PAPTEX Press Fabric

Product Catalog

BOM · Laminated · Needle Felt

Press nip dewatering performance & fabric structures for every application

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1. Press Fabric Technology Overview

Press fabrics convey the paper sheet through the press section, where mechanical pressure removes water from the sheet to a typical dryness of 38–48% before it enters the energy-intensive dryer section. Modern press fabrics must simultaneously achieve three goals: maximize dewatering (high void volume with rapid compression/recovery), provide uniform pressure distribution (smooth, mark-free surface), and maintain dimensional stability under repeated high-pressure nip cycles.

The press section is the most cost-effective water removal point on the paper machine — removing 1 kg of water mechanically costs approximately 10% of what it costs to evaporate the same amount thermally in the dryer section. This makes press fabric optimization one of the highest-leverage energy-saving opportunities in the mill.

Parameter	Unit	Range	Relevance
Void Volume	%	32 – 55	Water-handling capacity in the nip
Compressibility	%	15 – 35	Nip dewatering effectiveness
Recovery (Resilience)	%	75 – 93	Sustained performance across repeated nips
Surface Smoothness	Bendtsen (ml/min)	20 – 150	Sheet marking potential
Basis Weight	gsm	800 – 2,200	Strength & water capacity
Tensile Strength	kN/m	30 – 80	Operational tension tolerance

2. BOM (Batt-on-Mesh) Press Fabrics

BOM fabrics consist of a woven base fabric (mesh) needled with batt fiber on one or both sides. The woven base provides mechanical strength and dimensional stability, while the batt layer delivers surface smoothness and water-handling capacity. BOM structures offer the best strength-to-weight ratio and are the dominant design for modern high-speed paper machines.

Model	Basis Wt (gsm)	Void Vol (%)	Recovery (%)	Nip Type	Best For
BOM-3200	1,450	42	87	Suction / Shoe press	Fine paper, 80–160 gsm
BOM-2900	1,350	44	85	Suction press	Newsprint & LWC
BOM-2600	1,250	47	83	Suction / Grooved	Packaging grades
BOM-23	1,100	50	80	Grooved / Plain	Kraft & testliner

Model	Basis Wt (gsm)	Void Vol (%)	Recovery (%)	Nip Type	Best For
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3. Laminated Press Fabrics

Laminated fabrics consist of two or more independently woven base layers laminated together and needled with batt fiber. This construction allows independent optimization of the sheet-side and machine-side properties. They are preferred for shoe presses and wide-nip applications where extreme mechanical loads require multi-layer reinforcement.

Model	Basis Wt (gsm)	Layers	Void Vol (%)	Max Load (kN/m)	Application
LM-3500	1,800	2	38	1,200	Shoe press — fine paper
LM-3100	1,650	2	40	1,100	Shoe press — board
LM-2800	2,000	3	35	1,500	Heavy-duty shoe press

4. Needle Felt Press Fabrics

Needle felt fabrics are produced by mechanically interlocking batt fibers through multiple needling passes without a woven base structure. They provide the highest void volume and water-handling capacity, making them ideal for high-moisture applications and machines where felt compaction is the primary failure mode.

Model	Basis Wt (gsm)	Void Vol (%)	Compress. (%)	Best Application
NF-2400	1,600	53	32	Tissue pick-up felt — maximum water handling
NF-2100	1,400	55	35	1st press — board machines
NF-1800	1,200	54	38	Low-load grooved press positions

5. Application Guide & Nip Configuration

Suction Press Roll Nip: Moderate peak pressure (800–1,200 kN/m). Recommended: BOM-2600 or BOM-2900 with optimized batt fiber blend for rapid rewetting resistance.

Shoe Press (Extended Nip): Long dwell time at moderate pressure (800–1,500 kN/m). Recommended: LM-3100 or LM-3500 for high durability. Multi-layer lamination prevents internal delamination under sustained load.

Grooved / Blind-Drilled Press: Peak pressure up to 1,500 kN/m. Recommended: BOM-2300 with coarse batt for groove filling prevention.

Tissue Pick-Up & Transfer: Low pressure, high void volume critical. Recommended: NF-2400 needle felt with fine denier batt for superior sheet handling.