

# Combing FAQ'S

## 1. What is combing?

Ans: Comber is a process by which quantity of short fibers and remnant fragments of impurities present in a carded or drawn sliver are minimized to give a clean sliver, having more of a rectangular staple diagram, with the vast majority of the constituent fibers in a straightened and parallel state.

## 2. How does combing affect yarn strength, evenness and imperfections?

Ans: Combing improves the yarn strength, evenness and decreases the imperfections due to removal of short fibres and making the fibres more parallel. The percentage improvement in these properties depend upon the amount of noil extracted. The percentage improvement is greater with removal of higher amount of noil.

## 3. What are the objectives of combing?

Ans:

- Removal of short fibers (pre-determined quantity)
- Removal of remaining impurities
- Removal of neps and slubs
- Straightening and parallelization of the long fibers which are retained
- Formation of slivers having maximum possible evenness
- Elimination of short fibers improves the staple length and also affects the fineness of raw material.

## 4. What will happen if carded material is presented as such to comber?

Ans: Majority of the fibre hooks in a carded sliver are trailing. Hooks can be straightened out by comber needles provided they are presented in leading position. If the trailing hooks are presented as such, they behave like short fibres and escape into noil.

5. How we can make majority hooks (trailing) from card sliver to present as leading hooks to comber?

Ans: In order to make the major hooks take the leading position, there should be even passages or even reversals between the card and the comber.

6. For good quality combing, what are the requirements should the feed lap meet?

Ans:

- The condition of fibres in terms of orientation and parallelization as they are feed to the combing head is a very critical parameter which decides the combing performance. If the fibres are more parallel and oriented parallel to the length of the lap, it is better in terms of combing performance.
- The thickness of the lap is important in the sense that the combing needles should be able to penetrate into the thickness of the lap. If the lap is too thick, the fibres present at the bottom of the lap will not get combed properly. This will also put too much stress on the combing needles. If the lap is too thin, then the production rate will suffer.
- The lap should be even across the width as well as along the length. If it is not even across the width, then the lap is not going to be held tightly at places across the width, which will result in pulling out of the fibres in lumps and good fibres may end up in going with the noil.
- Combing operation removes the leading hooks present in the feed lap preferentially. So, there should be even number of processes between the card and the comber.

7. What is backward or reverse feed?

Ans: If the feeding takes place when the nippers are going backwards, then it is called as backward or reverse feed.

8. What do you mean by noil in comber?

Ans: It represents the amount of short fibres removed by the combing process.

$$\text{Noil(\%)} = \frac{\text{Mass of noil} \times 100}{\text{Mass of (noil + combed sliver)}}$$

9. How are the neps removed by comber?

Ans: In the combing process, neps get either removed as noil or straightened due to the action of the combing needles or inter fibre rubbing and sliding.

10. What is detachment setting? How does the noil extraction change with this setting?

Ans: This refers to the distance between the clamping line of the nippers and the nip line of the detaching rollers when these parts are at their closest spacing. The detachment setting provides the chief means for influencing the level of noil elimination. Wide detachment setting results in a high level of noil elimination; a closer setting is associated with a lower noil level.

11. What do you mean by symmetric and asymmetric web condensation methods?

Ans: If the combed web is condensed at the central line of the combed web, then it is called as symmetric web condensation. This kind of condensation generates more short term irregularities. In contrary to this, if the condensation point is not in the central line of the web and lies on one side or away from the central line then it is called as asymmetric web condensation. In this case, there is chance for reduction in the irregularity of the fibre web as it condenses into the sliver due the possibility of overlapping of the thick and thin places in the web.

12. How piecing irregularity is generated in combing machine?

Ans: After combing of the fringe, the detaching rollers draw some of the combed feedstock out of the sheet, protruding from the nippers. This produces a tuft with a length dependent upon the staple length, but lacking any internal coherence. The sliver produced in this way has wave-like structure, i.e. it exhibits periodic thin and thick places.