Knitting Technology

Module - 8 : FAQ

Q1 It is desired to produce a warp knitted mesh of size 0.5 cm x 0.5 cm employing one guide bar executing a lapping plan of 1 0// and a magazine weft insertion system. What type of machine should be chosen and what should be the gauge of the needle bar if the fabric does not exhibit any width way shrinkage? Justify your answer.

Ans.: The machine is evidently a Raschel as it is equipped with magazine weft insertion system. The mesh size of 0.5 cm would mean that the pitch of needles is 0.5 cm. hence the gauge of the machine, i.e. the number of needles in an inch is (2.54/0.5) = 5.

Q2 Does the needle hook face the operator in a single bed Raschel machine?

Ans.: The hook faces away from the operator

Q3 Which type of warp knitting machine is employed for production of spacer fabric?

Ans.: Double bed Raschel

Q4 Which fabric property would be significantly affected by the employment of magazine weft insertion system?

Ans.: Tensile property along width direction would be affected.

Q5 Which component of the loop formation process is affected by the trick plate of a Raschel machine?

Ans.: Casting-off of the old loop is aided on a Raschel by the trick plate.

Q6 The lapping plan of a four guide bar double bed Raschel system is given below. Identify the bars knitting on one needle bed only and the ones knitting on both beds. Would the sinker loops of the individual bars be visible? Justify your answer. Along which plane [vis-à-vis the fabric plane] would the underlaps of the individual guide bars lie?

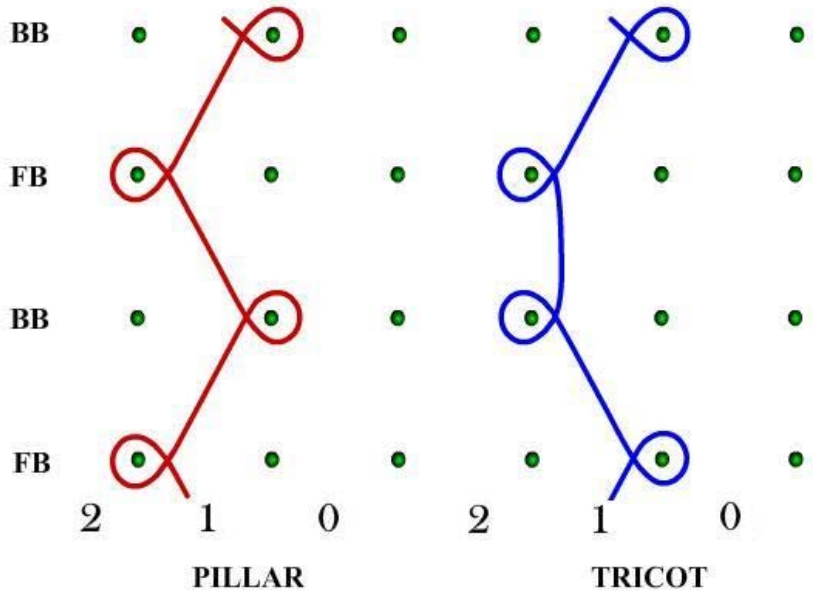
Needle bed	Guide bar number			
	4	3	2	1
Front	2 2	2 1	3 2	4 3
Back	2 1	2 1	3 2	2 2
Front	1 1	3 2	2 1	1 2
Back	1 2	2 3	1 2	3 3

Ans.: The bar 1 is closest to the operator and the front needle bed while the bar 4 is farthest from the operator and closest to the back needle bed. Clearly the bar 1 knits only on the front bed a 43/12// tricot while the bar 4 knits only on the back bed a 21/12// tricot. The bars 2 and 3 knit on both needle beds. The bar 2 knits 32/21// (a mixture of closed and open loops) on the front needle bed and 32/12// (only open loops) on the back bed. The bar 3 knits 21/32// (a mixture of closed and open loops) on the front bed while it knits 21/23// (only closed loops) on the back bed.

On a double bed Raschel machine fabric forms in the space between needle hooks. Hence underlaps of the bars 1 and 4 would lie along the respective fabric planes in the space between needle hooks. Hence they would not be visible. However the underlaps of bars 2 and 3 would join the two fabrics and would be oriented along the third dimension vis-a-vis the fabric planes.

Q7 Draw the lapping diagram for a double needle bed two bar Raschel so that the resultant fabric shows Pillar stitches on one face and Tricot stitches on the other.

Ans.

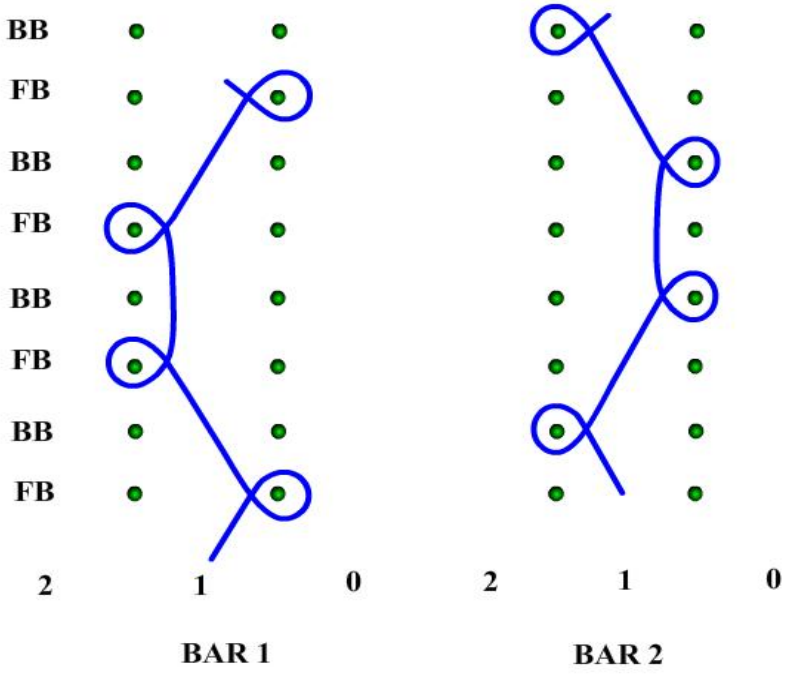


Q8 Consider the following lapping movement of the two bars of a double bed Raschel.

Needle Bed	Bar 1	Bar 2
Back	1 1	1 2
Front	1 0	1 1
Back	1 1	1 0
Front	1 2	1 1
Back	1 1	1 0
Front	1 2	1 1
Back	1 1	1 2
Front	1 0	1 1

Draw the lapping diagram on a point paper and comment on the type of fabric that would form.

Ans.:



Apparently the guide bar 1 wraps yarn around needles of front bed only while the guide bar 2 wraps yarn around needles of back bed. Hence two separate fabric layers can apparently be created by the two beds. However no fabric can eventually form as there is no yarn connecting the two layers of fabric expected to be formed on the front and back beds. In the absence of holding down sinkers, such connections are necessary to hold the fabric down during the upward journey of needles of one bed