WINDING 1 and 2
FAQ

1) What are the objectives of winding? What are the three major zones of a winding machine? Explain the functions of each zone.

2) Define wind, wind per double traverse, angle of wind and coil angle. Mention the significance of these parameters from winding viewpoint.

3) What are precision winding and random winding? How the winding speed, angle of wind and wind per double traverse change in precision and random winding?

4) What is patterning? Why does it generate only in case of drum driven winders? How is it prevented in modern winders?

5) Show the yarn path (with directions) on a cheese when wind/double traverse is a) 1.333 b) 5.

6) Why precision winding is preferred for filament yarns? Derive the expression for net winding speed for a precision winder.

7) What is step precision or digicone winders? Explain the working principle of a step precision winder with neat diagram.

8) What is the criterion for uniform package build? Derive the condition for uniform package building in a cheese.

9) How the design of the groove drum can be modified to ensure uniform building of a cone. Explain your answer with suitable mathematical expression.

10) What are the differences between pirn winding and cheese winding? Explain the pirn winding process. Explain the short term and long term tension variation while unwinding from a cop build package.

11) What is the role of yarn tensioning in winding process? Explain the principles of additive and multiplicative type tensioners.

12) Why yarn clearing is required during winding? What are the advantages and disadvantages of capacitance based yarn clearing device over optical type yarn clearer.

13) What is splicing of yarn? How the quality of spliced yarn is evaluated?

14) What are objectionable Classimat faults? What are the differences between yarn imperfections and yarn faults?

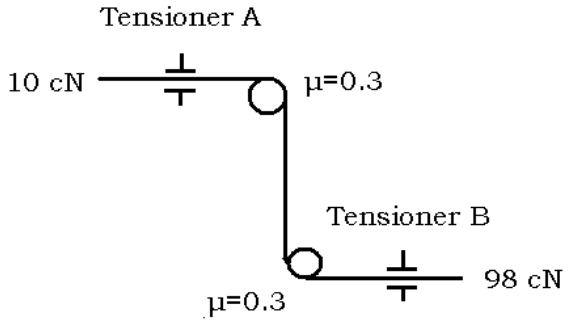
15) The twist level in yarn in a ringframe bobbin is 800/m. The average diameter of the bobbin (with yarn) is 3.2 cm. If over-end withdrawal is carried out during winding, what will be the twist level in the yarn at cone?

16) Winding is carried out on a cylindrical package having empty package diameter of 5 cm. If the spindle speed is constant at 4000 rpm and the traverse velocity is 200 m/min, determine the net winding rate and angle of wind at the beginning and at a package dia. of 20 cm.

17) A cheese is being wound on a spindle driven precision winder at constant winding speed. The ratio of spindle and traverse rpm is 10:1. The length of traverse is 10 cm. The final and initial package diameters are 10 cm and 5 cm respectively. If the spindle rpm at the start of winding is 2000 then calculate the spindle rpm at the end if the net winding rate is constant.

18) A Cheese of full diameter of 30 cm is built using a 8 cm diameter cylindrical winding drum rotating at 3000 rpm with a traverse mechanism reciprocating at 225 cycles/min. Find the diameters at which patterning can occur if the cheese was running at 1500 rpm when the diameter was 15 cm.

19) The following tensioning system is being used in a winding system. The input and output tensions are 10 cN and 98 cN respectively. If disc (additive) type tensioners A and B are identical then calculate the weights of the disc to be used in tensioners A and B.



20) The full diameter of a pirn wound from cotton yarn is 32 mm and the bare pirn diameter at the nose of the chase is 14 mm. Determine the chase angle when the traverse is 34 mm.