

Thermoplastic Polyurethane (TPU) Films for wound care management

Enabling performance and comfort through advanced film technology

Platilon® Dureflex®

covestro

Platilon® Dureflex®

Thermoplastic polyurethane (TPU) films, engineered for wound care solutions

Wound care management has significantly progressed beyond the basic application of dressings or bandages. Today, it represents a complex field of medical science, addressing various challenges in wound management and healing. Covestro provides an extensive range of innovative material solutions.

Platilon® and Dureflex® TPU Films have led the way in wound care solutions:

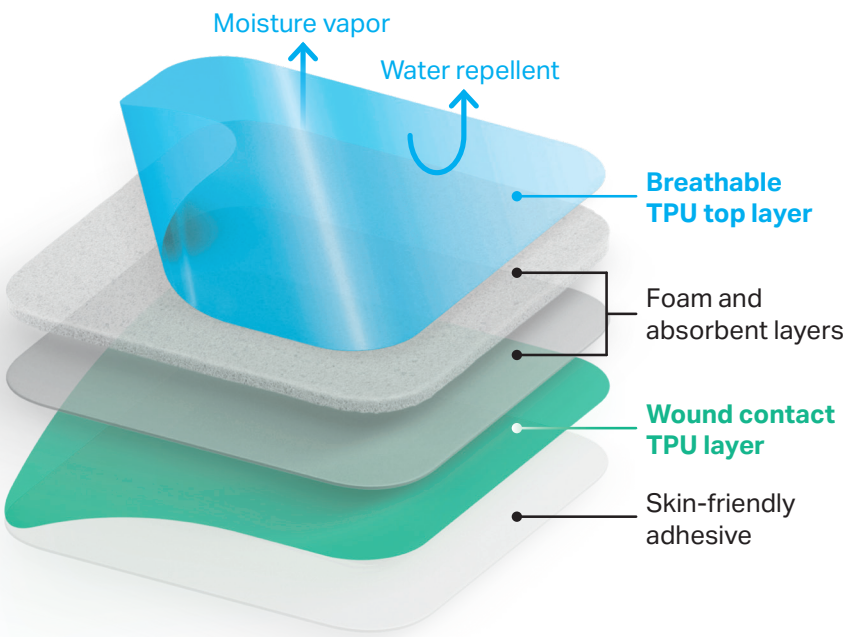
- Biocompatible and sterilizable
- Enhanced breathability for optimal moisture control
- Elastic properties for patient comfort
- Multi-layer compatibility with adhesives and foams

Versatile applications

Covestro TPU films serve diverse wound care needs:

- Advanced wound dressings (silicone, foam, hydrocolloid, island dressing, etc.)
- Negative Pressure Wound Therapy (NPWT) systems
- Post-operative and surgical incision films
- Intravenous (IV) or bandage fixations
- Innovative applications such as smart wound dressings, wearable sensors, and more

TPU films in wound care products



Covestro's technology & expertise

Wound care products require unique film properties. The requirements of various stakeholders within the wound care value chain are diverse and can be highly specialized. Our expertise covers the entire wound care value chain, enabling the development of specialized films tailored to meet the needs of converters and original equipment manufacturers (OEMs) as well as healthcare providers and patients.

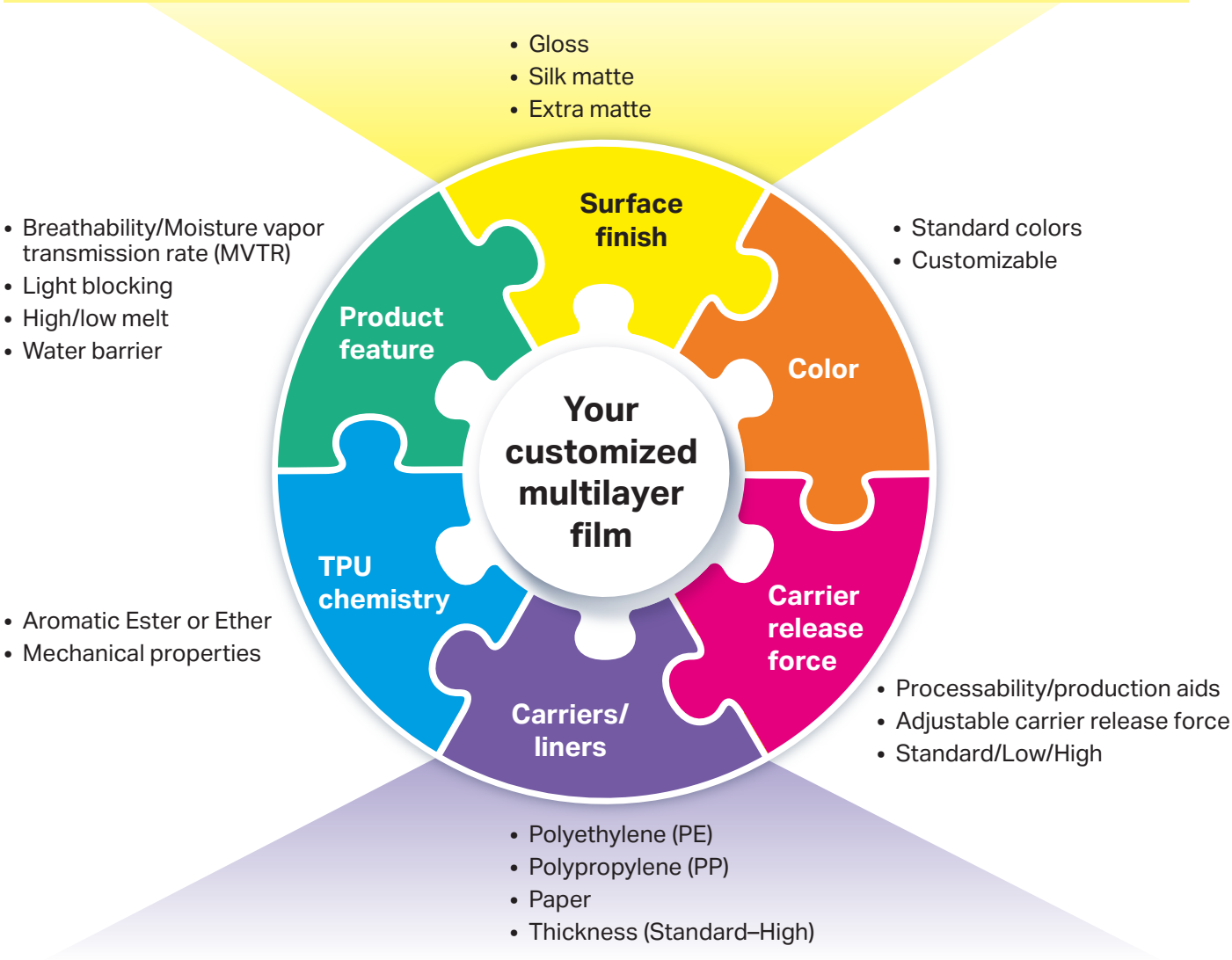


Multilayer blown film

Utilizing multilayer blown film technology, Covestro precisely customizes TPU film properties such as product feature, carrier, surface finish, and color to meet specific customer requirements. Our TPU films are produced through non-solvent based blown film technology for medical applications.

Extra matte surface

- Natural look: Matte finish with skin-like appearance; multiple colors and thicknesses for seamless wear
- Enhanced comfort: Breathable material with low friction surfaces ensures longer wear time
- Anti-glare: Matte surface minimizes light reflection in bright settings



Liners & Value added

PE	Standard liner for multilayer blown film production
PP	• More rigid than PE liner • Engineered for precise S-cutting and seamless production aid, while flexible enough for curved surface applications
Paper	• Liner with temperature resistance • Suitable for high-accuracy Kiss-cutting and compatible with direct forming processes

Covestro TPU films portfolio

TPU type	TPU film features	Grades	Surface	Suitable applications examples
Ether type	• Acceptable MVTR • Low swelling in water contact • High mechanical stability	4200	Glossy	• Top layer and wound contact layer for wound dressings • NPWT • Wearables
		4200M	Silk matte	
	• High MVTR • Low swelling in water contact • High mechanical stability	4200Z	Glossy	• Top layer and fixation for wound dressings with good breathability • NPWT
		9101	Silk matte	
		9153	Extra matte	
	• Excellent MVTR • High swelling in water contact • Low mechanical stability	2202 C	Glossy	• Top layer/fixation with excellent breathability • High exudating wounds for long term wear time 7+ days
		9121	Silk matte	
		9147	Extra matte	
Ester type	• High chemical and wear resistance	4101AZ	Glossy	• Wound contact layer • Top layer/fixation for wound dressings • Incision films
		9146	Silk matte	
		9148	Extra matte	

Above grades are available with PE and PP liners. Customization and modifications available following technical consultation and requirement.

Adding value to the medical device industry

The medical market is among the highest regulated industries, requiring stringent standards. Covestro, through its long-established films business, serves as an experienced supplier and collaborative partner to the medical community.

TPU films for wound care value chain

- … are manufactured in ISO 9001 accredited facilities
- … are produced applying GMP* concepts, including traceability of raw materials
- … benefit from biocompatibility** studies and evaluations of our product portfolio

* GMP = good manufacturing practice

** Final biocompatibility determination is the responsibility of the medical device manufacturer.

Global manufacturing footprint: Reliable supply and stable formulation

Covestro Specialty Films has a global technical and manufacturing footprint to support customers worldwide. We provide reliable global supply by applying a strict change management policy yielding excellent quality materials with long-term stable formulations and consistent standards that are critical for design and production of medical devices and wound care products.

Product stewardship: Material safety and consistent quality

With a full range of TPU films with acknowledged applications requiring biocompatibility for wound care, Covestro Specialty Films has recorded several decades of experience and expertise in this field.

More sustainable films for circularity

More sustainable production

Our TPU film facilities in Germany and worldwide operate on renewable energy, supporting Covestro's commitment to climate neutrality through strategic green power partnerships

More sustainable material solutions:

- **Bio-based:** to develop films using (partially) bio-based raw materials
- **Mass Balance:** to implement ISCC PLUS certified processes to attribute renewable raw materials in our production chain, enabling products with certified sustainable content while maintaining the same high quality as conventional materials

Life Cycle Assessment (LCA) data*

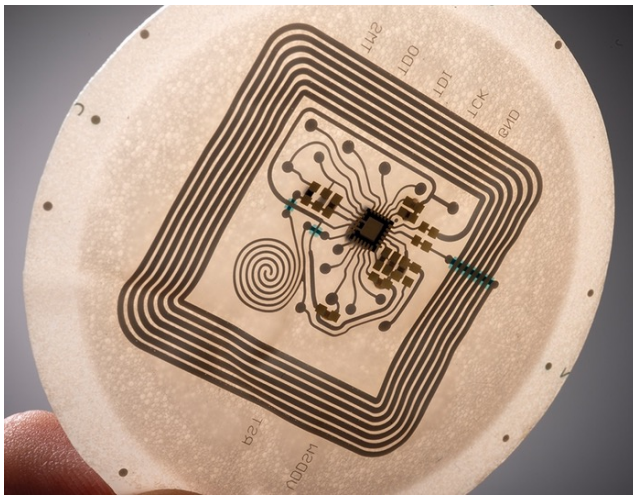
TÜV-certified LCA methodology provides cradle-to-gate product carbon footprint (PCF) data, following ISO and Together for Sustainability (TfS) standards

* This is in progress and scheduled for future deployment.

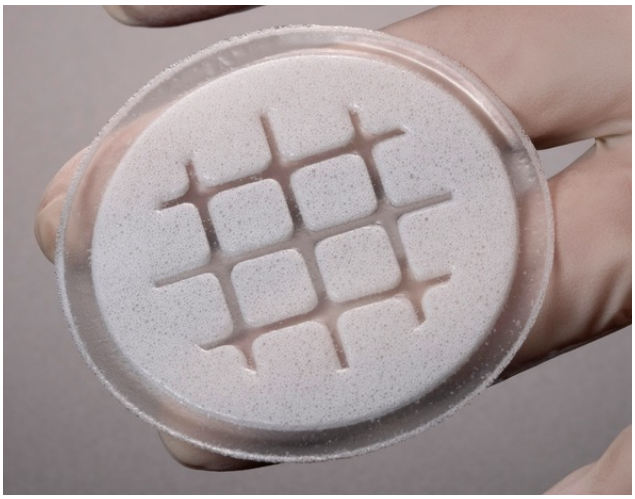


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Embracing the future of wound care



Prototype embedded printed electronics - TPU Films enable flexible, durable, and seamlessly integrated solutions for smart patches and wearable devices



Innovative smart dressing concept with thermoformed foam and a matte surface film- enabling clear wound visibility and real-time status checks. Precision-patterned through heat and pressure

Covestro's TPU films enable next-generation wound care through:

- Excellent printability with silver-based conductive inks for reliable sensor integration
- Enhanced durability in humid environments for 24/7 monitoring

Innovation Partnership

Join us in developing wound care solutions that combine your healthcare expertise with our advanced materials science. Together, we can create more sustainable, intelligent wound care products.

Scan to learn more about advanced materials for wound care and medical applications

https://solutions.covestro.com/en/highlights/articles/theme/applications/wound-care

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[1]Please see the "Guidance on Use of Covestro Products in a Medical Application" document

Edition: 2025 · Printed in Germany