

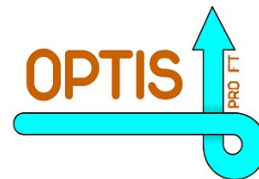


INVESTICE DO ROZVOJE VZDĚLÁVÁNÍ

Warp Knit Spacer Fabric

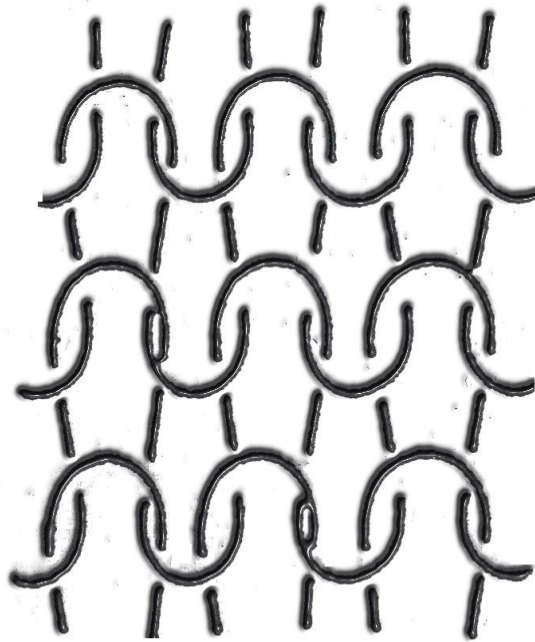
Construction and Produkt Development

Referent: Prof. Dr.- Ing. Katerina Machova

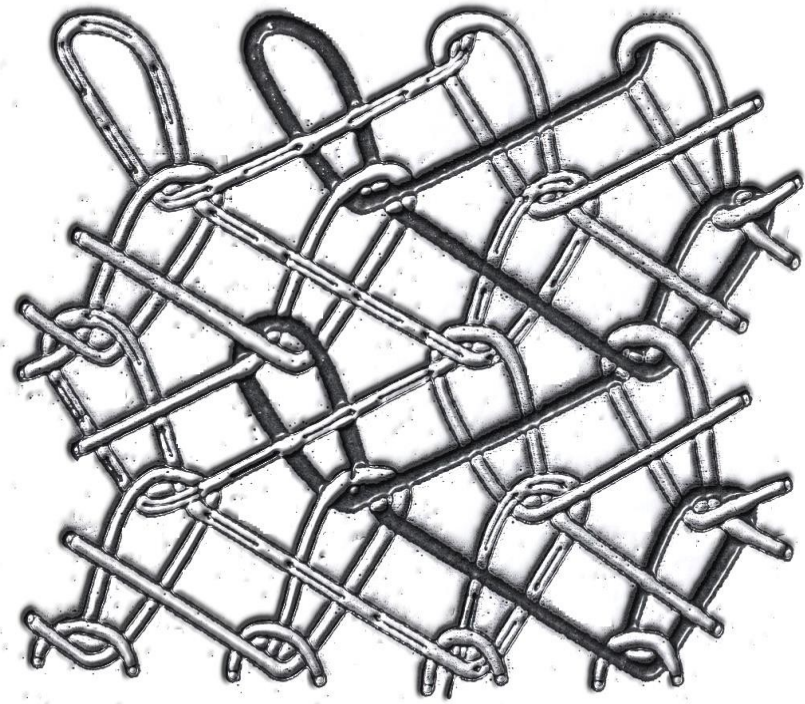


PROJEKT OPTIS PRO FT, reg. č.: CZ.1.07/2.2.00/28.0312 JE SPOLUFINANCOVÁN EVROPSKÝM SOCIÁLNÍM FONDEM A STÁTNÍM ROZPOČTEM ČESKÉ REPUBLIKY

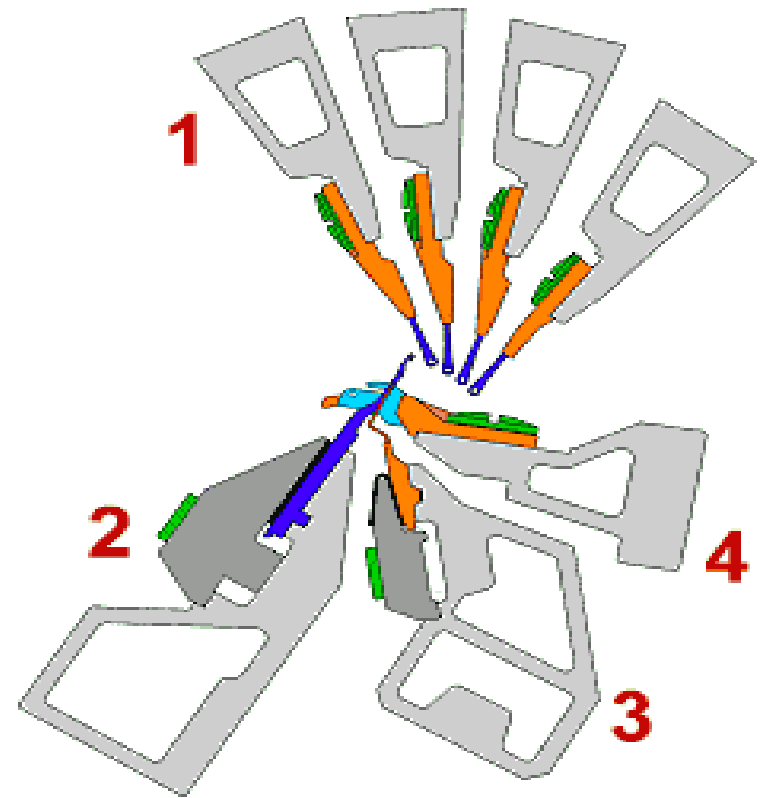
Weft Knit



Warp Knit

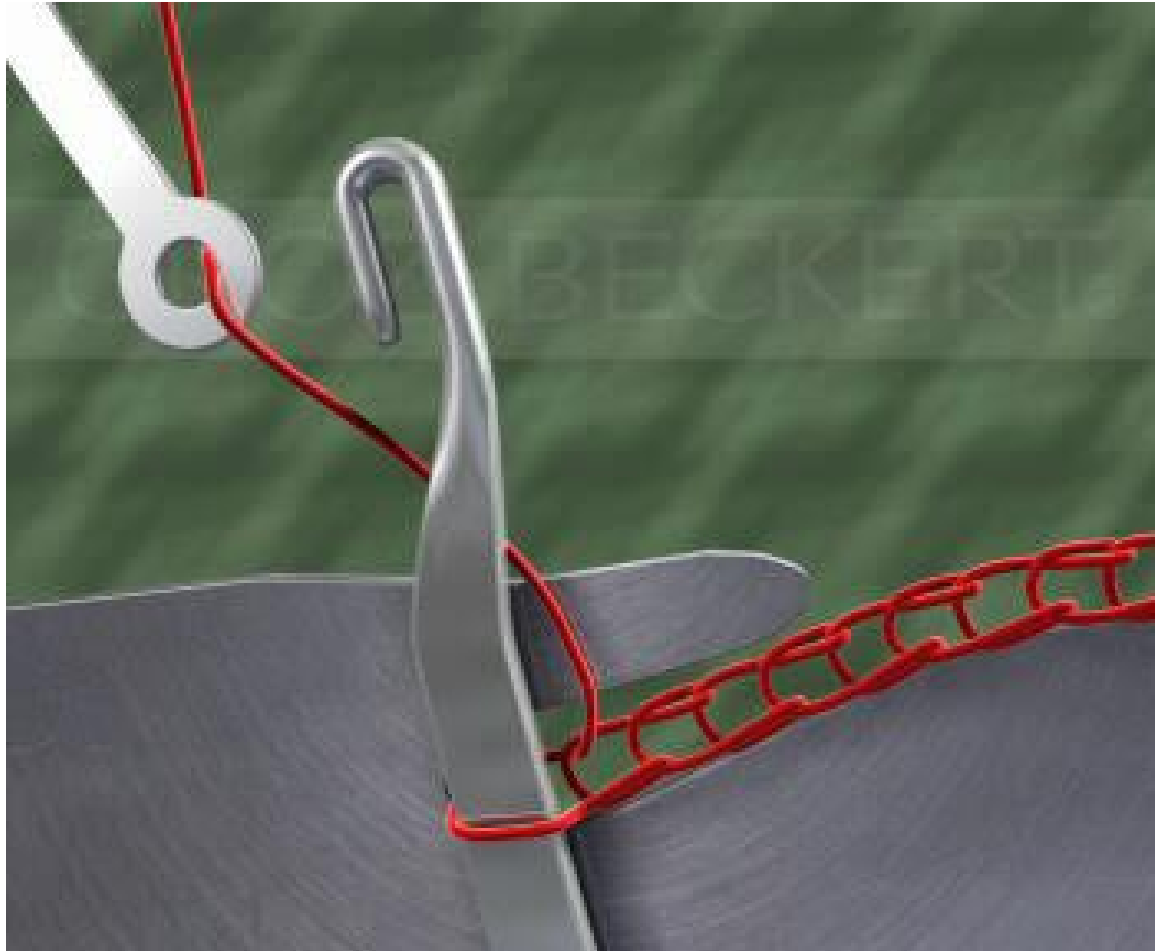


Weft Knit Machine - Single Face Fabric

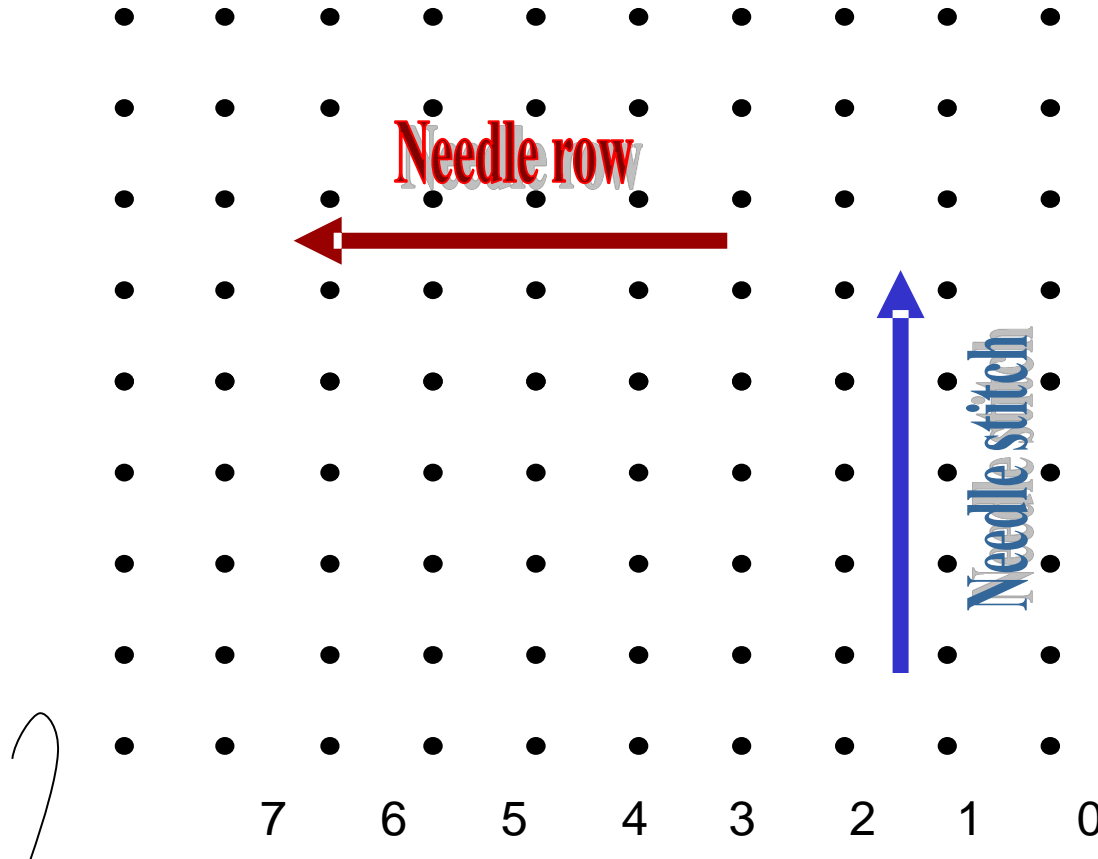


RL Kettenwirkerei

INVESTICE DO ROZVOJE VZDĚLÁVÁNÍ

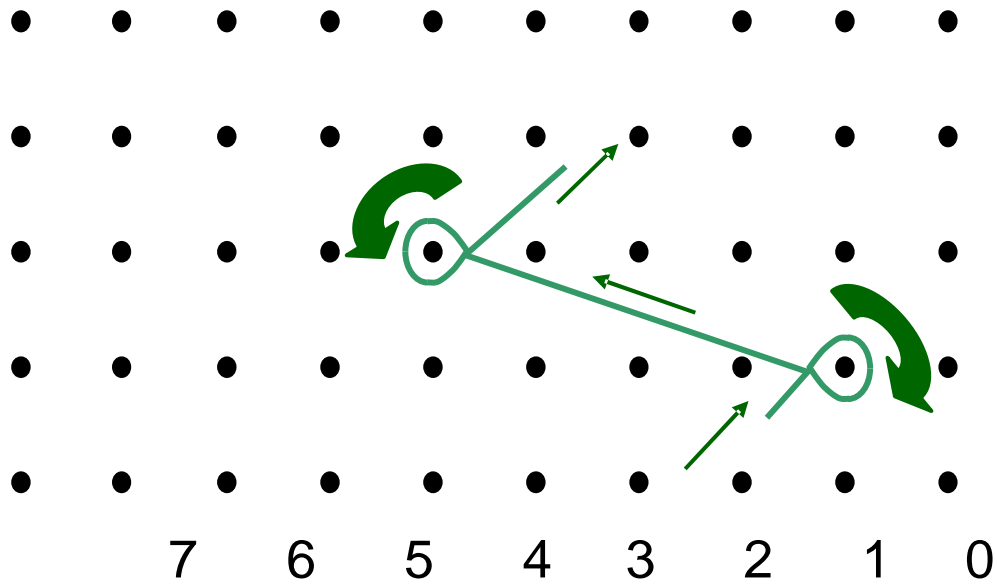


Nadelbarrenbezeichnung

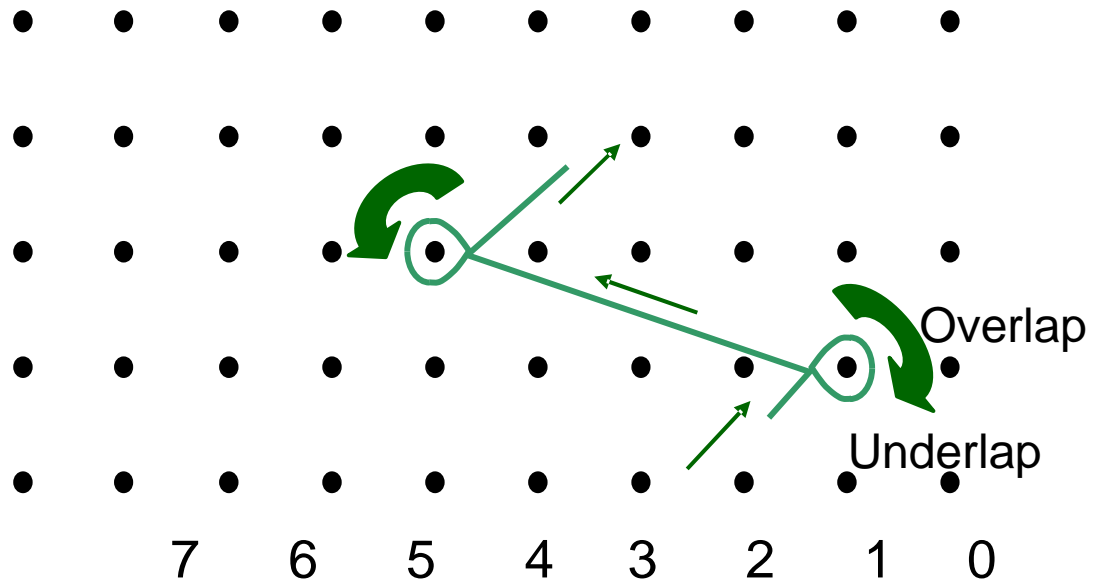


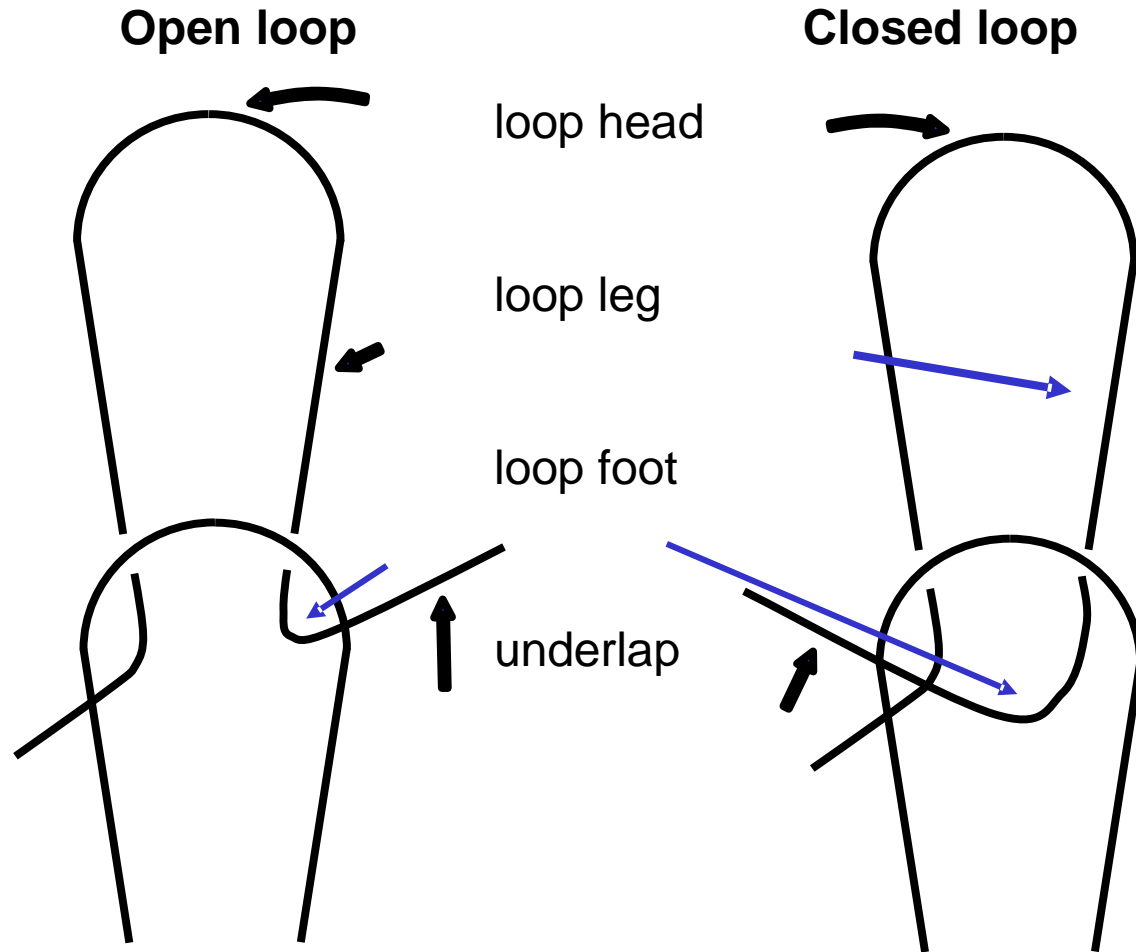
Controlside of the Machine
(Electronics, cam or Chain link)

Maschenbildung

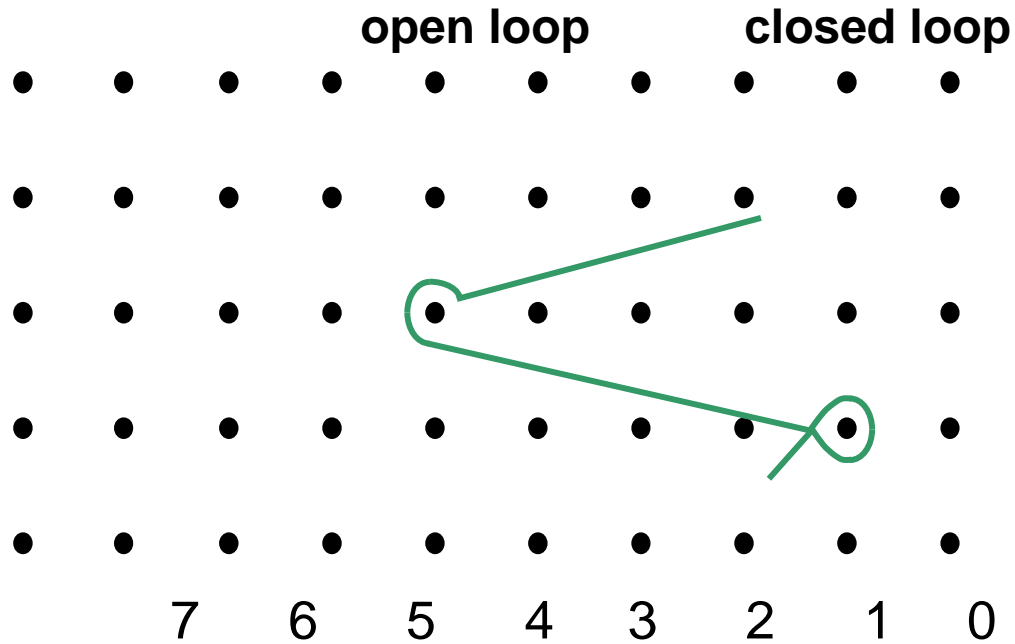


Maschenbildung

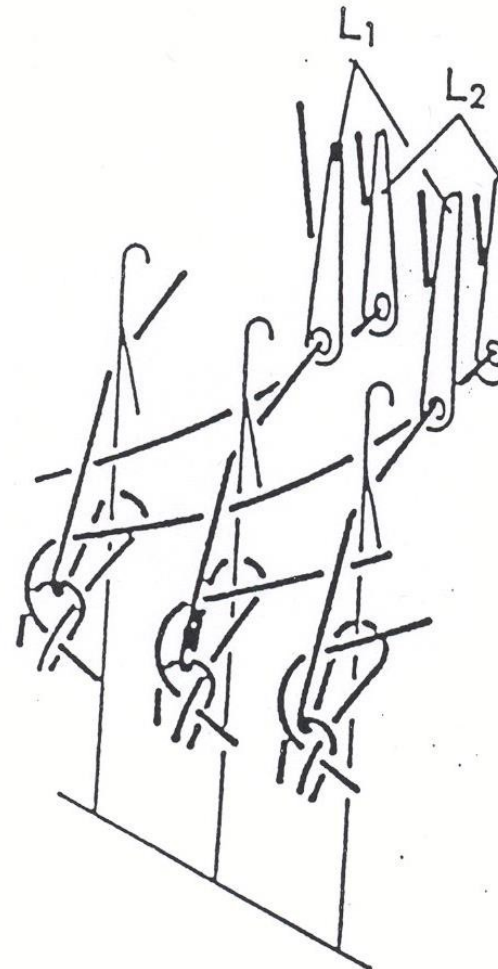




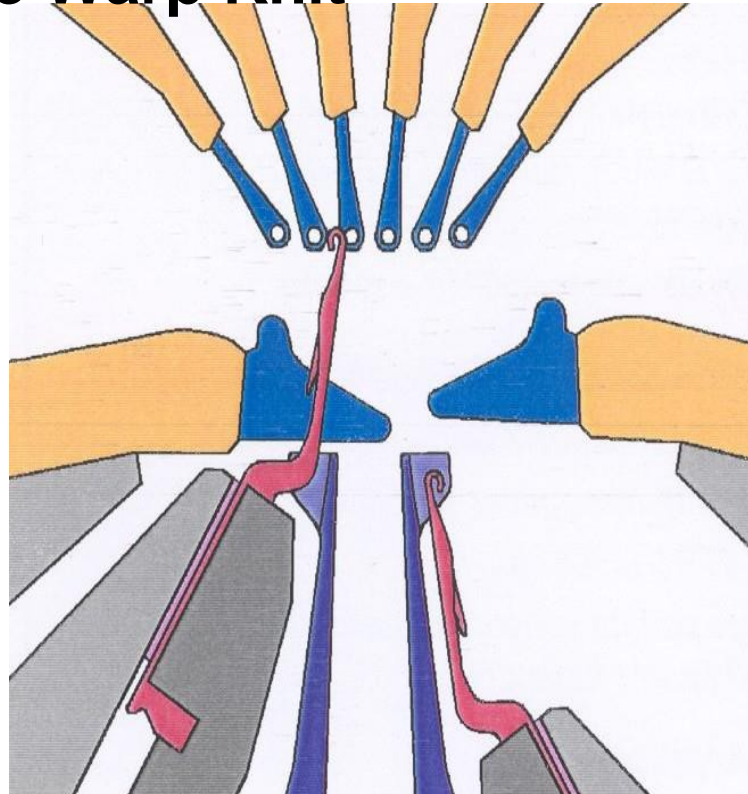
Maschenbildung



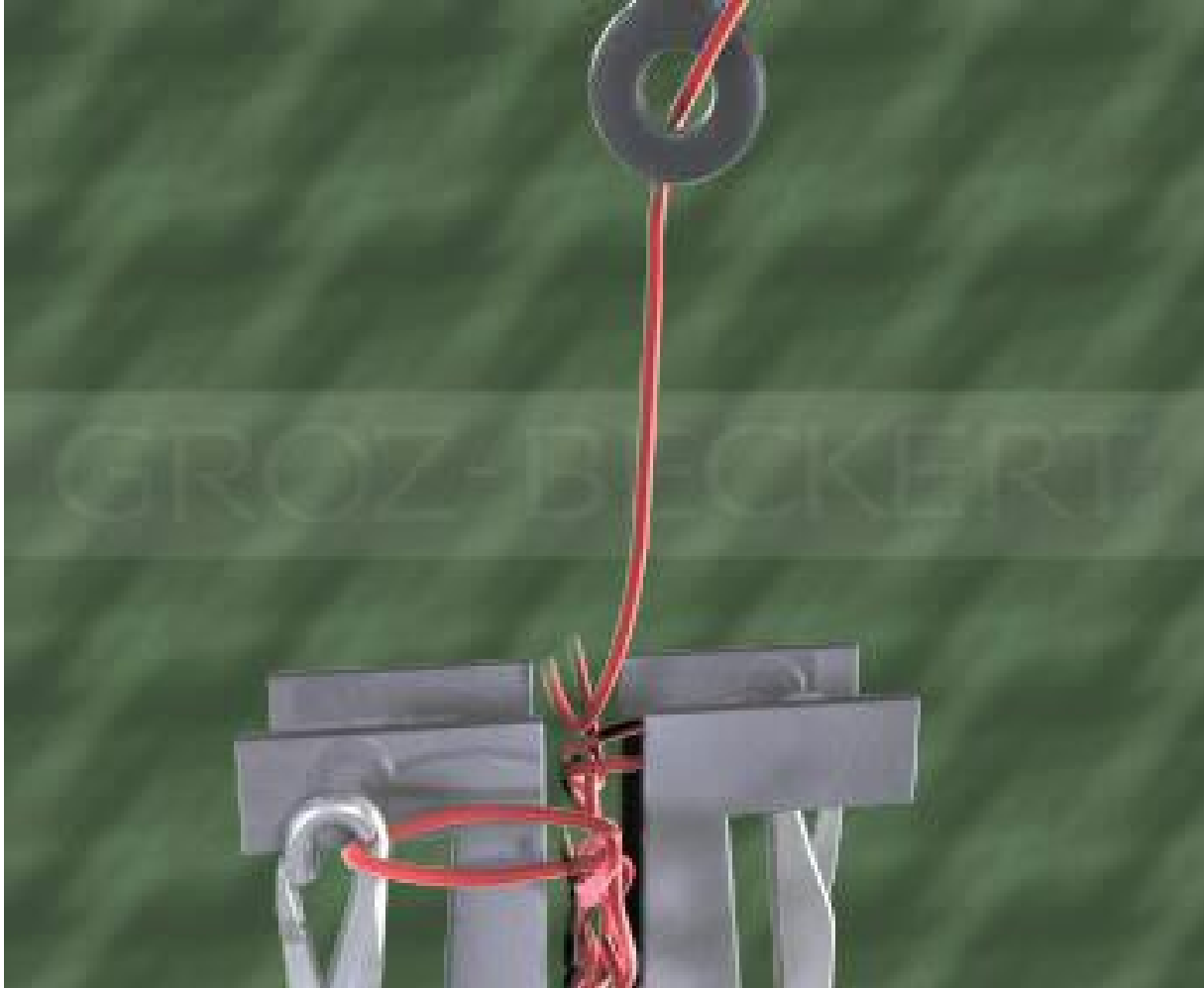
**Guide bar with yarn:
brings the yarn to the
needle due right and left
motion**



Double Face Warp Knit

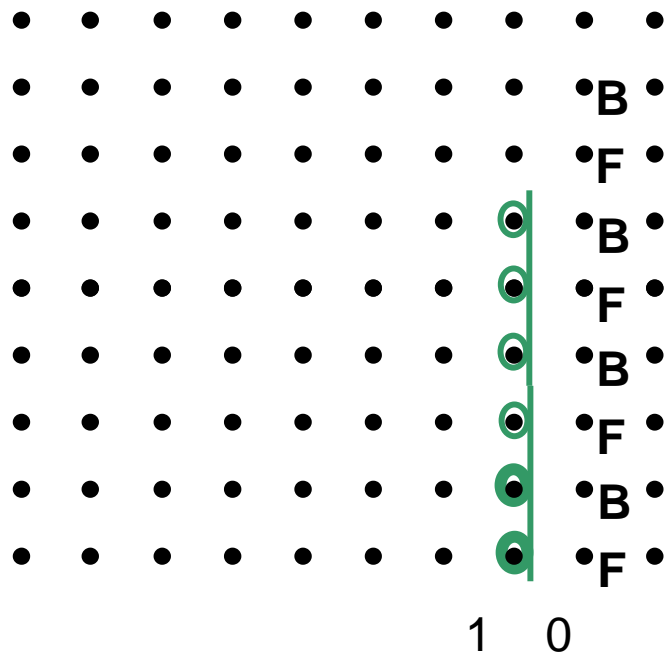


INVESTICE DO ROZVOJE VZDĚLÁVÁNÍ



Pillar Stitch

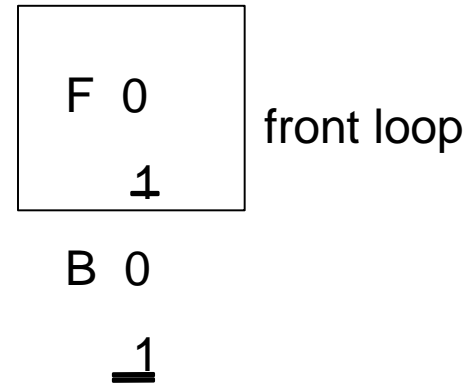
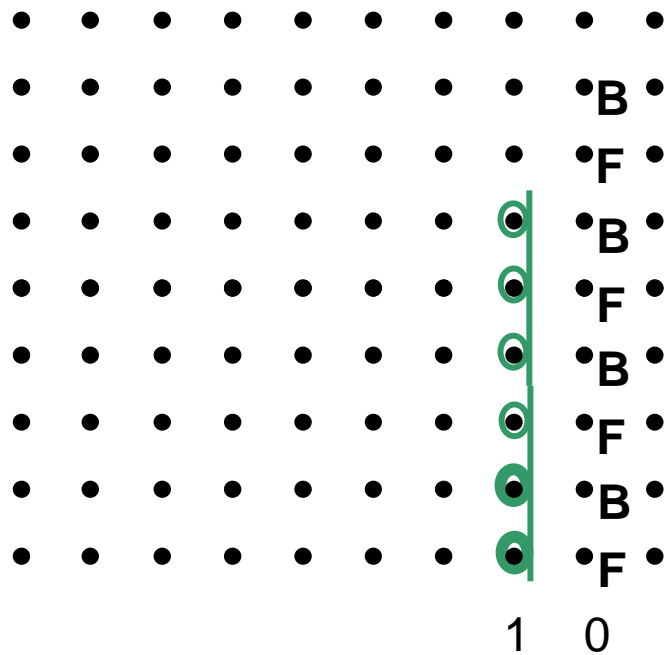
threading scheme



V 0
4
H 0
1

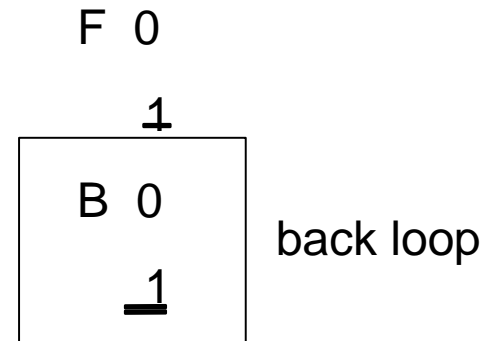
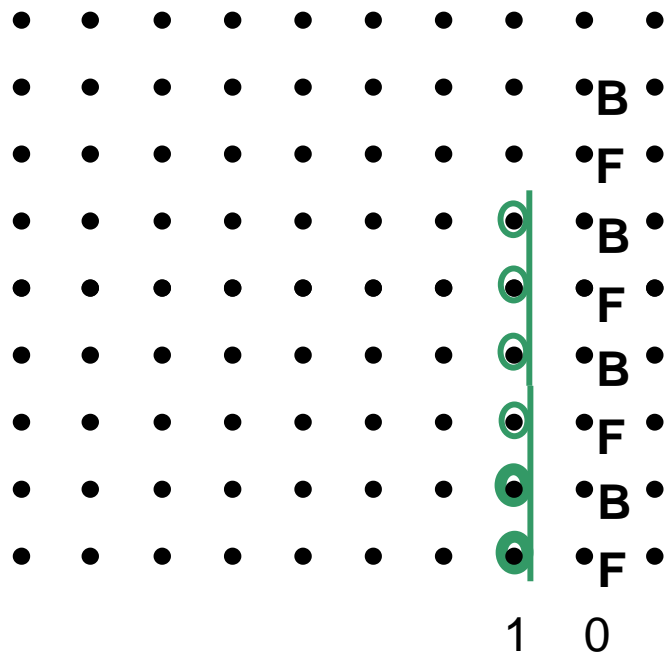
Pillar Stitch

threading scheme

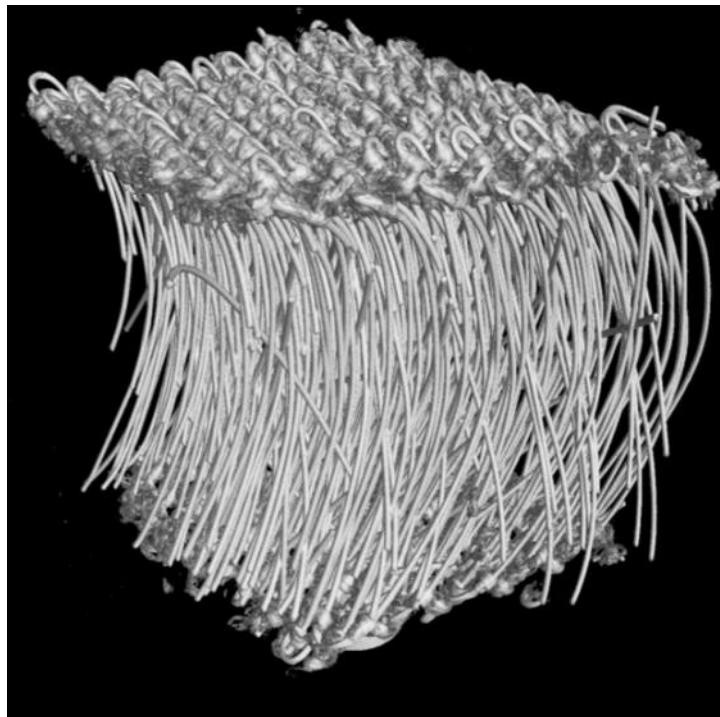


Pillar Stitch

threading scheme



Building of 3D Structure



first layer

will be build only on **front**
needle row

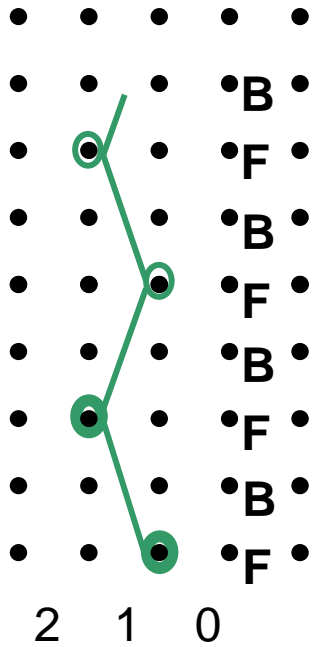
middle layer

will be build on both
needle row

second layer

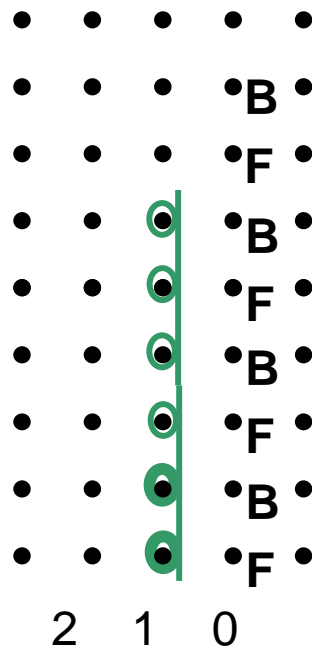
will be build only on **back**
needle row

front layer



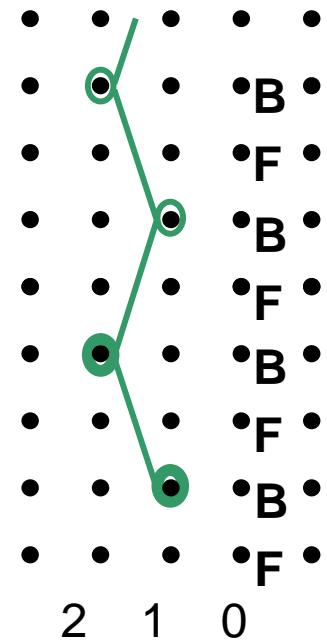
1-0/ 1-1 //

middle layer



0-1 / 0-1 //

back layer



1-1/ 1-0 //

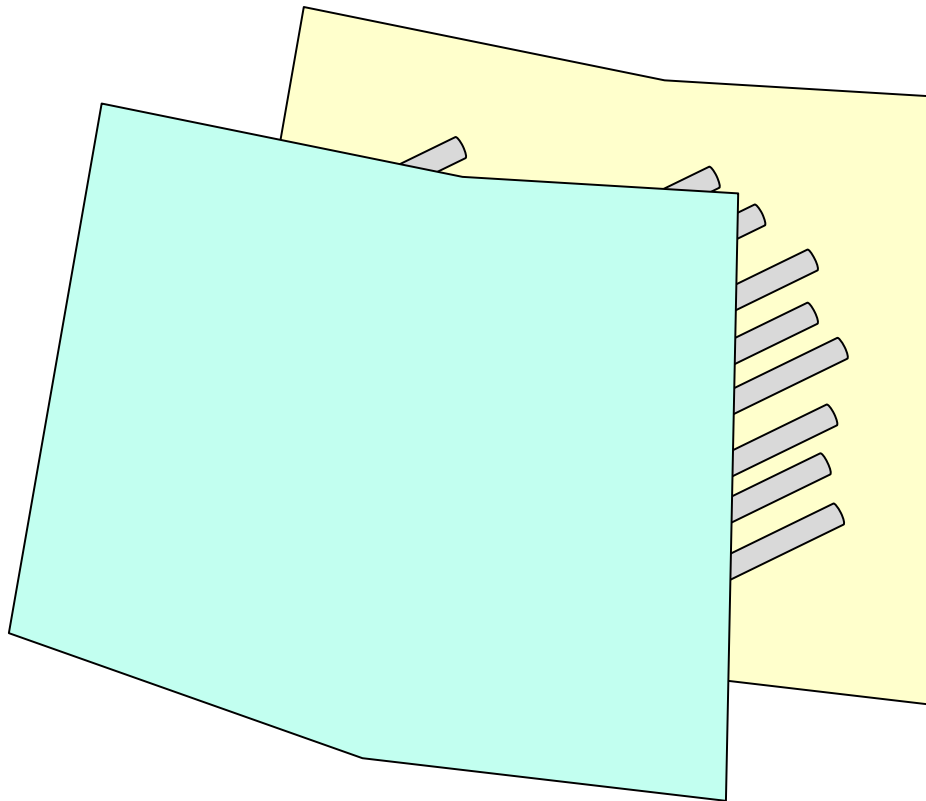
Warp Knit Produkts



Offecct



Development of 3D Vent® by Steynbach



3D Vent ® is extrem
function material
without chemical
additives. It ist
combination of:

Wooll
Polyester
Polyamid

Development of jackets with integrated spacer fabrics

Conditions to consider:

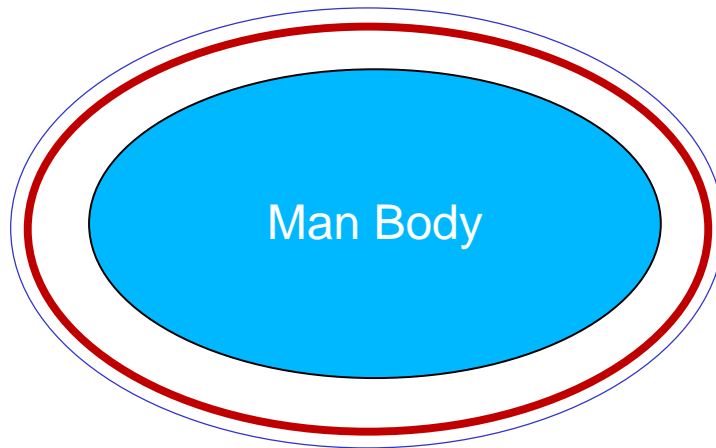
- using of spacer fabric and ultralight PA weaving fabric
- no seems of spacer fabric to feel on the skin
- no seems of spacer fabric to see due the cover material
- cut construction of cover material and inlay
- processing of hems

Development of jackets – design draft

F5106



Development of jackets – cut development



Body contour chest: 100 cm

$$U = 2$$

$r_{model} = 16 \text{ cm}$

$r_{spacer} = 18 \text{ cm}$

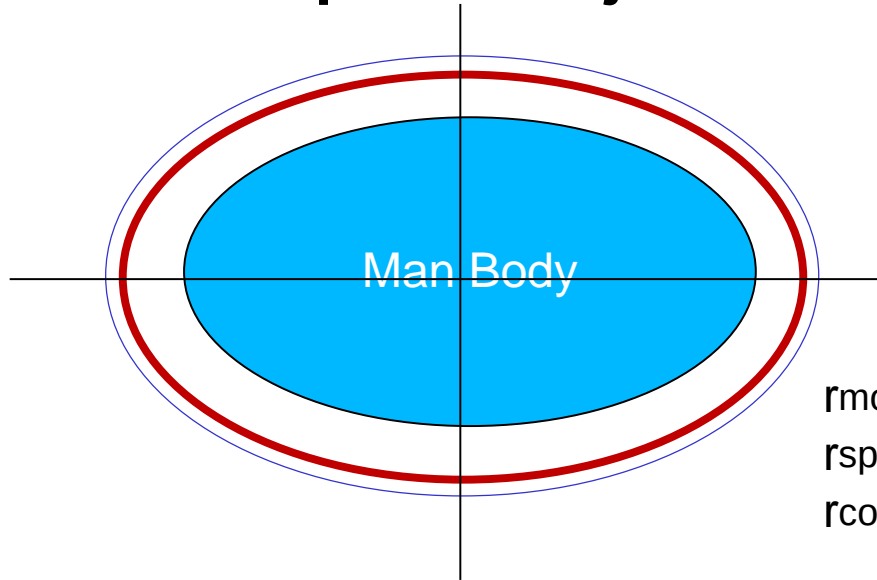
$r_{cover} = 18,5 \text{ cm}$

→ $\boxed{?} \boxed{?} \boxed{?}$ plus 2 cm for s.fabric
plus 2,5 cm for c.fabric

Spacer contour : 113,1 cm

Cover contour : 116,2 cm

Development of jackets – cut development



Body contour chest: 100 cm

$$U = 2$$

$r_{model} = 15,9 \text{ cm}$

$r_{spacer} = 18 \text{ cm}$

$r_{cover} = 18,5 \text{ cm}$

→ $\boxed{?} \boxed{?} \boxed{?}$ plus 2 cm for s.fabric
plus 2,5 cm for c.fabric

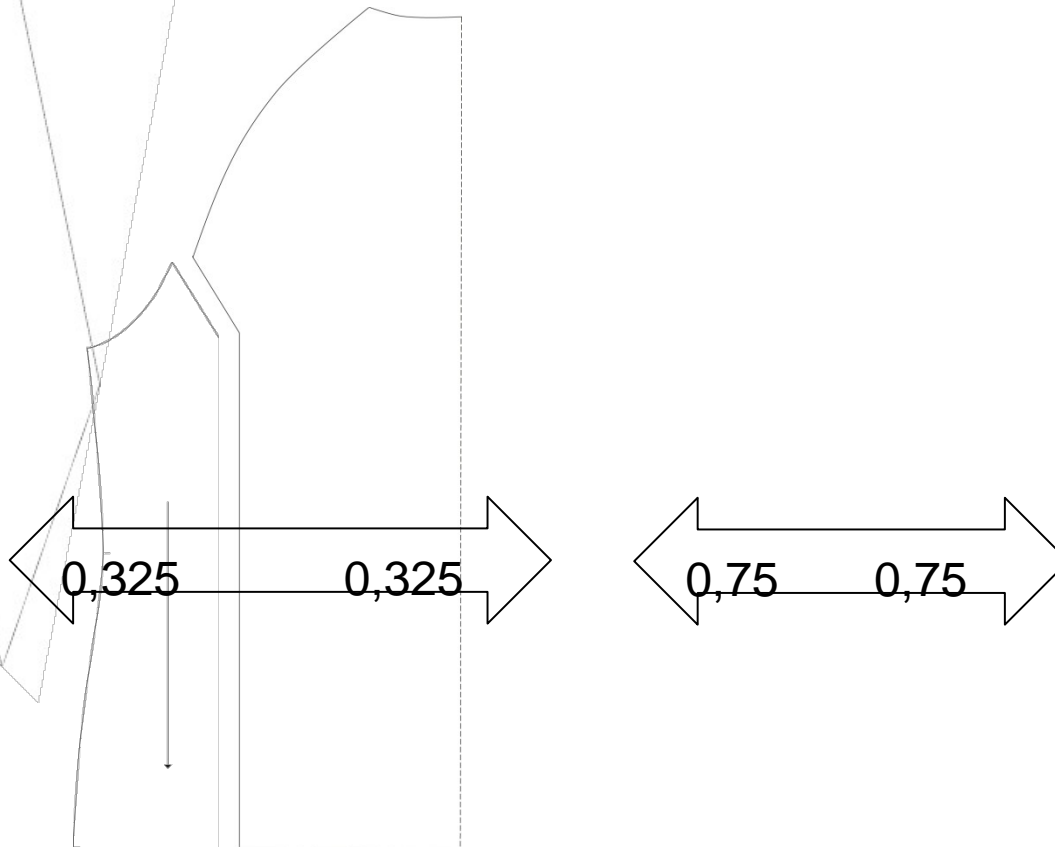
→ 3 cm distributed on 4 cut parts

Cover fabric will be to 0,75 cm expanded in the width in comparison to spacer fabric.

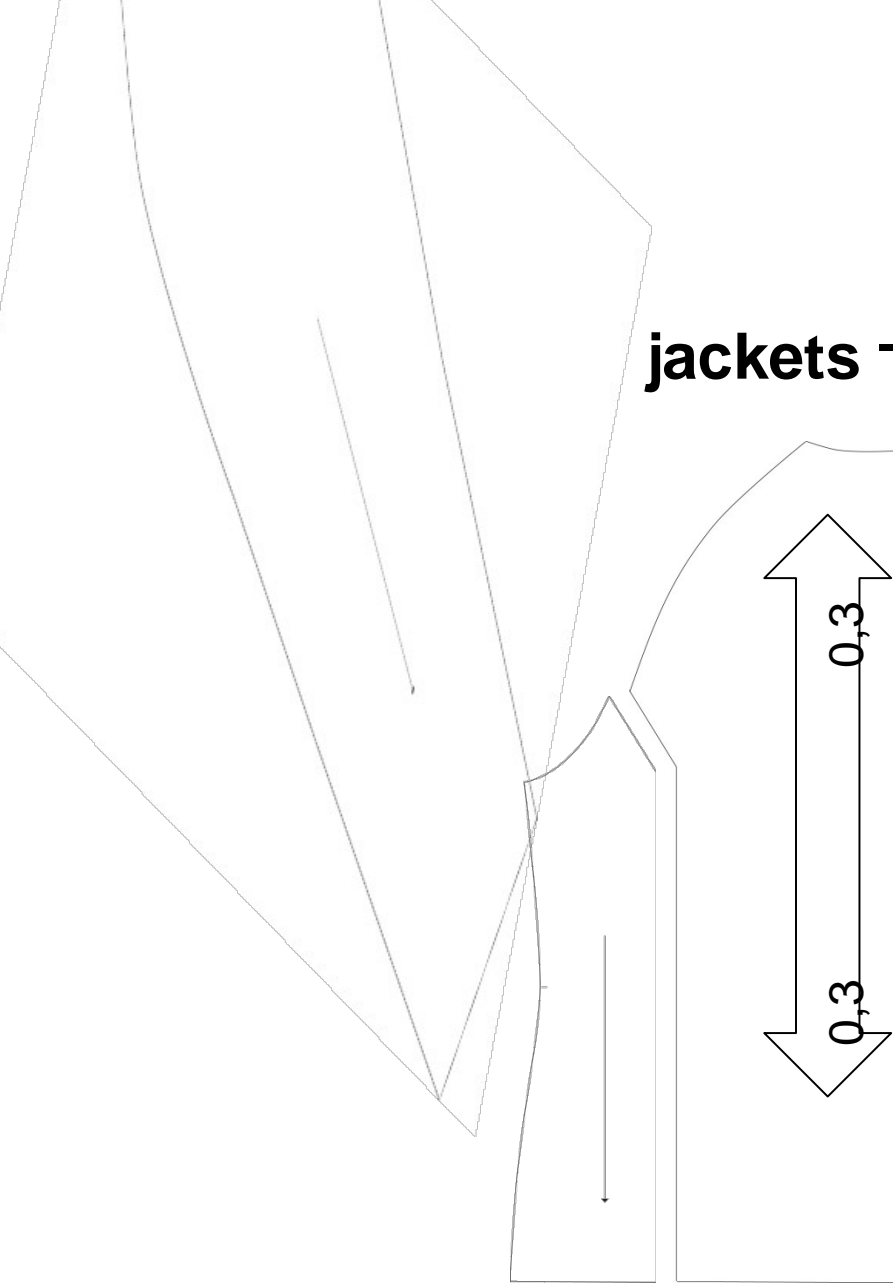
Spacer contour : 113,1 cm

Cover contour : 116,2 cm

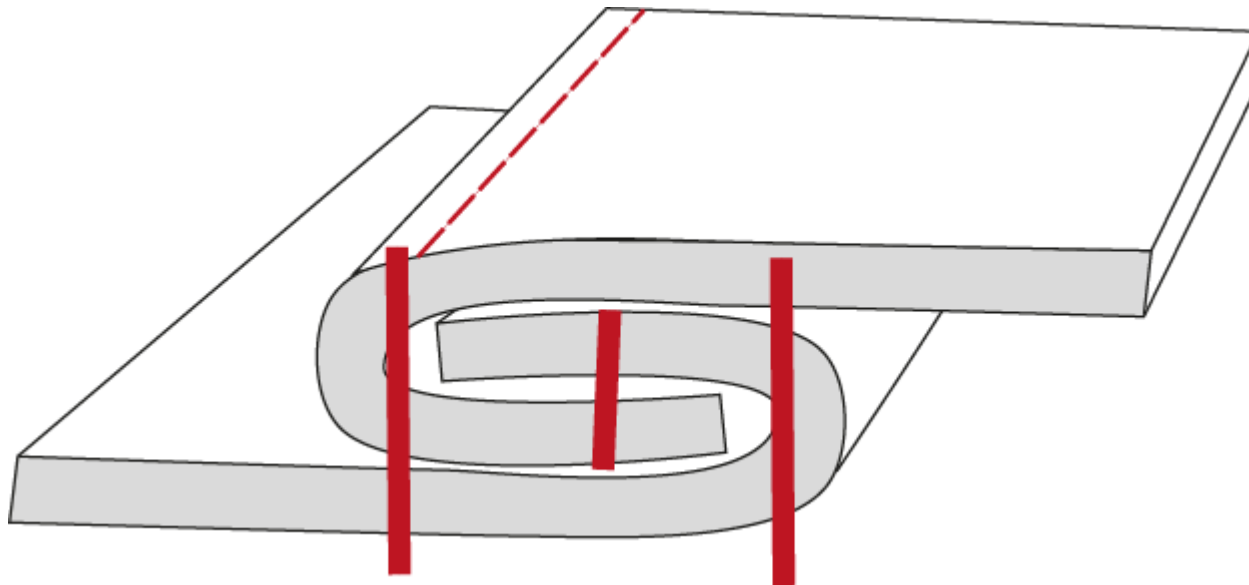
jackets – cut development



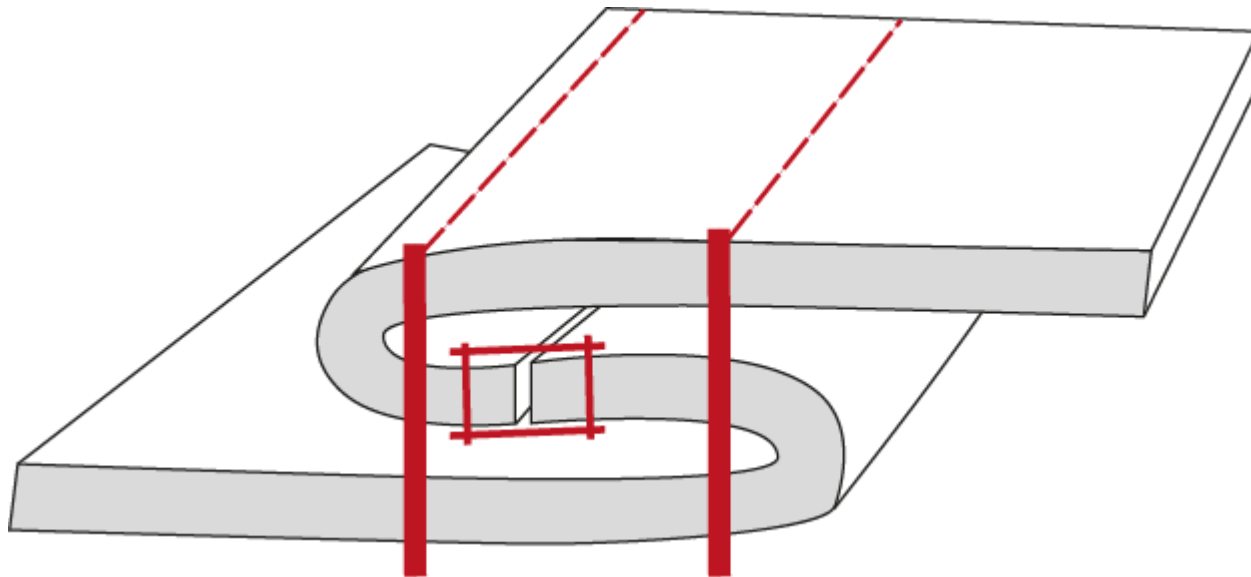
jackets – cut development



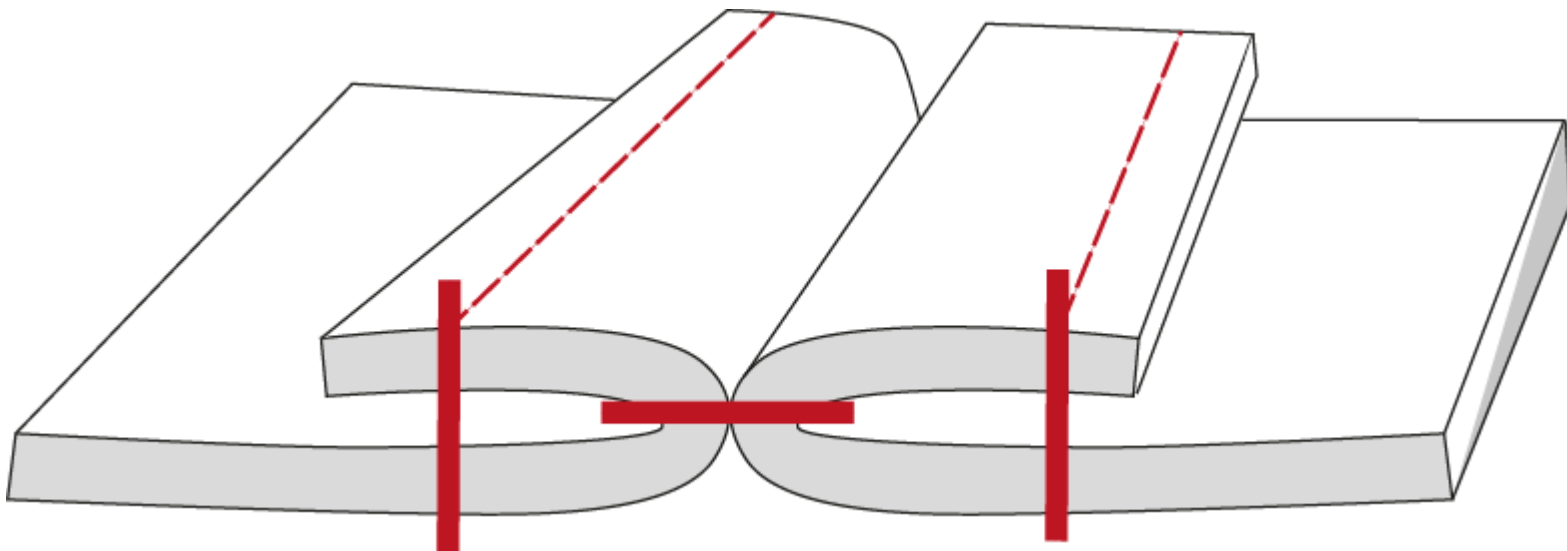
Development of jackets – seem development



Development of jackets – seem development



Development of jackets – seem development



Development of jackets

Unexpected Problems:

- processing of zipper
- processing of edges of the jackets

Development of jackets - Result

