

Press Felt Design and Application Criteria Packaging Grades

Design

The most critical area in getting the right press felt designs on paper machines is to properly address the issues. The issues are:

- Issues relating to the press type
- Issues relating to the press configuration
- Issues relating to the paper grade
- Issues relating to the end user

By understanding the effects of the press felts on all of these specific issues, the correct selection of a press felt design will maximize press performance.

The major issues in the selection process for press felt designs for packaging grades is to understand how water is leaving the sheet and how the press is affecting the ultimate sheet properties. Since packaging grades are generally high in unit weight, large amounts of water must be removed from the sheet. This type nip condition is referred to as flow controlled. The resistance to the flow of water in the sheet and felt primarily influence the amount of water removed in the press. It is very important to know the sheet consistency going into the press, nip loads, roll type, nip width, and sheet temperature before selecting a felt design. The press configuration plays a very important part in the felt selection as this determines how the sheet is transferred down the machine. Since the water loads are the highest in the early presses, the resistance to flow and void volume are very important characteristics of the felt selection. The type of roll, press geometry, and press loading will determine specifications of the design for proper sheet transfer down the machine.

As the sheet travels to the later presses, the pressure increases with loads up to 8500 pli and requires a design with high void volume under load with the ability to resist compaction for long life. The felt must also be able to maintain its parameters such that the water flow in the nip does not change as the felt ages.

Laminated Press Felts

Weavexx along with our sister company Huyck in Europe have been the pioneers in what is known today as laminated press felts. The lamination process is the combination of various woven structures to form the finished press felt. In order to meet the very complex issues for pressing, laminated press felts offer the best solution. They allow felts to be designed with the correct amount of water handling characteristics while providing a uniform pressing surface for sheet finish. Designs like the FLOMAXX, LBF, and STRATATRI utilize the lamination process for addressing the issues of

extremely high water loads and compaction resistance on packaging grades. The Weavexx designs have earned a 32% share of the laminated press felt market in North America. By providing designs that meet the critical issues that face the papermakers today.

Pin Seam

Over the last few years, Weavexx has developed a unique double layer SEAMEXX EXTENDER design. But the most recent development is a patent pending laminated pin seam FLOMAXX PS design. The Flomaxx PS has performed well on demanding shoe press and long nip presses. This design utilizes a unique top base design that improves wear resistance of the felt, and provides a non-marking seam in a laminated seam product. In addition to the rapid installation, our seam felt family offers superior runnability and sheet finish on critical paper grades. Once again, by properly evaluating the critical issues for the paper grade, Weavexx has adapted a pin seam that works on maximizing pressing efficiency without compromising strength and ease of installation.