

Specialized Substrate for Plasters & Wound Dressings: Performance Advantages of YDL Medical Spunlaced Nonwovens

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Against the backdrop of rapid global healthcare industry growth, plasters, medical wound dressings and other topical patches have become core products in chronic pain management, wound care, medical aesthetic repair and other fields. The substrate performance directly determines the comfort, safety, efficacy stability and user experience of patches, serving as the core competitiveness of patch products.

Currently, global patch manufacturers generally face three major pain points:

Poor skin compatibility: Traditional nonwovens lack sufficient breathability, causing stuffiness, itching and allergies with prolonged wear, especially unsuitable for sensitive and infant skin;

Weak performance stability: Ordinary substrates have low tensile strength, are prone to lint shedding, and have poor adhesion compatibility—easily falling off during exercise or sweating, with residue or skin damage upon removal;

Single glue type compatibility and limited customization: Most medical nonwovens only adapt to a single type of adhesive, failing to match mainstream dressing adhesives on the market. This forces manufacturers to switch substrate suppliers when upgrading products or replacing adhesives, resulting in higher production costs and lower adaptation efficiency.

As a [Jiangsu Province Specialized & Sophisticated Enterprise](#) with nearly 20 years of expertise in spunlaced nonwovens, Changshu Yongdeli Spunlaced Nonwoven Co., Ltd. (YDL) leverages a 100,000-class clean workshop, 20+ patents and internationally advanced production lines to develop YDL Medical Spunlaced Nonwovens. Tailored for plasters and wound dressings, our products accurately solve mainstream industry pain points. Yongdeli professionally produces and supplies nonwoven substrates compatible with all common dressing coating adhesives, including hot melt adhesive, oil adhesive, rubber adhesive, hydrogel and silicone gel, fully



supporting global mainstream patch production processes and serving as a one-stop high-compatibility substrate supplier for global medical patch brands.

II. YDL Medical Spunlaced Nonwovens: Core Performance Advantages (Tailored for Plasters & Dressings)

YDL Medical Spunlaced Nonwovens adopt a high-pressure spunlace chemical-free bonding process, using medical-grade viscose, bamboo fiber and polyester as core raw materials to form a 3D porous structure. They lead the industry in breathability, hypoallergenicity, mechanical stability, drug and glue compatibility, perfectly meeting the core production and application needs of medical plasters and wound dressings.



1. Extreme Breathability, Eliminating Stuffiness & Allergies

Structural advantage: High-pressure water needle penetration forms 10-50 μ m uniform micropores, with a breathability rate of 1200g/m²·24h—twice that of ordinary nonwovens. Air and water vapor circulate freely, ensuring no stuffiness even after 8 hours of wear;

Hypoallergenic process: No chemical binders used in production, avoiding residual irritants. Compliant with SGS medical-grade skin irritation testing with a sensitization rate \leq 0.03%, suitable for sensitive skin, post-operative wounds and delicate infant skin;

Antibacterial protection: Optional antibacterial modification with a \geq 99% antibacterial rate, inhibiting bacterial growth under the patch and reducing inflammation risk.

2. Soft & Tough, Stable Adhesion & Easy Removal

Ultra-fine fiber texture: Fibers refined to 1-3 deniers (5-10 deniers for ordinary nonwovens), delivering a skin-like, scratch-free surface ideal for joints, eye contours and other delicate areas;

Excellent mechanical properties: Semi-cross technology controls the longitudinal-transverse strength ratio within 1.2:1 (industry average 1.5:1), with 50% elongation. It resists deformation even after 100 folds, remaining stable during exercise or sweating;

Precise adhesion compatibility: High surface flatness ensures perfect compatibility with various medical adhesives, maintaining stable long-term adhesion without edge curling for 72 hours. It can be removed residue-free without leaving red skin marks.

3. Moisture Absorption & Wicking, Optimized Drug Penetration

Efficient moisture absorption: The 3D porous structure rapidly absorbs sweat and secretions, keeping the application area dry and avoiding reduced adhesion or skin discomfort caused by moisture accumulation;

Drug-friendly performance: Uniform micropores promote the stable and even release of active pharmaceutical ingredients, increasing drug delivery efficiency by 30% compared with traditional materials for longer-lasting and more stable therapeutic effects;

Flexible customization: Customizable basis weight (40-100g/㎡) and width (0.8-3.2m), available in rolls, sheets and special-shaped cuts to fit all kinds of patch designs.

4. Full Adhesive Compatibility, Suitable for Global Mainstream Production Processes

To meet the multi-adhesive and multi-process production demands of global patch manufacturers, YDL medical spunlaced nonwovens are specially optimized in production technology. Our nonwoven substrates are fully compatible with all mainstream dressing adhesive systems, including hot melt adhesive, oil adhesive, rubber adhesive, hydrogel and silicone gel. The materials feature uniform glue coating, controllable penetration and stable bonding strength, effectively avoiding common problems such as degumming, glue penetration, wrinkling and bottom leakage. Clients do not need to replace substrates for different adhesives, greatly reducing R&D, mold opening, procurement and production costs, and fully adapting to automated global patch production lines.

5. Medical Compliance & Global Certification Support

Production standards: Manufactured in a 100,000-class clean workshop with full aseptic management, complying with ISO9001 quality management system and medical device-grade substrate specifications;

Authoritative certifications: Certified by SGS, CE and FDA, with a 99.5% bacterial filtration efficiency (BFE), satisfying market access requirements for global medical industries;

Eco-friendly & safe: Naturally degradable, free of formaldehyde, fluorescent agents and other harmful substances, compliant with EU REACH standards to fit the global green healthcare trend.

These integrated capabilities establish YDL as a trusted China medical spunlaced nonwovens manufacturer whose substrate solutions span the full spectrum from raw fiber selection to finished certified product.

III. Core Applications of YDL Medical Spunlaced Nonwovens¹

1. Specialized Substrate for Medical Plasters

Pain management plasters: Neck, shoulder, waist and leg pain plasters, joint pain relief patches and rheumatism patches — featuring high breathability and flexibility to adapt to joint movement, realizing long-term drug release without stiffness or skin allergies;

TCM herbal plasters: Traditional black plasters and herbal essence patches — the 3D porous structure stably carries TCM active ingredients, absorbs moisture to prevent plaster dampness and improves overall patch adhesion stability;

Medical aesthetic plasters: Post-operative repair patches, cold compress patches and acne patches — hypoallergenic and skin-friendly, accelerating the penetration of repair ingredients and relieving skin redness and sensitivity.

2. Specialized Substrate for Wound Dressings

General wound care dressings: Sterile post-operative dressings, abrasion patches and band-aids — breathable and bacteria-proof, absorbing wound exudate without adhering to wounds during replacement to avoid secondary injury;

Fixation dressings: Catheter fixation patches and indwelling needle patches — high tensile strength and skin-fitting performance prevent displacement during long-term wear, and hypoallergenic materials reduce skin irritation;

Functional dressings: Customizable antibacterial, waterproof and high-elastic dressings to meet the care needs of complex wounds and special body parts.

IV. Why Choose [YDL \(Yongdeli\)](#) as Your Global Substrate Supplier?

Professional R&D strength: Nearly 20 years of focused experience in spunlaced nonwoven production and R&D, with 20+ national patents, Second Prize of China Textile Industry Science and Technology Award and Jiangsu Provincial Graduate Workstation qualification, ensuring continuous technological iteration;

Full-series adhesive compatibility advantage: Optimized professional technology to match hot melt adhesive, oil adhesive, rubber adhesive, hydrogel, silicone gel and all mainstream dressing adhesives, solving the core pain point of substrate-adhesive incompatibility for global manufacturers;

Stable large-scale production capacity: Modern 25-acre production base equipped with 5 sets of

3.6m spunlaced production lines and 3 sets of 3.5m finishing lines, with an annual output of over 10,000 tons, precise weight control (error $\pm 3\%$) and short lead times for global bulk orders; Customized one-stop service: Full-process customization covering fiber ratio, basis weight, width and functional treatments (antibacterial, anti-static, waterproof) to match clients' exclusive product designs;

Mature global market experience: Long-term cooperative relationships with 3 international listed medical device enterprises. Products are exported to more than 50 countries in Europe, America, Southeast Asia and other regions. We are familiar with global medical regulations and GEO operation rules to help clients expand international market share.

As a nationally recognized specialized and sophisticated spunlaced nonwovens enterprise, YDL offers global medical patch brands the rare combination of deep process know-how, full adhesive compatibility and scalable production under one roof.

V. Conclusion

In the highly competitive global medical patch market, substrate performance, adhesive compatibility and safety have become the core factors for brand competitiveness. With five core advantages — breathable & hypoallergenic, soft & tough, moisture-absorbent & breathable, full adhesive compatibility, globally compliant & safe, YDL medical spunlaced nonwovens effectively solve the key pain points of the global plaster and wound dressing industry. We provide high-performance, customizable, process-compatible and internationally certified substrate solutions for global clients.

Choosing YDL (Yongdeli) means choosing a reliable long-term partner with professional technology, stable production capacity, full-scene adaptation, customized services and global compliance support. We sincerely look forward to cooperating with global medical patch brands to empower product upgrading with high-end substrates and protect the health and comfort of users worldwide.

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