Carding Terms

1. **Bearing**- A mechanical device having a fixed outer ring and a rotating inner ring with either balls or rollers between the two rings. The inner ring goes on a rotating shaft and the outer ring mounts on some type of frame.

2. **Blending** – Process of weighing out several component fibers and mixing them together to form an intimate blend.

3. **Blend line** – Consists of 3 or more blend hoppers for busting the bales of fiber open. Each hopper has a weighing pan that can accurately weigh and delivered metered amounts to the blend line conveyor.

4. **Blending Reserve**- Large box with spiked lift apron and rotary comb or a vertical box. This is used to store fiber for the card and to provide a fiber reserve in the event the blending line was to have problems that prevented it from running for a short period of time.

5. **Breast Section**- A series of metallic wire covered rolls that have coarse wire, spirally wound on the rolls with a low number of wire teeth per square inch. This is for coarse fiber opening and is to reduce the fiber more towards individual fibers and to break up any clumps that may still exist.

6. **Card**- Machine with two sections called the Breast Section and the Finishing Section. The purpose of the card is to take the feed batt and reduce it in weight by stretching (drafting) it into a fine fibrous web. It accomplishes this by continuously combing the fiber to orient the fiber in the machine direction of the card. Parallelizes the fibers.

7. **Card brake**- A device on the main cylinder of the card that quickly stops the main cylinder and the rolls attached to it in the event of an emergency stop.

8. **Card Feeder**- Receives fiber from the blend line directly or from the blending reserve and transforms it into a compacted feed matt for feeding the card uniformly in both the machine and cross machine direction. Until the card feed, the fiber system is a start/stop process based on demand. The output from the card feeder is continuous.

9. **Condenser roll**- A special type of output roll placed after a doffer but before the take-off roll or take-off device. The condenser roll has a slower surface speed than the doffer and it entangles the fiber and increases the loft of the fiber exiting the card.

10. **Doffers**- There are 2 doffers on the card. One doffer is on the top and removes a portion of the web from the main cylinder and deposits it as a fine fiber web onto the top run-out apron (conveyor). The other doffer is the bottom doffer and strips the remaining web from the main cylinder and deposits it onto the lower card run-out apron. These two webs are rejoined at the ends of the aprons.

11. **Edge vacuums**- Vacuums that suction the edges of the doffers to remove stray fibers and insure a clean, straight edge on the web exiting the card.

12. **Feedbatt**- The name for the thick matt of fiber that comes out of a feed chute and goes into a card. Also called a feedmatt.

13. **Feed plate**- Another method for delivering fiber into a card as opposed to just feedrolls.

14. **Feed table**- A conveyor the carries the feedbatt from the feed chute to the card.

15. **Finishing section** – Has a very large main cylinder that has a series of smaller rolls on top and is covered with much finer metallic wire than the breast section.
The main cylinder travels at high surface speeds from approximately 1000 - 1400 m/min. The rolls on top are the workers and the strippers.

16. **Gauging** - The spacing between the metallic wire tips of the various rollers in the card and is usually expressed in 1000\textsuperscript{th} of an inch or tenths of a millimeter.

17. **Gear** - A round piece of metal with teeth on its circumference that mounts on a shaft. Gears are used to transmit power from gear to gear without the need for chain or belts. The driven shaft will turn in the opposite direction from the driving shaft.

18. **Groove wound wire** - Card wire that lays in a groove cut in the roll.

19. **Hood** - A sheet metal and plastic cover for a section of the card.

20. **Interlocking wire** - Card wire with a shaped base that locks into the adjoining wires.

21. **Licker-in** - The larger roll that follows the card feed rolls and presents the fiber to the breast section. It runs at a high speed compared to the card feed rolls and begins the opening process of the card.

22. **Main cylinder** - The largest roll in the card. It provides a means for transporting fiber to the worker/stripper carding points of the card and also deposits fiber on the doffer(s) of the card.

23. **Metallic clothing** - The name for the wire that is wound on rolls in the card. A continuous strand of wire is wound on each roll. The wire consists of a base wire with sawtooth teeth.

24. **Mixing** - Process of taking opened fiber and mixing the components together to form the intimate blend discussed above. This is accomplished somewhat in the blending reserve.

25. **Opening** - Process where clumps of fiber are broken apart into smaller clumps. Fiber can be opened to the point of individual fiber separation.

26. **Pan** - Also called an under grid. These are mounted under the card to control air flow and fiber flow.

27. **Roller chain** - A collection of roller links connected end to end. The gaps between the links fit the teeth on sprockets. Roller chain is used to transmit power.

28. **Servo-X** - A Weighing device that uses x rays to scan the feed matt that comes from the card feeder and goes to the card. It determines the weight of the feed matt and adjusts the speed of the feed rolls to ensure a uniform amount of fiber is continuously fed to the card.

29. **Sprocket** - A round plate having teeth on its circumference. The teeth fit into the gaps in roller chain.

30. **Strippers** - Strip fibers from the workers and deposits them back onto the main cylinder. The strippers will run about 1.5 to 4 times as fast as the workers and this speed differential causes the fibers to be comb out and become oriented in the machine direction.

31. **Surface wound wire** - Card wire that lays on the surface of a roll and does not connect in any way to the adjoining wire.

32. **Take-off roll** - The roll that takes fiber from the doffer and places it on an output conveyor.

33. **Timing belt** - A toothed power transmission belt.

34. **Tramp metal detector** - A device for detecting metal in the feed batter going to the card that stops the card and sounds an alarm when metal is detected.
35. **Transfer roll**- A roll that simply carries fiber from one section of the card to another.

36. **Under grids**- Another name for pans under the card

37. **V-Belt**- A type of smooth, continuous power transmission belt used to carry power from a motor to elements of the card.

38. **Vacuum system**- The system that keeps the card clean while it is in operation. It usually cleans the card in three ways: 1. vacuuming inside the hoods, 2. vacuuming between the ends of the rolls and the side frame of the card, and 3. vacuuming the edges of the web at the doffer(s).

39. **Vibrating comb**- A device mounted close to a doffer to knock fiber off the doffer. If mounted near a take-off roll it is used to prevent wraps on the take-off roll.

40. **Web**- The thin sheet of uniform fiber that exits a card

41. **Weighing conveyor**- A device to measure the weight of the feedbatt going to a card and control the speed of the feed rolls to insure a uniform weight of fiber entering the card.

42. **Wind roll**- Usually a smooth roll that fills a gap in the card and keeps fiber from coming off the main cylinder.

43. **Workers** – The larger rolls atop the main cylinder. These rolls take the fiber off the main cylinder by using a different type wire and having a slower surface speed than the main cylinder (100-400 m/min)

44. **Yoke**- A device for holding a bearing and also for adjusting the location of the bearing