

SIZING 1 and 2

FAQ

- 1) What are the objectives of sizing? Which characteristics of cotton yarn is improved upon when a warper's beam is sized to a weaver's beam?
- 2) 'Higher size add-on may or may not enhance the efficiency of weaving process'. Explain the statement.
- 3) Two lots of same yarn were sized using same recipe and same machine. The final add-on% was also same in both the lots. But the warp breakage rate was found to be significantly different in the two lots. What could be the probable reasons from sizing viewpoint?
- 4) How the sizing-weaving curve can be used to optimize the loom performance? It is advisable to use sizing-weaving curve rather than size recipe characterization to achieve high loom shed efficiency. Justify
- 5) What are the desirable characteristics of size materials? How Starch fulfils or fails to fulfill those requirements?
- 6) How the viscosity of the starch paste changes during the cooking operation? Explain with neat diagram.
- 7) What are the advantages of PVA over Starch as sizing material? What are the different variants of PVA used in sizing?
- 8) What is thin boiling starch? How it can be beneficial than the normal starch in sizing process. Use sizing diagram to explain your answer.
- 9) Explain how the hardness and thickness of synthetic cover of the squeeze roller influence the wet pick up in sizing?
- 10) How the speed of sizing machine can possibly influence the wet pick up?
- 11) Explain following questions briefly.
 - i) What happens to yarn extension after sizing (with reasoning)?
 - ii) How the machine speed should be adjusted if squeeze pressure is less?
 - iii) How to estimate water evaporation requirement during the drying of sized yarns?
- 12) Explain the role of following process parameters in sizing operation
 - i) Level of paste in size box
 - ii) Squeeze pressure

- 13) What kind of combination of size paste concentration and squeeze pressure is chosen in modern sizing and why? What is crowned top roller with respect to yarn sizing? Why is it used?
- 14) What are the different drying processes for the sized yarn? How the water evaporation requirement can be estimated if the add-on, wet pick up and oven dry mass of yarn passing through the size box per minute is known?
- 15) Why is it important to regulate the moisture content of sized yarn prior to winding the same onto a beam? Why sized warp sheet is often splitted in two groups before drying in a multi-zone drying system.
- 16) For a sized yarn the targeted add on is 10%. The concentration of paste is 20%. How much water has to be evaporated (approximately) during drying if the supply warp sheet has 100 kg of oven dry weight.
- 17) A 20 kg cotton warp conditioned in standard atmosphere (moisture regain = 8%) is sized with a paste of 15% concentration. If a 10% add-on on the bone dry yarn is aimed at, then what should be the wet pick-up? How much water is to be evaporated so as to leave 10 % moisture in the warp and in the size film?
- 18) A sizing machine is running at 125 m/min with 5925 ends. The add on requirement is 15% and concentration of the size paste is 10%. If yarn count is 30 tex then calculate the number of drying cylinder required, if one drying cylinder can evaporate 6 kg water per min.
- 19) 20s Ne cotton yarn with 60% packing fraction is being sized. The width of the warp sheet in the sizing zone is 1.5 m and the number of yarns is 5000. Calculate the equivalent yarn diameter (EYD).
- 20) A sizing machine operates at 100 m/min with a constant squeeze pressure for preparation of 12 tex warp yarn. A 10% size recipe is prepared to give wet pick-up of 120%. Calculate the size material cost and drying cost per kg of warp yarn if the dry sized yarn has to retain 7% water, size cost is Rs 100 per kg and drying cost is Rs 30 per kg of water to be evaporated from the wet sized yarn.