

Chapter 7 “Measurements and annotation”

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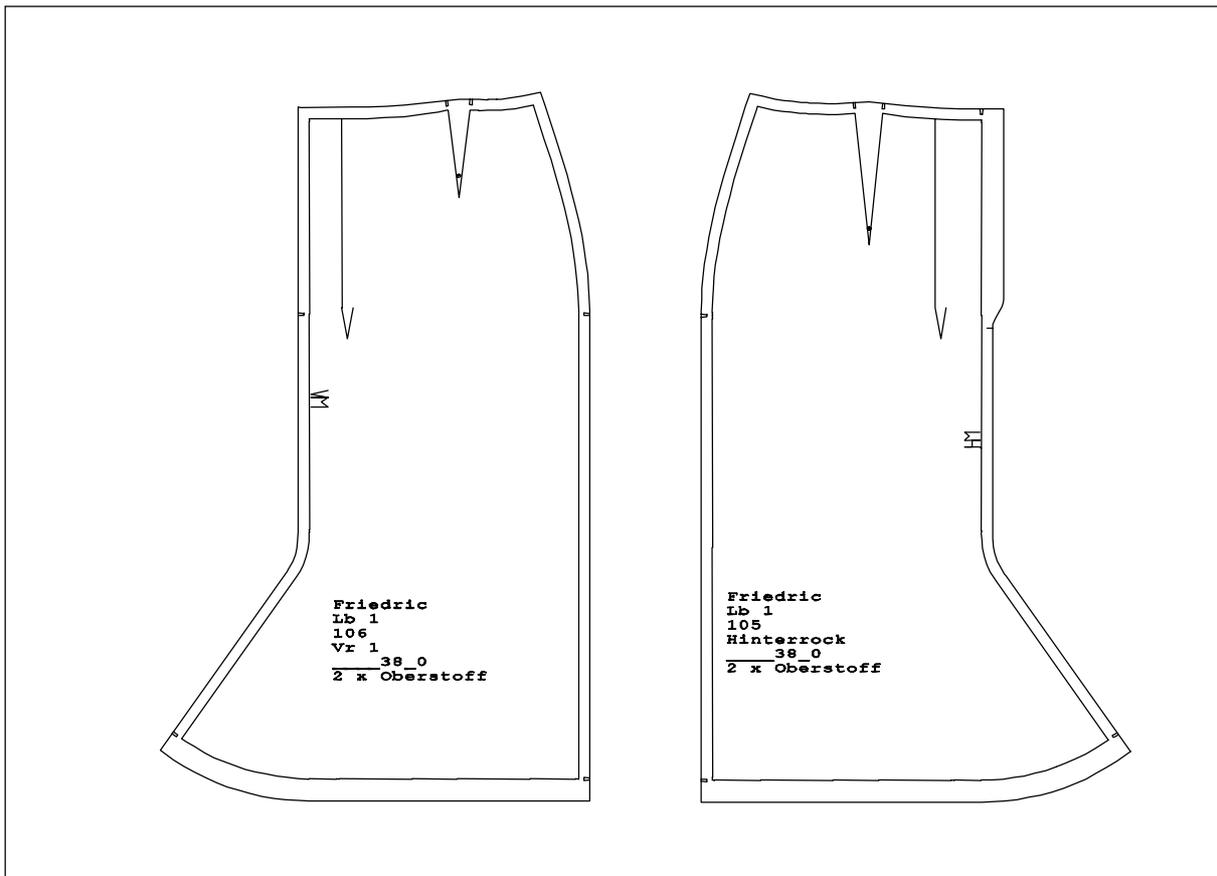
In the first section you learn about temporary measuring of points, lines, distances and angles. Content of the second section is the recorded finished measurement function which is required for specification sheets, finished measurement charts and other documents.

After this, labelling, marking and annotation of the construction is covered. For this, Grafis offers the following functions:

- *texts*,
- *symbols*, e.g. notch, drillhole, buttonhole,
- *attributes*, such as dotted lines and especially highlighted points and
- *hatching* of sections of the construction.

The functions of this chapter are not functions for alteration of the construction but important aides for control and annotation of patterns.

Practise the functions within the respective section, already. The complex exercises at the end of the chapter relate to work with symbols and texts, mainly.



7.1 The measure menu

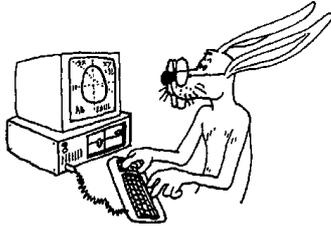
The *measure* menu is offered as a constant tool in a number of functions, e.g. *p+l+c+r*, *link*, *raster* and *lengthen*. It is used for temporary measuring during pattern development. Grafis also offers a recorded measurement function, which is discussed in the next section. **increments** opens the sub-menu for measuring increments in a graded nest. You can find further information by pressing <F1>.

Step-by-step guide

- ⇒ Start *measure* from the *Extras* pull-down menu or from the menu of a record function
- ⇒ Activate *click* or *construct*
- ⇒ possibly: set new co-ordinate origin with *set new coordsystem* (relevant for points, only)
- ⇒ Click **what** is to be measured (*point*, *line*, *distance*,...)
- ⇒ Click the objects in the construction

measure by: click or construct

Selecting between *click* and *construct* determines **HOW** the measurement point is defined. *Construct* uses the point construction sub-menu. With *click* the measurements are taken freehand.. More accurate result are obtained with *construct*.



Set new coordsystem

After having opened the *measure* menu, the source for the point co-ordinates is absolute zero of the construction (Picture 7-1). However, point co-ordinates can also be determined relative to a defined point (relative zero). This relative zero is defined with *set new coordsystem*.

measure:

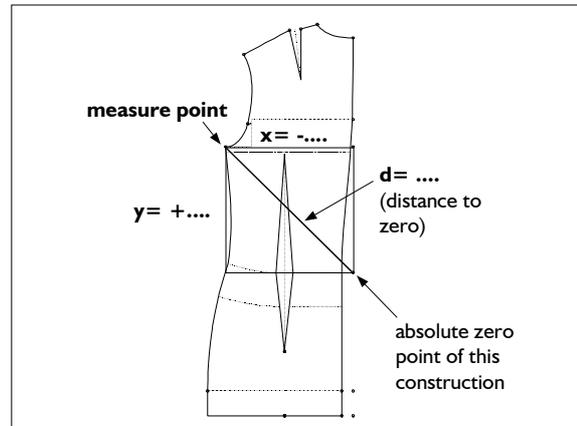
This option determines **WHAT** is to be measured:

point	co-ordinates, distance to zero
line	total length, relative length, direction
distance	distance between two points
d on line	distance between two points along a line
area	length of the perimeter of an area and the area
angle	angle between two lines.

measure
measure by
* click
construct
set new coordsystem
measure:
point
line
distance
d on line
area
angle
increments

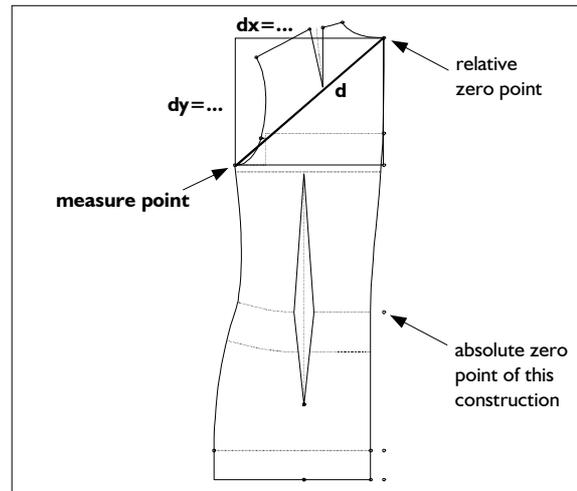
Measure co-ordinates of a point

Geometrical basics, especially for work with absolute (Picture 7-1) and relative co-ordinates (Picture 7-2) were discussed in section 4.3, already.



Picture 7-1

- ⇒ Activate *construct* or *click*
- ⇒ for relative measurement, only: click on *set new coordsystem* and construct zero
- ⇒ Activate *point*
- ⇒ Determine the measure point



Picture 7-2

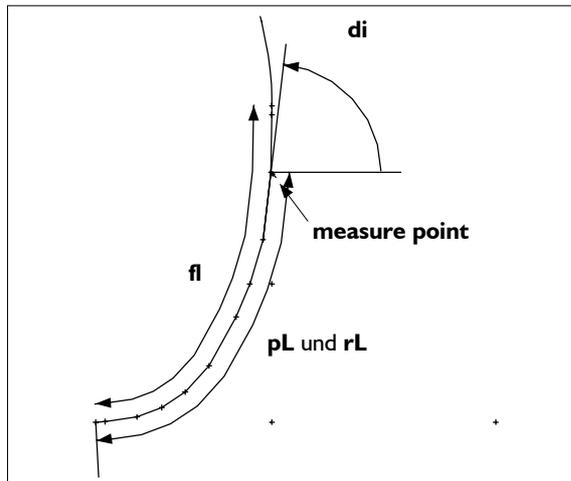
- ⇒ The measurements appear in the measure result window:

$x = \dots$ absolute x co-ordinate in mm
 $y = \dots$ absolute y co-ordinate in mm
 $dx = \dots$ relative x co-ordinate in mm
 $dy = \dots$ relative y co-ordinate in mm
 $d = \dots$ distance from the measure point to zero (=length of green line)

Measure line

See also Picture 7-3.

- ⇒ Activate *construct* or *click*
- ⇒ Activate *line*
- ⇒ Click the line



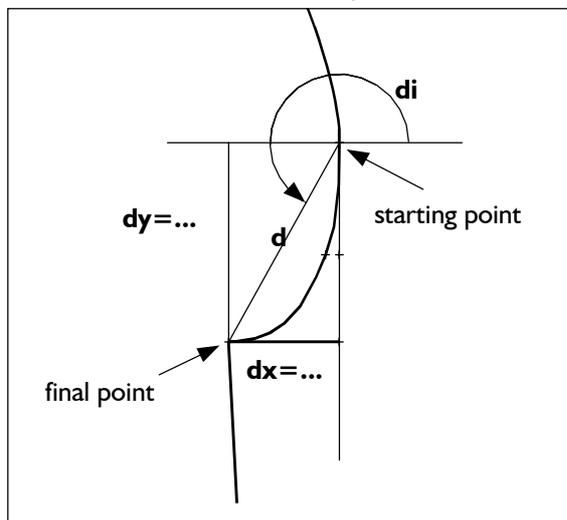
Picture 7-3

- ⇒ The measurements appear in the Grafis Messages window:
 - fl= ... full length in mm
 - di= ... direction in the measure point
 - pl=... partial length up to the measure point in mm
 - rl= ... relative length up to the measure point in %

Distance between two points

See also Picture 7-4.

- ⇒ Activate *construct* or *click*
- ⇒ Activate *distance*
- ⇒ Construct the two measure points



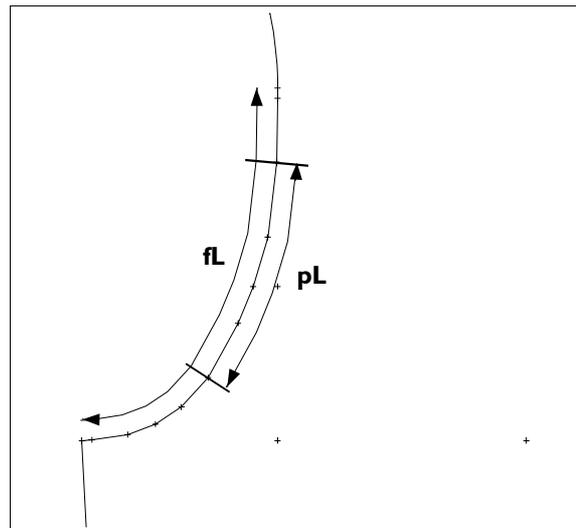
Picture 7-4

- ⇒ The measurements appear in the Grafis Messages window:
 - d=... distance between the points in mm
 - dx= ... x co-ordinate of the distance in mm
 - dy= ... y co-ordinate of the distance in mm
 - di=... direction from the first measure point to the second

Distance between two points along a line

See also Picture 7-5.

- ⇒ Activate *construct* or *click*



Picture 7-5

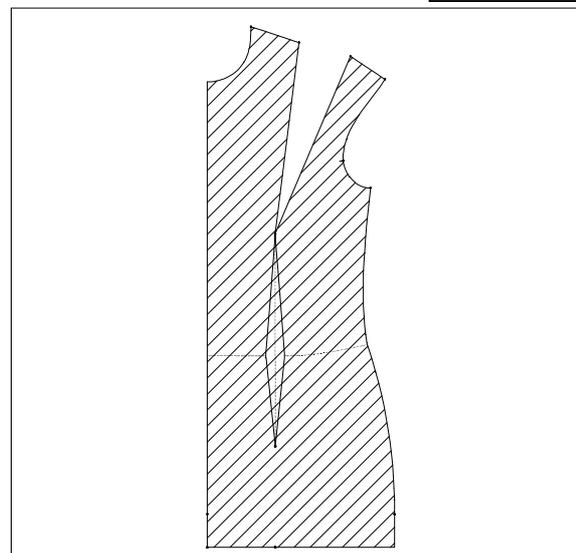
- ⇒ Activate *d on line*
- ⇒ Click the line along which is to be measured
- ⇒ Construct starting and final point
- ⇒ The measurements appear in the Grafis Messages window:
 - pl=... partial length between the measure points in mm
 - rl=... relative length of the selected partial line in %
 - fl=... full length of the line in mm

Measure area and perimeter

Directly after having activated *area*, a sub-menu with functions for generation of hatching is opened, see also chapter 7.6.

automat. and clicking a line automatically generates a closed perimeter, highlighted in blue. With **step-step forward** or **back** and clicking lines individually (right principle), the

area
perimeter:
automat.
step-step:
forward
back
new
hatching



Picture 7-6

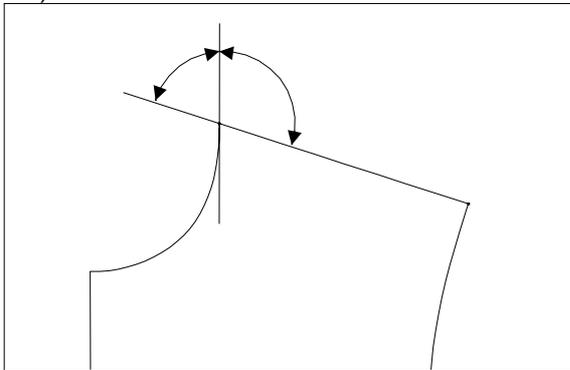
perimeter of the area is defined step-by-step. After clicking on **new**, you restart. **Hatching** highlights the currently surrounded area with hatching. (Picture 7-6). The hatching is undone after **new** or selection of a new perimeter.

After each click of a line Grafis calculates the current values for perimeter and area. They are displayed in the Grafis Messages window:

pm=... total length of the perimeter in mm
ar=... area in cm²

Measure angle between two lines

After having activated **angle**, both lines defining the angle are to be clicked. Grafis highlights the sides of the measured angle with long straights (see Picture 7-7).



Picture 7-7

For curves, zooming in to the measure area is recommended. If a different part of the line was measured click both lines again in the zoomed view and the measurements are updated.

The measurements appear in the Grafis Messages window:

an= ... ° (or°)

Both angles are given (see Picture 7-7).

7.2 Finished measurements

fin.measure is a record function for calculation of areas and perimeters, line lengths and distances. As opposed to the *measure* function (section 7.1) the function *fin.measure* is recorded. Measurements are automatically calculated for all graded sizes and the results are saved in Finished Measurement Tables. These are required for specification sheets, finished measurement charts and other documentation.

First, the record function *fin.measure* is discussed. The display of Finished Measurement Tables follows.

Step-by-step guide

- ⇒ *fin.measure*
- ⇒ Activate the type of measurement: *area*, *length* or *distance*
- ⇒ set the measurement with the sub-menu point construction
- ⇒ for *distance*: Adjust *horizontal*, *vertical*, *direct* or *x/y co-ord*
- ⇒ Position the measurement with *drag*
- ⇒ Adjust the *text size* and enter a name for the measurement with the *text editor*
- ⇒ Adjust the *display options*
- ⇒ possibly: *retake* or *delete* measurement
- ⇒ Quit with

All measurements are given a consecutive measure number M1, M2, M3,...

Set area measurement

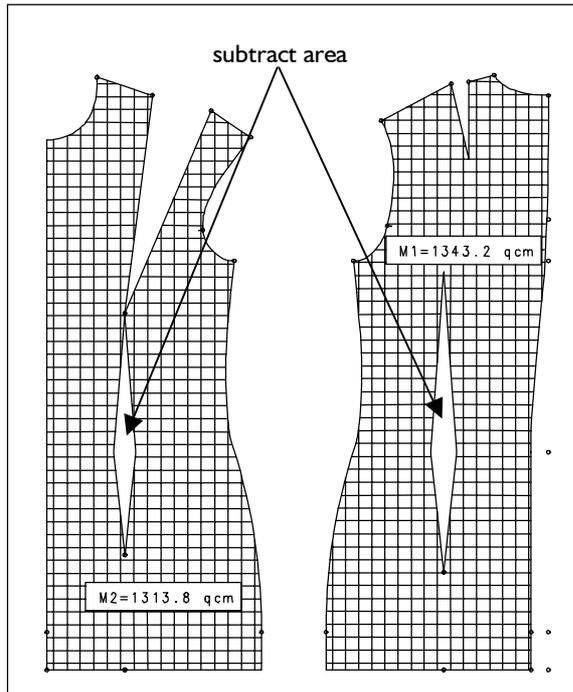
fin. measure
area
perimeter:
automat.
single
reset
single
all
subtract
area

Activate the measure type *area*. The sub-menu for area measurement is opened with functions similar to the ones used for hatching and measuring areas, see section 7.1.

automat. and clicking a line automatically generates a closed perimeter, highlighted in blue. With **single** and clicking lines individually, the perimeter of the area is determined step-by-step. **reset single** resets the steps individually. **reset all** resets the complete perimeter.

subtract area allows for exclusion of an area within the perimeter. In Picture 7-8, for example, the areas of the darts are subtracted from the total area. Mark the complete outer perimeter, first and then, subtract the inner areas with *subtract area*. The measurement is set after each .

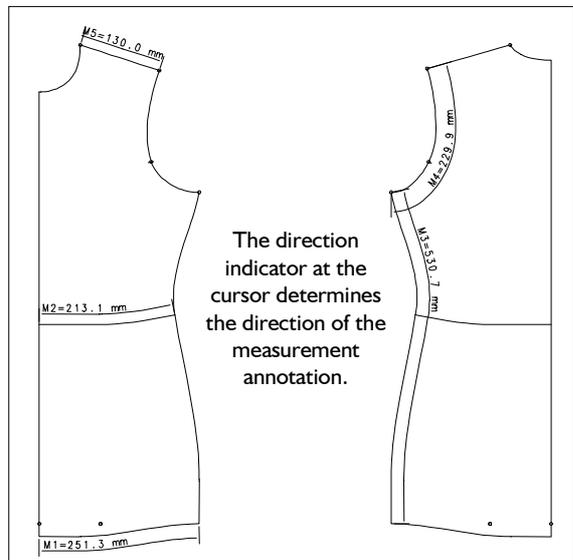
fin.measure
meas.type:
area
length
distance:
*horizon.
vertical
direct
X/Y co-ord
drag
text size
004 020
*006 030
010 050
015 100
indicate:
+ number
+ text
+ value
+ comment
edit text
measurement
retake
delete:
single
all
end



Picture 7-8

Set length measurement

Activate the measurement type *length*. A sub-menu with the functions *click l* and *reset* is opened. Click

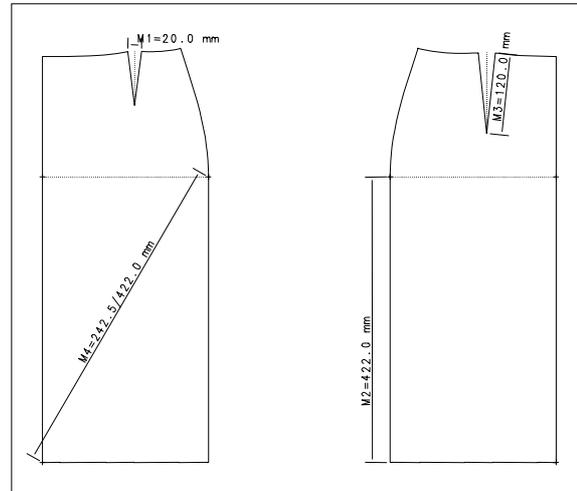


Picture 7-9

the line to be measured and click . The direction indicator of the cursor determines the direction of the measurement text. To set one measurement for a number of lines click the lines in succession, following the right principle. Lines which are not connected are bridged as in the function *link single*. After the measurement for the lines is set (Picture 7-9).

Set distance measurement

Activate the measurement type *distance*. The sub-menu point construction you already know from



Picture 7-10

chapter 6.1 is opened. Determine starting and final point for the distance measurement. The measurement is set and marked with an asterisk. Adjust the required option for the marked measurement: *horizontal*, *vertical*, *direct* or *x/y co-ord*. The measurement lines are adjusted, accordingly. *direct* gives the direct measurement in millimetres. *x/y co-ord* gives the direct distances through difference in x and y coordinates (Picture 7-10).

Drag measure text and measure lines

With the function *drag* each measurement can be moved with pressed left mouse button. Click at the beginning of the measure text. After setting a new measurement, *drag* is active, automatically.

Measurement text size

The measure text can be 4 mm to 100 mm high. Select the desired size by clicking. It applies to all measurements.

Display options

The following information about the measurement can be shown (+) or hidden (-):

- number the measurement number, e.g. M1 or M7
- code the measurement code set with the *text editor*
- text the measurement description set with the *text editor*, also
- value the measurement value in the respective size

The settings apply to all measurements of the part.

Text editor

Each measurement can be complemented with a standard description consisting of code and measurement text or with an individual measurement annotation using the *text editor*. Both code and measurement text appear in the finished measurement table.

When assigning a standard measurement description in the detailed view („short view“ unchecked) the

measure group is to be selected, first. Then, select the measurement description. If „show graphic“ is checked a graphic - if available - with explanations about the measurement is opened. With double-click or <OK> the measurement description is accepted.

retake / delete finished measurement

After having activated *fin.measure retake* click the measurement to be retaken. The measurement type remains unchanged.

After having activated *delete: single* click the measurement to be deleted. Clicking on *delete: all* removes all measurements of the part after a security question.

Show and hide finished measurements

As long as the *fin.measure* menu is not open, set measurements can be shown or hidden with <F7>. Quit the *fin.measure* menu, grade and press <F7> a few times.

Pattern development after set measurement

After having set measurements, the pattern can be developed further without restrictions. Hide the measurements with <F7>. They are updated after each test run or grading.

Set some measurements in a construction according to Picture 7-10. Then, lengthen the skirt by moving the hem parallel with *-copy* and extend the centre front, centre back and the side seams with *separate*. The respective measurements are immediately updated as long as they were attached to the line with *click pl* and not to the points. In the latter case set the measurements again with *measurement: retake* and *click pl*.

The set measurements are bound to points (*click p*) or lines (*click l, click pl, intersectn.*). If points or lines of a measurement are deleted during pattern development, Grafis gives an undefined measurement after the next test run. You then have the option to set the measurement again or delete it.

Display finished measurement table

The finished measurements are recorded and can be repeated for other sizes. Grade a measured construction according to Picture 7-10 in sizes 40, 42, 44 and 46, quit the *fin. meas.* menu and open the *Finished Measurement Table* from the *Finished Measurements* pull-down menu. The “Grafis Finished Measurement Table” is opened as shown in Table 7-1.

*	*	TIM1	TIM2	TIM3	TIM4	
*	*	dx ..mm	dist..mm	dx...mm	../dy.mm	
*	*	dart ft	side seam	hVo	line..mm	
*	*			ft height		
01	___38_0	20,	422,	243,	422,	617,
02	___40_0	20,	422,	250,	422,	617,
03	___42_0	20,	422,	258,	422,	616,
04	___44_0	20,	422,	265,	422,	615,

Table 7-1

The measurements are arranged in columns and the graded sizes in lines. The first line contains part and measure number. Up to Chapter 12 inclusive, you will work with part I, only. TIM4 stands for fourth measurement in part I.

The second line states the measurement type:

area.qcm area measurement in cm²
line..mm length measurement in mm
|dx|..mm horizontal distance in mm
|dy|..mm vertical distance in mm
dist..mm direct distance in mm
dx...mm x component of the x/y measurement in mm
../dy.mm y component of the x/y measurement in mm

The third and fourth line give the measurement name (code and text) The fifth line contains the measurement values in the base size. The following lines give the values for the other graded sizes with position number in the size table in column one and size name in column two.

Alter the display of the finished measurement table in the *View / Display Options* pull-down menu. The display options are self-explanatory. Help can be obtained with <F1>.

Mark the table with *Edit | Select all* and copy the table to the clipboard with *Edit | Copy*. Now start a different windows application, e.g. Word for Windows or Excel and insert the table from the clipboard. If you have already prepared forms in these applications, seam lengths and calculations can be solved, quickly.

Calculated finished measurement table

In the calculated finished measurement table measurements can be calculated with another for example to create a perimeter measurement from different pieces. For further information press <F1>.

7.3 Set and edit text



The text menu

This menu can be called from the basic menu, directly by clicking on texts. It allows for entry, editing, positioning and adjustment of texts. The functions offered are sufficient for pattern annotation or entry of making-up instructions. They cannot be compared to a word-processing package.

Step-by-step guide for entry

of new text

- ⇒ Basic menu --> texts
- ⇒ Click on *via keyb.* in the menu
- ⇒ Enter text and/or specific information
- ⇒ Quit text entry with clicking on „OK“ or „Cancel“
- ⇒ Position the text
- ⇒ Manipulate the active text according to 3. to 9. in “Step-by-step guide for alteration of text”
- ⇒ Quit with

Step-by-step guide for alteration of text

- ⇒ Basic menu --> texts
- ⇒ Click the text
- ⇒ Alteration of text content:
 - Double-click on the text
 - Alter the text
 - Quit with „OK“ or „Cancel“
- ⇒ Alteration of text position:
 - Drag as soon as the cursor appears
 - possibly: bind the **text position** onto the construction with the upper left corner of the text frame
- ⇒ Alter text alignment:
 - Drag the upper text frame as soon as the cursor appears.
 - possibly: bind the **direction** onto the construction with the upper right corner of the text frame
- ⇒ Alter text size
 - Drag the text frame as soon as the cursor appears.
- ⇒ Alter text format:
 - Click << (aligned left), <> (centred) or >> (aligned right) in the menu

texts	
via file	
via keyb.	
activate	
copy	
delete	
active	
all	
<< >> >>	
-grading	
-frame	
-di -autom.	
-siz-autom.	
formats	
004 009	
016 025	
036 049	
064 081	
100 121	
change opt.	
old=>new	

- ⇒ Set the switch *+/-grading*
- ⇒ Set the switch *+/-frame*

Enter or activate text

The active text is surrounded by a solid frame with active points. Existing text is activated by clicking (applies in the *text* menu, only). Double-click on a text opens the window for text entry. All functions in the middle of the function strip relate to the active text, only. A new text is set with:

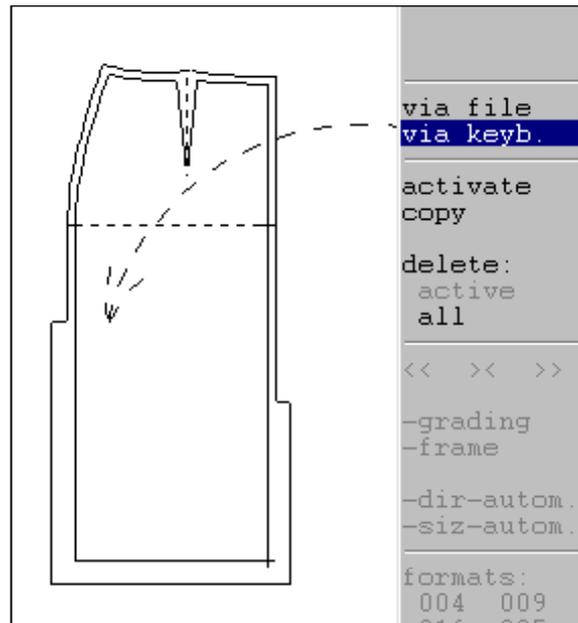
via file

After having clicked *via file* the position for the text is to be set, first (Picture 7-11). Then, a window for selection of prepared text masks opens. Prepared texts should be saved on the current drive in the directory \GRAFIS\TEXTE as .TXT files. ASCII text files are permitted, only. The application of this function is especially interesting for pattern annotation with standard text.

via keyb.

After having pre-positioned the text (Picture 7-11) the window for entry of new text opens.

Additionally, the following text blocks with specific



Picture 7-11

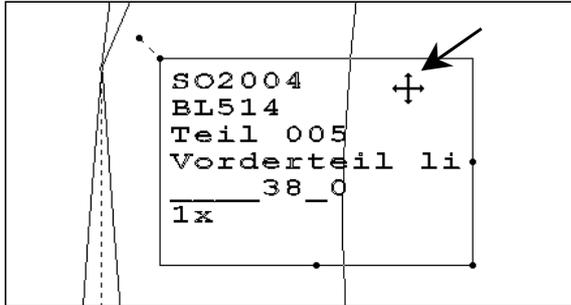
information can be inserted by clicking the radio buttons:

	Appears in the text editor initially as:
date	{F 1...}
time	{F 2}
Grafis version	{F 3.....}
size name	{F 4...}
collection	{F 5...}
style	{F 6...}
part number	{F 7}
part name	{F 8.....}
measurement system	{F 9.....}

After <OK> the text is accepted and can be positioned, aligned and altered in size.

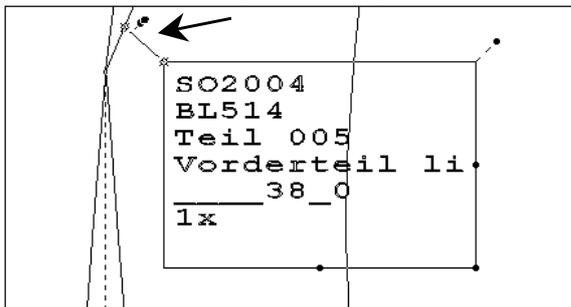
Position and align text

To **position the text** drag the text as soon as the cursor  appears (Picture 7-12). The text is positioned and remains in this position in all sizes.



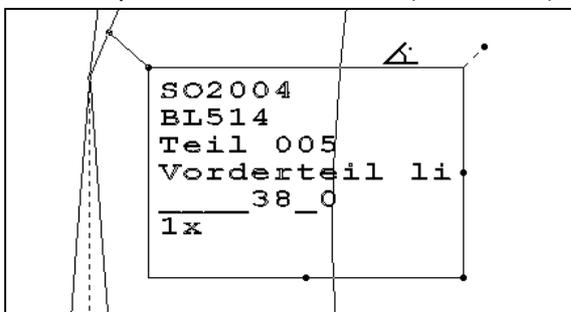
Picture 7-12

Only after **binding the text** onto a line of the construction will its position change during grading. For binding the text the active point at the upper left corner of the text frame can be used. As soon as the cursor  in the shape of a pin appears the text can be bound onto a line. (Picture 7-13).



Picture 7-13

To **align the text freehand** the text is to be dragged at the upper right frame. As soon as the cursor takes on the shape  the text can be rotated freehand with pressed left mouse button (Picture 7-14).

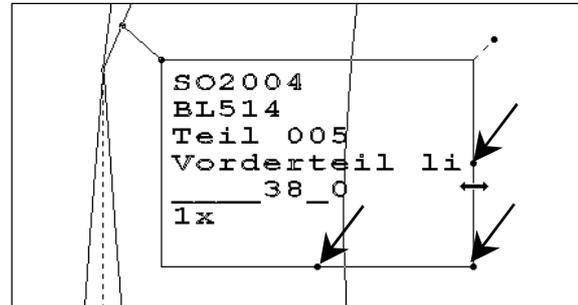


Picture 7-14

With bound direction point the text is also aligned along an existing line. The direction tag is located at the upper right corner of the text frame. It appears only after the text has been bound according to Picture 7-13. As soon as the cursor takes on the shape of the pin  near the upper right corner the text direction can be bound (no picture). In the different sizes the text is rotated about the angle the connection between the binding points is rotated.

Text size and format

Adjust the text size with the active points according to Picture 7-15. Near these active points the cursor takes on the shape of a double arrow .



Picture 7-15

Text of more than one line can be aligned *left*, *right* or *centred*. This format relates to the alignment of lines, only. The format for the active text is to be selected from the menu:

- << for aligned left
- <> for centred
- >> for aligned right.

+grading or -grading

With this switch you decide whether or not the active text is graded.

- grading text appears in base size, only
- +grading text appears in all graded sizes

Text with +grading is displayed slightly lighter than text with -grading.

+frame or -frame

With this switch you decide whether the active text is displayed with frame (+frame) or without frame (-frame).

Copy and delete text

After having selected *copy* from the menu the text to be copied is to be clicked. The copy is to be positioned according to Picture 7-11. **NB: Text can also be copied from an inactive piece into an active piece.**

delete: active deletes the active text. *delete: all* deletes all text.

Prepared text format and automatic direction and size adjustment

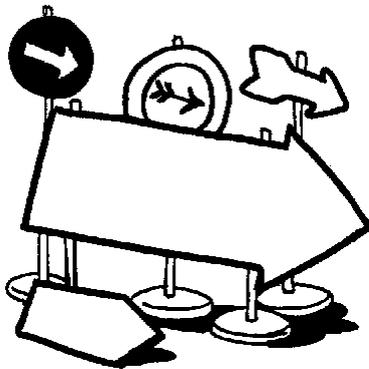
Clicking on of the ten prepared text formats (004 to 121 with delivery) assigns the active text with the respective settings. The text formats can be edited via *options*.

With the switch *+dir autom.* you decide whether the direction of the text is changed according to the direction point during grading. If the direction tag is bound the switch is automatically set to *+dir autom.*

With *+meas. autom.* the direction point is also responsible for enlarging/reducing the text during grading. This ensures that the text does not protrude outside the pattern perimeter in small sizes.

7.4 Set symbols

The symbols menu



With the functions from this menu symbols can be set onto points or lines in any direction. If the symbol is not to lie on the construction line it can be moved to the seam allowance with *on allowce*, later. The available symbols are listed in the lower part of the menu. The active symbol is highlighted.

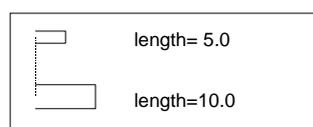
Setting a new symbol

Step-by-step guide:

- ⇒ *Basic menu --> symbols*
- ⇒ Activate the symbol required
- ⇒ Enter length of the new symbol
- ⇒ Activate *place on*
- ⇒ Construct position for the new symbol

Note

The function “on allowce” is always active. For each new symbol the function “place on” has to be clicked!



Picture 7-16

To set a new symbol select the symbol from the list (see also picture 7-17). If the symbol is required in a length different

from the default length (picture 7-16) the line *length=20.0* is to be clicked and the required value is to be entered.

With *place on* the symbol can be attached to a point or a line. Then, the direction construction sub-menu is opened for orientation of the symbol. Symbols are treated as line sequences during further work. A placed symbol can be changed into another symbol with *change*. There are no functions available for the alteration of size or direction of symbol, later. In this case the current symbol is to be deleted and a new symbol is to be set.

Moving a symbol

Step-by-step guide:

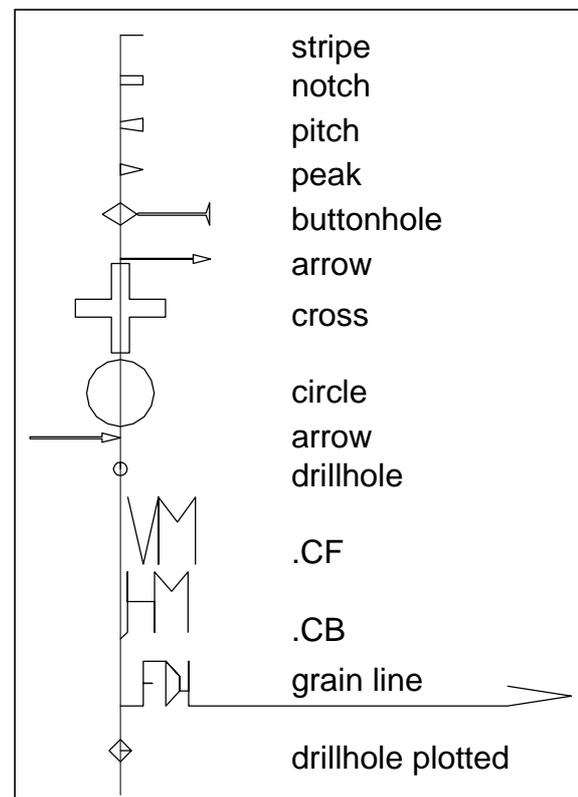
Prerequisite is a line onto which the symbol is to be moved.

- ⇒ *Basic menu --> symbols*
- ⇒ Adjust *+copy* or *-copy*
- ⇒ Activate *on allowce* (red bar)
- ⇒ Click the symbol

Frequently, a symbol, e.g. a notch, is to lie on the seam allowance rather than the construction line. The function *on allowce* is always active and the symbol to be moved can be clicked, directly.

Grafis then asks for the seam allowance onto which the symbol is to be moved. The *+copy/-copy* switch determines whether or not the original symbol remains existent.

symbols
length= 20.
place on
on allowce
+copy
change
reset measure
stripe (N1)
notch
pitch
peak (N2)
buttonhole
arrow *=>
cross
circle
arrow =>*
drillhole
.CF
.CB
GL>
drillh. pl.
scissors
RP weft
RP warp



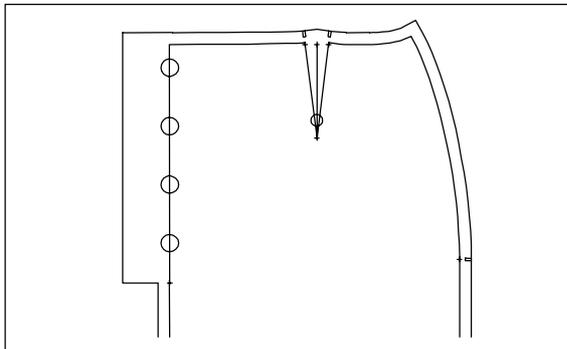
Picture 7-17

- +copy original symbol remains existent
- copy original symbol does not remain existent

Exercise

Call the „Grafis Skirt 20“, construct an overlap of 40mm and a seam allowance of 10mm and close the dart (Picture 7-18). Place a drillhole of 5mm onto the bisector of the dart at 15mm above the dart apex. Place the notches for the dart directly onto the seam allowance. To align the notches click the respective dart line. Set the notch on the side seam, align the notch horizontally to the left and then, move it to the seam allowance.

Construct a point sequence on the centre front with raster3 (s=20., N=4, d=50.) Set circles with 15 mm length onto these points with click p. Grade the construction in a number of sizes and check the position and direction of the notches..



Picture 7-18

7.5 Attributes

The attributes menu

This menu which can be called from the basic menu allows for alteration of line type or changing of a point into a particular marker.

Alteration of line type

Step-by-step guide:

- ⇒ Basic menu --> attributes
- ⇒ Activate the line type required
- ⇒ Click the line

Each line can be turned into one of the following line types:

- continuous
- dotted line with small distance
- dotted line with greater distance
- dashed
- dot-dash rough
- dot-dash fine or
- annotation line
- grain line
- split line and
- cut internal line.

Select the line type and click the line to be altered in the construction.

If the option *chain* is active continuous lines, e.g. the contour are assigned the selected attribute.

attributes
lines
.....
.....
.....
.....
.....
.....
annotation
grain line
panel seam
cut line
marker
cross
big point
small p.
hash
arrow
chain
reset

Setting a marker

Step-by-step guide:

- ⇒ Basic menu --> attributes
- ⇒ Activate the marker required
- ⇒ Click the point

+	cross	*	asterisk
o	great point	↖	arrow
°	small point		

Picture 7-19

Each point can be changed into one of the markers shown in Picture 7-19. For further modification, it is still treated as a point.

To change a point into a marker activate the selected marker and click the point. The marker *cross* corresponds with the original point.

7.6 Hatching

The hatching menu

The hatching menu can be opened via *Edit | Hatching*. Hatching is not recorded. Calling a record function will delete the created hatching.

Step-by-step guide

- ⇒ *Edit | Hatching*
- ⇒ Adjust the values for the hatching: *dist*, *dir* and *pen*.
- ⇒ Generate the perimeter with *automat.*, or *step-step* etc.
- ⇒ Click *generate*

Hatching parameters



The first part of the menu allows for adjustment of hatching parameters such as distance between the hatching lines *dist* in mm, direction of the lines *dir* and pen number *pen* for the colour for output onto a pen plotter. These parameters must be adjusted before clicking *generate*.

Determine the perimeter

The second part of functions in the menu are used for determination of the perimeter of the hatching. Selecting *automat.* and clicking a line of the construction will automatically generate a closed outline. In case this line is incorrect click *delete* to return to the original state. Follow the right principle when creating an outline, automatically. The outline starts at the clicked line and continues along the direction of the line. It continues from its final point on to the next

values:
dist= 20.
dir= 45.
pen= 2.
outline
automat.
step-step
“ reset
complete
delete
hatching:
generate
delete

The first part of the menu allows for adjustment of hatching parameters such as distance between the hatching lines *dist* in mm, direction of the

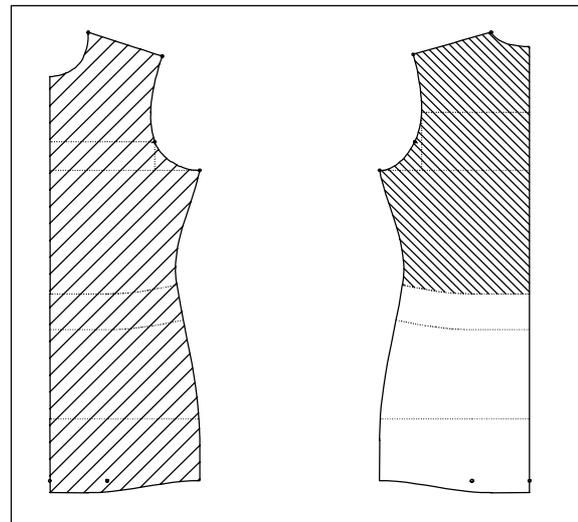
adjacent line. If several lines touch at this point the perimeter will always follow the branch to the right. If the required outline cannot be generated with *automat.* the function *step-step* is to be activated. Each line of the required perimeter is to be clicked at the right side in direction of travel. Should white lines appear on screen which do not correspond to any line of the construction, a line was clicked on the wrong side. Activate *step-step reset* (“reset”) to undo the last step of the outline creation. Clicking *delete* will delete the whole active (blue) outline. The function *complete* connects the starting point and the final point of the perimeter and thus, creates a closed outline.

Generate or delete the hatching

After having generated the outline click *generate* to create the hatching. This step can be undone by activating *delete* and clicking the hatching.

Exercise

In „Grafis Bodice 20“ construct the displayed hatchings in the front with *dist*=20 and *dir*=45 and in the back with *dist*=10 and *dir*=135 (Picture 7-20).

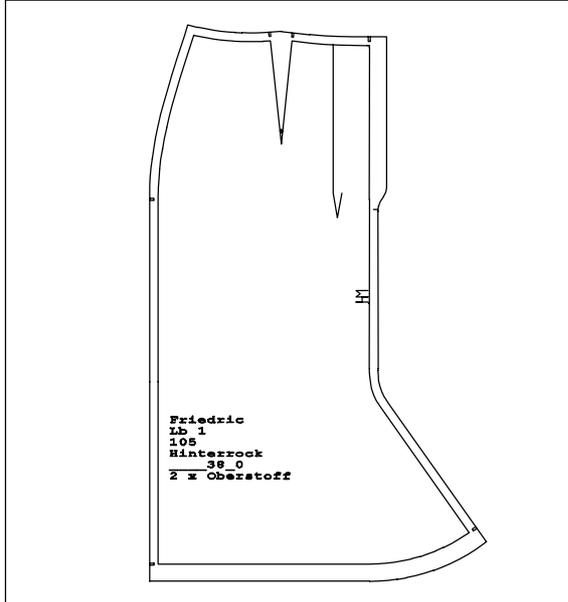


Picture 7-20

7.7 Exercises

1st Exercise

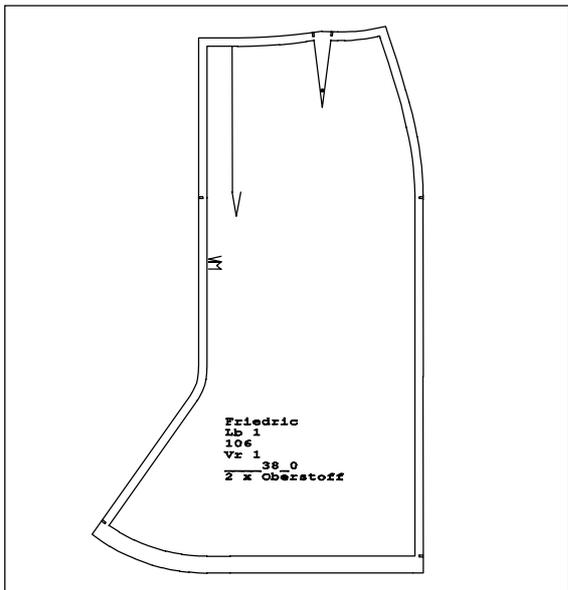
In the style „Straight skirt“ from Section 2.4 construct a grown-on godet at the centre back with a godet height of 200mm and an angle for the godet of 35° to the centre back.



Link the godet line with the centre back with *link with curve*. Then, construct the hem and the seam allowance. Set the text and the symbols.

2nd Exercise

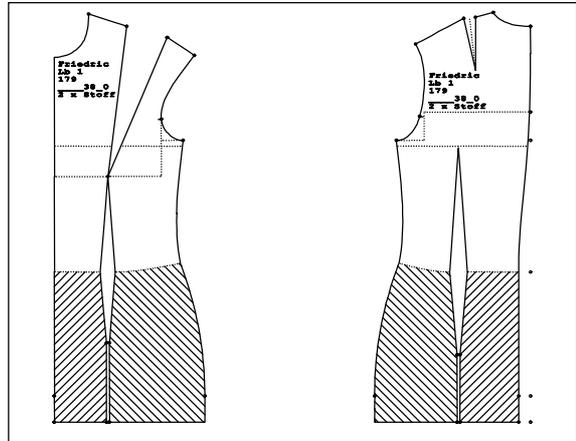
Construct a godet as in Exercise 1 but in the front skirt.



3rd Exercise

Call the construction „Grafis Bodice 10“ and adjust the options so that the waist dart is drawn to the hem.

Annotate the front and back, setting the following text blocks automatically: name of collection, style name, part number, size, how often the piece is required per style and the material type.



4th Exercise

In the front of „Grafis Bodice 20“ construct an overlap of 40mm and a seam allowance of 10mm. Create a point sequence of 6 points on the centre front, starting at 30mm from the neck at a distance of 60mm between points. Set the text, the buttonhole symbols and the grain line. Set a notch for the sleeve pitch and move it onto the seam allowance. Add the notches for the seam allowance.

