for which the label data are intended. A label can have any number of text lines. Each text line must contain the four-digit part number as a unique identifier for the part data. The switch to the next part number indicates the end of the previous label specification.

Label data

In addition to legible information and commands, each text line may also contain control characters for the connected printer. The control characters are specified as three-digit decimal values. A preceding \$ sign is used as ID for control information. In this way any number of control characters can be implemented in the print specification data, so that any number of label formats can be written and transferred.

The label numbers must always match the part numbers.

Construction

Construction of a label data text line:

EDNxxxxTxxx...\$yyy...xxx

	ED	Identification letters for label data
Nxxxx.....	N	Identification letter for label number
	xxxx	The number must correspond with the piece number from the PVC part (KTNxxxx).
Tx...x	T	Identification letter for print text
	xxx	Print information for the part to be printed (ASCII-text)

The non-displayable control characters in the print data for a label printer can be encoded, too. Basically, all characters with character reference be passed, but this particularly applies to the following characters:

Character	ASCII (decimal)	Char reference
STX	2	\$002
ETX	3	\$003
TAB	9	\$009
LF (Line feed)	10	\$010
CR (Carriage return)	13	\$013
ESC	27	\$027

1.7

Cutting data for steel production

General

The steel cut loading information for the machine is specified via the steel data. The steel data are loaded automatically into the machine with the PVC data. In order to ensure clear correlation between the steel data and the PVC data, the steel data file must have the same name as the PVC data file, and the order of the steel parts must match the order of the PVC parts. The number of steel bars does not necessarily have to match the number of PVC parts, except in special cases. The standard file extension is \$SX.

The formatting of the steel data matches that of the PVC data. Fields that are not required can be left out, so that generally only a minimum data set containing only the cutting information has to be transferred. Processing information could also be transferred, if required.

The description of the format you find under chapter 1.1 – to 1.5

In the steel data, only the parts will be passed to the machines that are cut on the machine. Steel parts to be cut externally, but the steel plug inserted by hand should be allowed only in the PVC piece data using the data standard steel (SA...) passed. These are then fitted with a special steel selection code into law.

2 Examples

2.1 PVC data

```
OPTTestlos_123456$
KBN001A01E1B1422024          L60000TB44001000
KBN002A01E1B1422032          L60000TB44001010
KSN001L60000B00
KTN0001F011K1234567P1123451 L21120G22SA11000020120000000000DE11000100000C
KTWB,264,00000;WB,265,21120;WB,284,20820;WB,285,20820;WB,250,19870;WB,250,15320;C
KTWB,250,10820;WB,250,10300;WB,250,05800;WB,250,01300;WB,284,00300;WB,285,00300;C
KTBI00000001010242461601
KRN9999L37880A1DE01999900230
KSN002L60000B00
KTN0002FW001344K1234567P12345T2 L03720GG00000000SA1100010272000000000DE12000200000C
KTWB,001,01860;WB,020,01860;WB,250,01300;WB,284,00300;WB,285,00300;WB,264,00000;C
KTWB,265,03720;WB,284,03420;WB,285,03420;WB,250,02470;C
KTBI00000001010242461701
KTN0003FW001343K1234567P12345T3 L03720G+4500+4500SA1100020272000000000DE12000300000C
KTWB,265,03720;WB,284,03420;WB,285,03420;WB,250,02470;WB,001,01860;WB,020,01860;C
KTWB,250,01300;WB,284,00300;WB,285,00300;WB,264,00000;C
KTBI00000001010242461702
KTN0004FW001341K1234567P12345T4 L09700G22SA1100030870000000000DE12000400000C
KTWB,264,00000;WB,265,09700;WB,284,09400;WB,285,09400;WB,001,08555;WB,020,08030;C
KTWB,250,08450;WB,250,04850;WB,250,01300;WB,020,01670;WB,001,01145;WB,284,00300;C
KTWB,285,00300;C
KTBI00000001010242461703
KRN9995L01090A2DE01999500230
```

2.2 Labelling data*

```
EDN0001TDIR4:AN1:NASC-1:MAG1,1:FT"SW050RSN.2":
EDN0001TPP060,001:PT"B604201 P:7 Fe: El:1 ":
EDN0001T"SW030RSN.2":PP080,001:PT"7008 1: 0450.0 ":
EDN0001TPP105,001:PT"Steel: mm ":
EDN0001TPP130,001:PT"Example 0 ":
EDN0001TFT"SW050RSN.2":PP105,380:PT"BLD ob ":
EDN0001TFT"SW030RSN.2":PP155,380:PT" 45.0 - 45.0 ET: ":
EDN0001TPP185,380:PT"01630F604201":
EDN0001TPP200,01:BT"CODE128":BR2,1:BH50:BM2:BF"SW030RSN.2":BF OFF:PB"01630F604201":
EDN0001TPFEDN0001TDIR4:AN1:NASC-1:MAG1,1:FT"SW050RSN.2":
EDN0001TPP060,001:PT"B604201 P:7 Fe: El:1 ":
EDN0001TFT"SW030RSN.2":PP080,001:PT"7008 1: 0450.0 ":
EDN0001TPP105,001:PT"Steel: mm ":
EDN0001TPP130,001:PT"Example 1 ":
EDN0001TFT"SW050RSN.2":PP105,380:PT"BLD ob ":
EDN0001TFT"SW030RSN.2":PP155,380:PT" 45.0 - 45.0 ET: ":
EDN0001TPP185,380:PT"01630F604201":
EDN0001TPP200,01:BT"CODE128":BR2,1:BH50:BM2:BF"SW030RSN.2":BF OFF:PB"01630F604201":
EDN0001TPF
EDN0002TDIR4:AN1:NASC-1:MAG1,1:FT"SW050RSN.2":
EDN0002TPP060,001:PT"B604201 P:7 Fe: El:1 ":
EDN0002TFT"SW030RSN.2":PP080,001:PT"7008 1: 0450.0 ":
EDN0002TPP105,001:PT"Steel: mm ":
EDN0002TPP130,001:PT"Example 2 ":
EDN0002TFT"SW050RSN.2":PP105,380:PT"BLD un ":
EDN0002TFT"SW030RSN.2":PP155,380:PT" 45.0 - 45.0 ET: ":
EDN0002TPP185,380:PT"01640F604201":
EDN0002TPP200,01:BT"CODE128":BR2,1:BH50:BM2:BF"SW030RSN.2":BF OFF:PB"01640F604201":
EDN0002TPF
EDN0003TDIR4:AN1:NASC-1:MAG1,1:FT"SW050RSN.2":
EDN0003TPP060,001:PT"B604201 P:13 Fe: El:1 ":
EDN0003TFT"SW030RSN.2":PP080,001:PT"7008 1: 1490.0 ":
EDN0003TPP105,001:PT"Steel:7701 5 1300 mm ":
EDN0003TPP130,001:PT"Example 3 ":
EDN0003TFT"SW050RSN.2":PP105,380:PT"BLD ob ":
EDN0003TFT"SW030RSN.2":PP155,380:PT" 45.0 - 45.0 ET:95 ":
EDN0003TPP185,380:PT"02990F604201":
EDN0003TPP200,01:BT"CODE128":BR2,1:BH50:BM2:BF"SW030RSN.2":BF OFF:PB"02990F604201":
EDN0003TPF
EDN0004TDIR4:AN1:NASC-1:MAG1,1:FT"SW050RSN.2":
EDN0004TPP060,001:PT"B604201 P:13 Fe: El:1 ":
EDN0004TFT"SW030RSN.2":PP080,001:PT"7008 1: 1490.0 ":
EDN0004TPP105,001:PT"Steel:7701 5 1300 mm ":
EDN0004TPP130,001:PT"Example 4 ":
EDN0004TFT"SW050RSN.2":PP105,380:PT"BLD ob ":
EDN0004TFT"SW030RSN.2":PP155,380:PT" 45.0 - 45.0 ET:95 ":
EDN0004TPP200,01:BT"CODE128":BR2,1:BH50:BM2:BF"SW030RSN.2":BF OFF:PB"02990F604201":
EDN0004TPF
```

* This example is only for label printers from Intermec

2.3 Steel data

```
OPTTestlos_123456$  
KBN001A01E1B9203          L55000TB9203  
KSN001L55000B00  
KTN0001F000K1234567P12345T1 L20120G22  
KTN0002F000K1234567P12345T2 L02720G22  
KTN0003F000K1234567P12345T3 L02720G22  
KTN0004F000K1234567P12345T4 L08700G22  
KRN9999L20740A1
```


3 Specific features

General

In this chapter is described which can be handed over in addition to the before described data fields, and therefore handing over of specific features allows. Here only the additional fields or the special handing over are described in the standard fields.

3.1 Two steel parts in one PVC piece

General

In special cases it is necessary to insert two separate steel parts in one compartment or two steel parts in different steel compartments in one PVC part. The data in the following fields are transferred to notify the machine of this special requirement.

3.1.1 PVC-data (\$TX-file)

Piece data

KTNxxxx...SAxynnnnyyyyyzzzztttSAxynnnnyyyyyzzzzttt

1. Steel information

SA	SA	Identifying letters for steel data for machines (first steel part)
xbnnnnnyyyyyzzzzttt	x	Steel selection x = 1 : Steel inserted manually x = 2 : Steel inserted automatically x = 3 : Special steel is supplied by external sources and inserted manually x = 5 : PVC part with special equipment or special processing
	b	b = 1 : track in direction of movement, fixed value for BAZ
	nnnn	assignment number for associated first part in steel data.
	yyyyy	Length of the first steel in 1/10mm
	zzzzz	selection of steel insertion depth in 1/10 mm, relative to the reference edge of the PVC part
	ttt	steel type number 000 <= ttt <= 199

2. Steel information

SA	SA	Identifying letters for steel data for machines (second steel part)
xbnnnnnyyyyyzzzzttt	x	Steel selection x = 1 : Steel inserted manually x = 2 : Steel inserted automatically x = 3 : Special steel is supplied by external sources and inserted manually x = 5 : PVC part with special equipment or special processing
	b	b = 1 : track in direction of movement, fixed value for BAZ
	nnnn	assignment number for associated second part in steel data, if automatic steel insertion is used
	yyyyy	Length of the second steel in 1/10 mm
	zzzzz	selection of steel insertion depth in 1/10 mm, relative to the reference edge of the PVC part.
	ttt	Steel type number 000 <= ttt <= 199

The steel part information must have to be transferred twice under the PVC part data. If automatic steel insertion is used, the order in which the steel part infor-

mation is transferred is irrelevant. Parameter 'x' is used to specify which part is to be inserted automatically.

3.1.2

Piece data

Steel-data (\$SX-file)

KTNxxxx...L12500SAxynnnnyyyyyzzzzttt
KTNxxxx...L12000SAxynnnnyyyyyzzzzttt

Since the corresponding steel part assignment number is specified in the individual steel information fields of the PVC part data, the basic steel part data remain unchanged - only the PVC part assignment has to be transferred. The two steel parts assigned to a PVC part have to be transferred individual, but successively.

1. Steel part; first KT-Sentence

<i>Nxxxx</i>	N	Identification letter for part number within the steel part data
	xxxx	Part number of the first steel piece (=SA..nnnn... of the first steel information in the PVC piece data) 4 digits, 0001 to 9999
<i>Lxxxxx.....</i>	L	Identification letter for part length
	xxxxx	Part length of the first steel part in 1/10mm
<i>PVC/Steel information</i>		
<i>SA xbnnnnnyyyyyzzzzttt</i>	SA	Identifying letters for steel data for machines
	x	Steel selection x = 1 : Steel inserted manually x = 2 : Steel inserted automatically
	b	b = 1 : fixed value for BAZ only.
	nnnn	Assignment number of the associated PVC part in the PVC part data
	yyyyy	Length of the first steel in 1/10 m
	zzzzz	Selection of steel insertion depth in 1/10 mm, relative to the reference edge of the PVC part.
	ttt	Selection of steel compartment or other special steel feature. 000 <= ttt <= 999

2. Steel part; second KT-Sentence

<i>Nxxxx</i>	N	Identifying letter for part number within the steel part data
	xxxx	Part number of the second steel part (=SA..nnnn... second steel information in the PVC part data) 4 digits, 0001 to 9999
<i>Lxxxxx.....</i>	L	Identification letter for part length
	xxxxx	Part length of the second steel part in 1/10mm
PVC/Steel information		
<i>SA xbnnnnnyyyzzzzttt</i>	SA	Identifying letters for steel data for machines
	x	Steel selection x = 1 : Steel inserted manually x = 2 : Steel inserted automatically
	b	b = 1 : fixed value for BAZ
	nnnn	Assignment number of the associated part in the PVC part data.
	yyyy	Length of the second steel in 1/10 mm
	zzzz	Selection of steel insertion depth in 1/10 mm, relative to the reference edge of the PVC part.
	ttt	Selection of steel compartment or other special steel feature. (000 <= ttt <= 999)

If automatic steel insertion is used, the order in which the two steel parts are transferred is irrelevant. Parameter 'SAx' is used to specify which part is to be inserted automatically.

As a general rule, the steel part data only contain information on parts to be created by cutting the steel module, and the order of the steel parts must match the order of the PVC parts.

If the second steel part to be inserted comes from an external supplier, it must not appear in the steel part data.