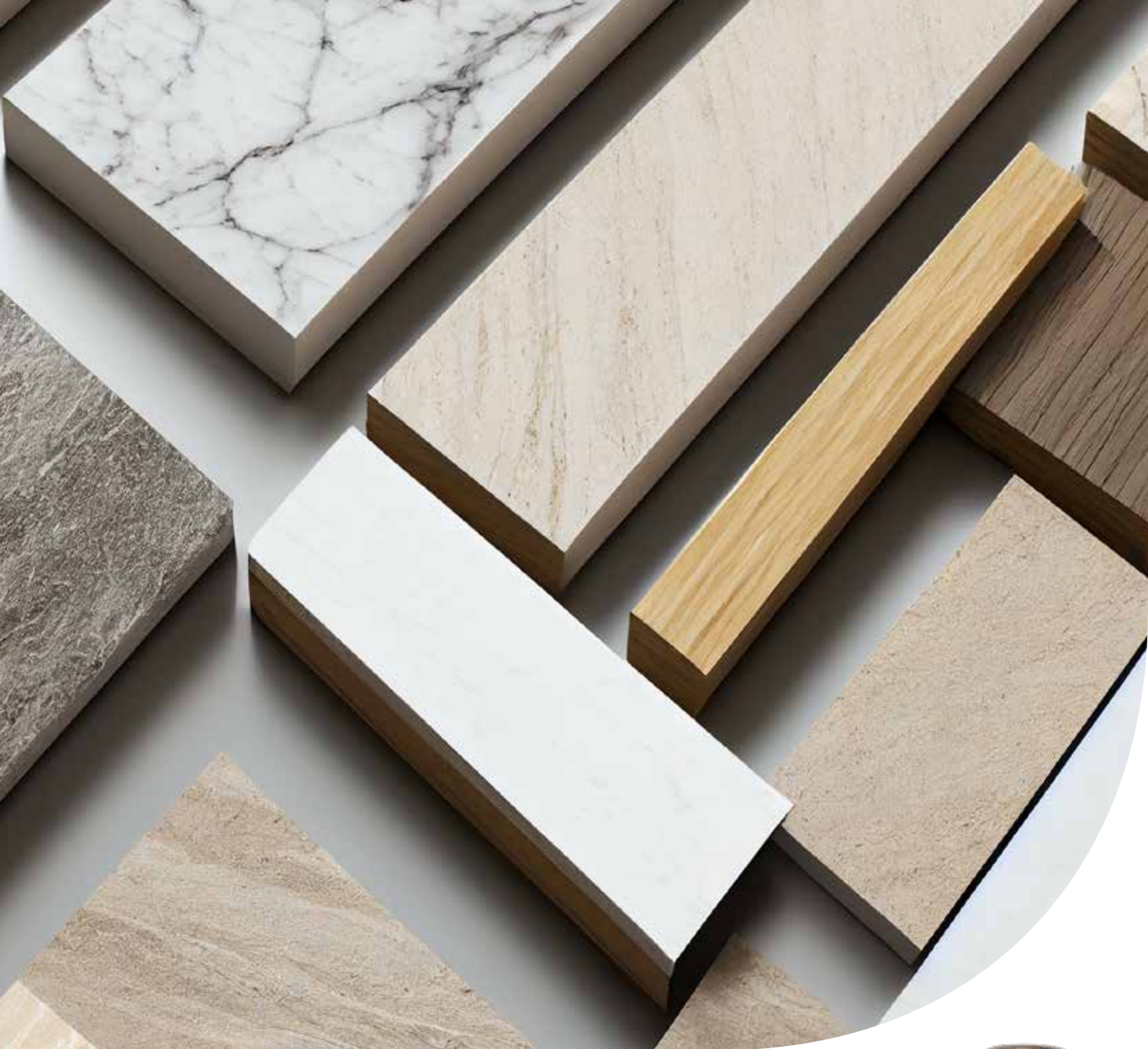




— DECORATIVE LAMINATES

PROCESS & PROTECTIVE FILMS,
MACHINES & LAMINATORS, TECHNICAL TAPES





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ABOUT NOVACEL

As a 40-year-old worldwide leader in surface solutions, Novacel proposes a comprehensive offer to its customers, ranging from industrial process films to technical tapes and paper products, machines and associated services.

Novacel continuously focuses on expertise and innovation to provide its customers and partners with the most appropriate recommendations to add value to their materials and to help enhance their industrial efficiency.

Novacel is present in **90 countries** with more than **750 employees** and several production sites worldwide. In line with its 'Beyond the Surface' ethos, Novacel is deeply committed to sustainability and innovation for People and the Planet. Novacel is part of the Compagnie Chargeurs Invest Group.

NOVACEL, YOUR EXPERT FOR DECORATIVE LAMINATES

With the trend towards matt and textured finish combined with natural design, decorative laminates are upgrading to high-value materials. Preserving the surface is now a vital component in this trend to luxury status. Whatever the type of decorative laminate and its associated surface finish, Novacel has created **global solutions** to meet customers' expectations with innovative and perfectly adapted products.

Decorative laminates are extending their field with improved features :

- > **Increasing use in new spaces**, like the caravan industry, wall panelling or washroom, **and new environments** like hospitality, healthcare or retail.
- > **Substituting other materials** with the same appearance and feel, like wood, stones or metals.
- > **Offering new functionalities** like anti-fingerprint, higher scratch, heat or chemical resistance.

These trends have increased the complexity and value of the surfaces, meaning new challenges for high-performance solutions. More than ever, **using the right film on the right surface for the right application is essential.**

By working in **cooperation with partners and experts**, Novacel anticipates market trends & changes and develops today, the solutions for tomorrow. This synergy results in **tailor-made answers for new coatings** like anti-fingerprint characteristic or **new eco-conceived solutions** to reduce carbon footprint and develop new and more environmentally friendly products.

A DEDICATED RECOMMANDATION TEAM

The materials market is vast and diverse: metals, plastics, glass, decorative laminates, each with unique surfaces and manufacturing processes.

At Novacel, we have mastered these materials and put our expertise at your service to find the best surface solutions that meet your quality, productivity, and durability requirements.

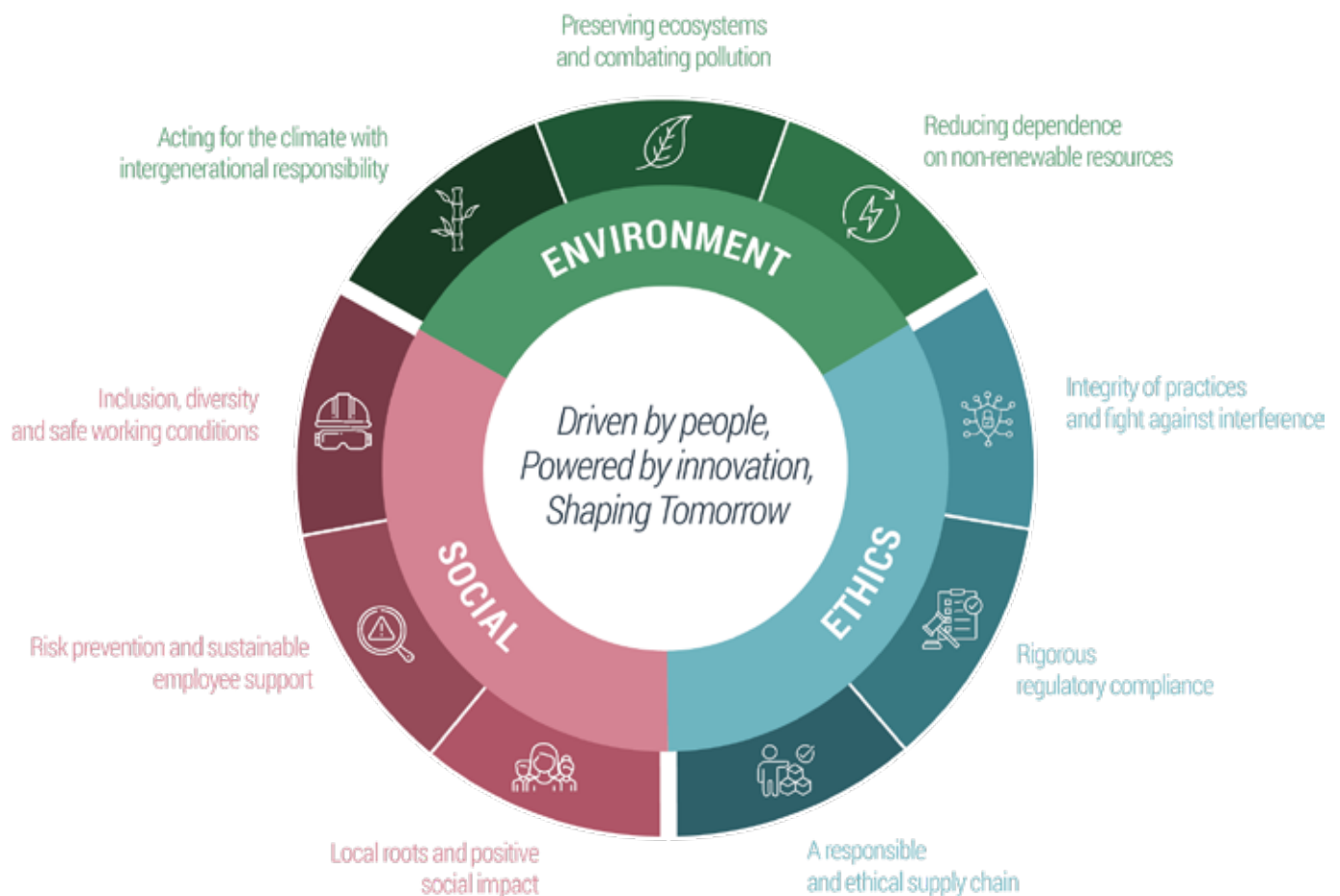
Our recommendation team is dedicated to advising you on the most suitable and customised process and protective films. This service, offered at no extra cost, is supported by a cutting-edge R&D laboratory equipped for detailed surface analysis and product testing.

By continually monitoring market trends and collaborating closely with our customers and partners, we strive for optimal results: minimal waste, high productivity, and a flawless end product.



— NOVACEL'S CSR STRATEGY

Aware of the current environmental, social, and ethics challenges, Novacel is committed to an ambitious and responsible CSR approach. This strategy is embodied through nine concrete commitments that guide our daily actions and strengthen our contribution to sustainable development, respecting all our stakeholders.

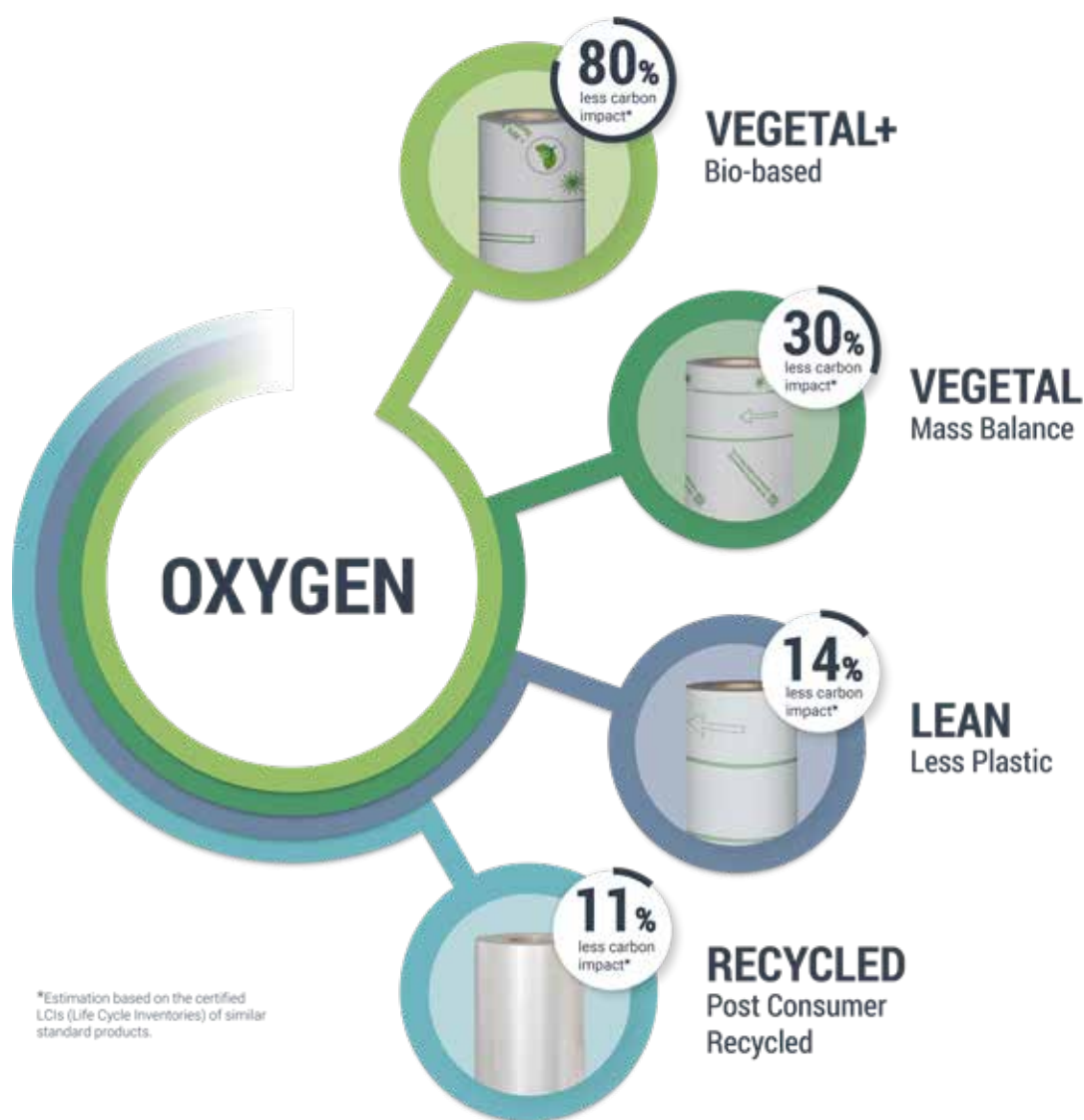


— OXYGEN, NOVACEL ECO-CONCEIVED RANGE

Manufacturers of Decorative Laminates are driven by sustainability and involved in preserving the environment. They are committed to reduce their carbon footprint by using more eco-responsible materials or even significantly increasing the overall post-consumer recycled content in HPL.

In this context, on top of its commitment to responsibility, **Novacel has designed the first eco-conceived range of process and protective films**, adapted from its successful and well-established products engineered for the decorative laminates market.

Novacel OXYGEN, 4 technologies to reduce your carbon impact



Novacel is certified ISCC+ for its Oxygen vegetal range. By sourcing ISCC-certified mass-balanced material, Novacel contributes to replace virgin fossil resources with renewable feedstocks and reaffirms its commitment to best environmental practices.



Novacel is certified Plastica Seconda Vida (audited by SGS) for its Oxygen recycled range. This certifies the percentage of recycled content in our products. It is a guarantee of trust and credibility towards our customers worldwide.

Find all Oxygen codes and their specificities in green in the tables inside the brochure.

— FILMS FOR HPL, CPL & MFC

Stylish, versatile and durable, decorative laminates are among the most creative materials in interior design. Whether for natural surfaces like woodgrain, stone or marble or for the industrial metal look, the trends mix **matt and textured surfaces** to get the desired look and feel.

Novacel has designed a **broad range of films** dedicated to the new finishes for High-Pressure Laminates (HPL), Continuous Pressure Laminates (CPL) or Melamine Faced Chipboard (MFC) materials, which keep them **perfect throughout their fabrication processes**.



OXYGEN 3130, AN ECO-CONCEIVED ALTERNATIVE

- **Thickness:** 35µm
- 25% recycled polyethylene content
- Reduction of 11% CO₂ emissions with 0.1 kg CO₂/m²*
- Recyclable**



NOVACEL ASSETS

- **Thin and resistant films** for lower carbon footprint
- **From low to high adhesion films** to match all types of decor finishes (glossy, matt and smooth, textured, lacquered melamine included)
- **Easy to unwind and to apply**



Grade	Decorative Laminate finish	Film thickness (µm/mils)	Adhesion level	Features
4768	High gloss, marble	30 µm / 1.2 mils	Low	Reduced carbon footprint thanks to thinner thickness
8520	Glossy, fine textured, soft velvet, waxed grain, metal, matt AFP	35 µm / 1.4 mils	Medium	Reduced carbon footprint thanks to thinner thickness
4381	Woodgrain, concrete look, soft grain, matt, velvet touch, stone	35 µm / 1.4 mils	Medium high	Reduced carbon footprint thanks to thinner thickness
3130	Woodgrain, concrete look, soft grain, matt, velvet touch	35 µm / 1.4 mils	Medium high	Oxygen Recycled - Eco-conceived solution of 4381
4374	Rough woodgrain, textured finish, super matt	40 µm / 1.6 mils	High	Reduced carbon footprint thanks to thinner thickness
4334	Rough woodgrain, super matt	50 µm / 2 mils	Very high	Peace of mind solution for diverse textured finishes
4143	Natural pattern wood, slate, deep textured, ultra matt	58 µm / 2.3 mils	Very high	Premium solution for critical finishes, low noise at unwinding and easy to apply
4160	Natural pattern wood, slate, deep textured, ultra matt	60 µm / 2.4 mils	Very high	Dedicated to "difficult to protect" textured finishes

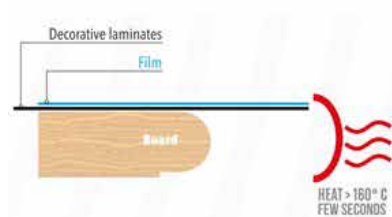
* Minimum reduction based on certified LCIs (Life Cycle Inventories)

**Recyclable by the forms of recycling as defined by ISO 472:2013 Plastics

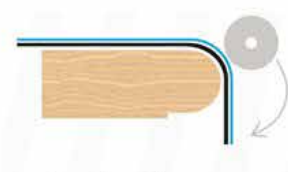


— FILMS FOR POSTFORMING PROCESS

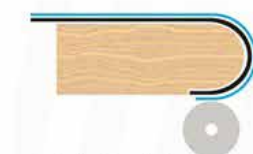
Some HPLs are made with a special quality: thinner and more flexible. They can undergo “postforming” operations for edge bending and shaping the panels. Novacel **heat-resistant process films** are designed to withstand the postforming operations. The process film is **like a second skin** to **prevent the decor from being damaged**.



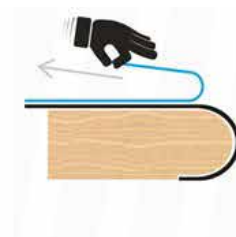
Heat resistance



Great conformability



Perfect fit to the shape



Easy to remove

NOVACEL ASSETS

- **Heating-resistant** polyester backing to withstand the postforming process with high-temperature
- **Match all decor finishes**



Grade	Decorative Laminate finish	Film thickness (µm/mils)	Adhesion level	Features
9230	High gloss	25 µm / 1 mil	Low	Easy-peel solution
4491	Glossy, fine textured, soft velvet or matt, waxed, metal, woodgrain, concrete look	25 µm / 1 mil	Medium	Suitable for most finishes, stable adhesion
4496	Woodgrain, concrete look, soft grain, matt, velvet touch, stone	33 µm / 1.3 mils	High	The most versatile solution even for critical textures, stable adhesion
4315	Linear woodgrain effect, very textured finish, rough wood and stone	30 µm / 1.2 mils	Very high	Very strong adhesion for the most critical finishes



— FILMS FOR COMPACT LAMINATES

Resistant and long-lasting, the high-pressure structural laminates are also called compact or solid panels.

They are used for interior applications which require a high impact resistance, such as interior wall panelling, scientific surfaces, cabinets & lockers. They can also be found in architectural applications such as outdoor furniture elements or exterior cladding panels.

Novacel has designed a full range of **process and protective films for indoor and outdoor use**, adapted to the diverse range of finishes these high-value surfaces exhibit.

NOVACEL ASSETS

- **High-performance films from 50 to 80 µm**, designed to perfectly preserve heavy compact panels
- **Printable** with your logo or arrows to **advise panel mounting direction** for facades



Grade	Decorative compact laminate finish	Film thickness (µm/mils)	Adhesion level	Features
4501	Glossy, satin, fine textured, soft velvet, waxed grain	50 µm / 2 mils	Medium	Indoor use
4510	Glossy, satin, fine textured, soft velvet, waxed grain	50 µm / 2 mils	Medium high	Indoor use
4365	Woodgrain, concrete look, soft grain, matt, velvet touch, stone rock, metallic	50 µm / 2 mils	High	Outdoor use Suitable for a wide diversity of finishes
4143	Natural pattern, wood, deep textured	58 µm / 2.3 mils	High	Indoor use Suitable for a wide diversity of finishes Low noise at unwinding and easy to apply
4234	Woodgrain, concrete look, soft grain, matt, velvet touch, stone rock, metallic	70 µm / 2.8 mils	High	Black and white film for outdoor use
4324	Rough texture	80 µm / 3.1 mils	Very high	Black and white film for outdoor use





— FILMS FOR LACQUERED PANELS

Innovative surface technologies are revolutionizing surface finishing. These lacquers are coated on the surface and are UV- or excimer-cured. They give a perfect gloss or matt finish to the surface. These wood-based lacquered panels offer outstanding properties like scratch or stain resistance.

Novacel designs specific **films** to **preserve their characteristics** and **perfect aesthetic**.

NOVACEL ASSETS

- **Thick process films for high gloss and matt lacquered panels**
- **No waiting time** after the curing process
- **No need for foam interlayer** between panels



Grade	Lacquered panel finishes	Film thickness (µm/mils)	Adhesion level	Features
4610	High gloss	70 µm / 2.8 mils	Low	Thick film Suitable for most high gloss lacquered panels
4506	High gloss	80 µm / 3.2 mils	Medium	Thick film Suitable for most high gloss lacquered panels
4511	High gloss or matt	80 µm / 3.2 mils	Medium high	Thick film Suitable for most matt lacquered panels
4544	Matt	55 µm / 2.1 mils	High	Suitable for most matt lacquered panels

FILMS FOR EDGE BANDS

Edgebands are thin strips of material used to cover the raw edges of wood panels. They contribute to extending the furniture's durability by protecting it from moisture and scratches and giving the element a nice solid appearance.

Novacel proposes a large offer of process and protective films to **withstand the bonding operations**, whatever the technology used: **from hot melt glue, to hot air or LASER**.

NOVACEL ASSETS

- **Specific adhesion** to the decorative edgeband suitable for high gloss, satin, wood or ultra matt finish
- **Transparent or black and white films that can be printed** with a recycling logo



INNOVATIVE TRAP PRINT SOLUTION

Novacel films are printable. Moreover, Novacel has designed an exclusive 100% **scratch and solvent-resistant "trap printing" technology**, available with clear transparent backings, preventing the risk of ink transfer during fabrication.

Grade	Edgeband panel finishes	Film thickness (µm/mils)	Adhesion level	Features
4241	Glossy, soft matt, silk, velvet	60 µm / 2,4 mils	Medium	Blue film, suitable for smooth finishes
9373	Glossy, soft matt, silk, velvet	50 µm / 2 mils	Medium	Black and white opaque film
4333	Glossy, soft matt, silk, velvet	50 µm / 2 mils	Medium	Clear film, can be trap-printed
4324	Matt, super matt, rough woodgrain effect, textured	80 µm / 3.2 mils	Very high	Black and white opaque film suitable for severe finishes
4160	Matt, super matt, rough woodgrain effect, textured	60 µm / 2.4 mils	Very high	Clear film, suitable for severe finishes, can be trap-printed
9120	Matt, extra matt and coated decorative foils (anti scratch, anti finger print)	60 µm / 2.4 mils	Very High	Blue film designed for AFP coated matt furniture surfaces
9556	Matt, extra matt and coated decorative foils (anti scratch, anti finger print)	60 µm / 2.4 mils	Very High	Clear transparent film designed for AFP coated matt furniture surfaces

FILMS FOR 1D, 2D & 3D THERMOLAMINATES

Thermoplastic laminates are bonded as decorative surfacing on Medium Density Fiberboard (MDF) or chipboard panels as wrapping for two-dimensional shape, using a press forming process to fabricate furniture elements in three-dimensional shape. These decorative laminates are often lacquered to add properties like **scratch resistance or anti-fingerprint**.

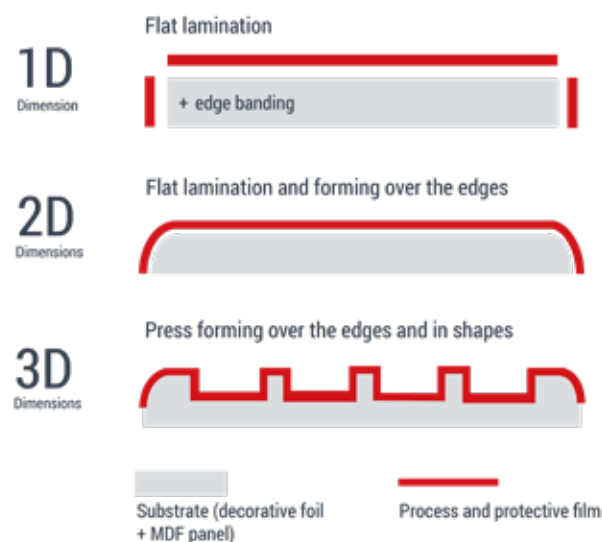
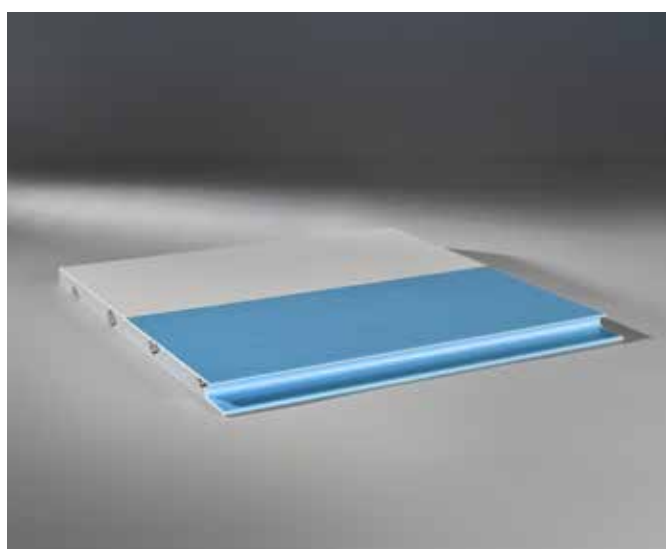
Novacel has designed a **full range of “second skin” process films** to keep these valuable surface finishes perfect aesthetic from damage, during the wrapping or thermoforming operation.

NOVACEL ASSETS

- **High-performance backings with specific adhesion adapted to the 3D press forming process** and the **cutting around** panels
- **Thin resistant films for 2D wrapping operation** on wood panels

OXYGEN 3050, AN ECO-CONCEIVED ALTERNATIVE

- **Thickness: 60µm**
- **Uses 30% vegetal oil waste** via a mass balance approach
- **Around 30% of CO₂ reduction** with 0.15 kg CO₂/m²*
- **Recyclable****



Grade	Decorative furniture film finishes	Film thickness (µm/mils)	Adhesion level	Features
4346	High gloss	40 µm / 1.6 mils	Low	Premium solution with high quality clear backing for sensitive glossy surfaces
4609	Glossy, soft woodgrain, velvet	50 µm / 2 mils	Medium	Blue film to avoid being left on furniture
4540	Glossy, soft, velvet	50 µm / 2 mils	Medium high	Versatile solution suitable for glossy and 3D finishes
4334	Matt and super matt	80 µm / 3.2 mils	High	Black and white opaque film suitable for severe finishes
3050	Matt coated AFP	60 µm / 2.4 mils	Very high	Oxygen Vegetal film - eco-conceived solution of 9120
9120	Matt, extra matt and coated decorative foils (anti-scratch, anti-finger print)	60 µm / 2.4 mils	Very High	Blue and clear transparent films, designed for 3D forming press
9556	Matt, extra matt and coated decorative foils (anti-scratch, anti-finger print)	60 µm / 2.4 mils	Very High	Blue and clear transparent films, designed for 3D forming press
4160	Matt, extra matt and coated decorative foils (anti-scratch, anti-finger print)	50 µm / 2 mils	Very High	Film compatible with most AFP coating chemistry

* Minimum reduction based on certified LCIs (Life Cycle Inventories)

**Recyclable by the forms of recycling as defined by ISO 472:2013 Plastics





— TECHNICAL TAPE

Decorative laminates are made up of layers of paper that are impregnated with melamine resins. While being processed through the impregnation line, **decorative paper rolls require splices in multiple places**, including tabbing, to start and finish rolls and to connect them together.

Novacel has designed a splicing tape that is adapted to different paper qualities, can undergo high-speed process and offers good resistance to high temperatures without slowing your production speed.

NOVACEL ASSETS

- Ensure splice optimum efficiency with backing and adhesive engineered to resist hot and humid environments
- Get expert service advise when selecting and testing the best option



Grade	Application	Type	Color	Carrier	Adhesive	Total thickness
BN 7000	High speed splices	Double-sided tape	Blue or yellow	Cellulose nonwoven	Repulpable acrylic	100 µm / 3.9 mils

— COATING MACHINES & LAMINATORS

With Omma and Walco brands, **Novacel Special Machines (NSM)** proposes the **ultimate coating and lamination technology** dedicated to the decorative laminates and wood industry. Based on a long experience and know-how with innovative, often exclusive and always reliable solutions:

- **Glue spreaders** allow the glue to be spread quickly and uniformly on various materials: laminates, wood panels and any flat surface
- **Laminators** allow easy and fast lamination, wrinkle and bubble-free film on any size and any flat surface. They can be used both in a production line or as a stand-alone unit and can be equipped with either manual or automatic cutting technology.
- **Pressing units, glue feeding systems, panel cleaning accessories and slitting machines.**
- **Complete glueing and laminating lines**, from loading to unloading.



TX model: Horizontal Laminator

NOVACEL ASSETS

- **Glue spreaders**, standard or customized machines for adhesive application (Water Based, PU, Hot Melt)
- **TX family**, for film application on decorative laminates and wood panels
- **Complete glueing and laminating lines**
- **Services:** Installation and startup, maintenance, troubleshooting, software updates and revamping



Complete glueing and laminating line



HGS: Hot Melt Application

Type of glue	Machine	Standard dimensions	Thickness	Glue application	Application characteristics	Specificities
Hot Melt	HGS	Widths: 1400 mm (55") to 3100 mm (122")	Up to 80 mm (3.1")	Single or double-sides	High precision application	- Glue sealing plates easy extraction & cleaning - Wide customization possible
Water based	OPEN	Widths: 800 mm (31.4") to 3600 mm (142")				- Easy use and maintenance - Efficient cleaning system

Lamination	Machine	Standard dimensions	Thickness	Film application	Lamination characteristics	Specificities
Horizontal	TX model	Widths: 1400 mm (55") to 1700 mm (67")	4 mm (0.16") up to 80 mm (3.1")	Single or double-sides	Precise film application	- Automatic length detection - Automatic cut
	Pro-jet	Widths: 1400 mm (55") to 3300 mm (132")	5 mm (0.2") up to 80 mm (3.1")			- Entry-level applicator - Manual cut

FIND YOUR MATCH

A formal approval process by Novacel experts is imperative before using our products. Our technical data sheets are available on request. As the applications of NOVACEL films are very wide-ranging and the conditions of use may vary from one company to another, NOVACEL recommends that you systematically carry out qualification tests on an industrial line before using the product and that you inform Novacel of the results.

FILMS FOR HPL, CPL & MFC

Grade	Decorative Laminate finish	Film thickness (µm/mils)	Adhesion level	Features
4768	High gloss, marble	30 µm / 1.2 mils	Low	Reduced carbon footprint thanks to thinner thickness
8520	Glossy, fine textured, soft velvet, waxed grain, metal, matt AFP	35 µm / 1.4 mils	Medium	Reduced carbon footprint thanks to thinner thickness
4381	Woodgrain, concrete look, soft grain, matt, velvet touch, stone	35 µm / 1.4 mils	Medium high	Reduced carbon footprint thanks to thinner thickness
3130	Woodgrain, concrete look, soft grain, matt, velvet touch	35 µm / 1.4 mils	Medium high	Oxygen Recycled - Eco-conceived solution of 4381
4374	Rough woodgrain, textured finish, super matt	40 µm / 1.6 mils	High	Reduced carbon footprint thanks to thinner thickness
4334	Rough woodgrain, super matt	50 µm / 2 mils	Very high	Peace of mind solution for diverse textured finishes
4143	Natural pattern wood, slate, deep textured, ultra matt	58 µm / 2.3 mils	Very high	Premium solution for critical finishes, low noise at unwinding and easy to apply
4160	Natural pattern wood, slate, deep textured, ultra matt	60 µm / 2.4 mils	Very high	Dedicated to "difficult to protect" textured finishes

FILMS FOR POSTFORMING PROCESS

Grade	Decorative Laminate finish	Film thickness (µm/mils)	Adhesion level	Features
9230	High gloss	25 µm / 1 mil	Low	Easy-peel solution
4491	Glossy, fine textured, soft velvet or matt, waxed, metal, woodgrain, concrete look	25 µm / 1 mil	Medium	Suitable for most finishes, stable adhesion
4496	Woodgrain, concrete look, soft grain, matt, velvet touch, stone	33 µm / 1.3 mils	High	The most versatile solution even for critical textures, stable adhesion
4315	Linear woodgrain effect, very textured finish, rough wood and stone	30 µm / 1.2 mils	Very high	Very strong adhesion for the most critical finishes

FILMS FOR COMPACT LAMINATES

Grade	Decorative compact laminate finish	Film thickness (µm/mils)	Adhesion level	Features
4501	Glossy, satin, fine textured, soft velvet, waxed grain	50 µm / 2 mils	Medium	Indoor use
4510	Glossy, satin, fine textured, soft velvet, waxed grain	50 µm / 2 mils	Medium high	Indoor use
4365	Woodgrain, concrete look, soft grain, matt, velvet touch, stone rock, metallic	50 µm / 2 mils	High	Outdoor use - Suitable for a wide diversity of finishes
4143	Natural pattern, wood, deep textured	58 µm / 2.3 mils	High	Indoor use - Suitable for a wide diversity of finishes Low noise at unwinding and easy to apply
4234	Woodgrain, concrete look, soft grain, matt, velvet touch, stone rock, metallic	70 µm / 2.8 mils	High	Black and white film for outdoor use
4324	Rough texture	80 µm / 3.1 mils	Very high	Black and white film for outdoor use

FILMS FOR LACQUERED PANELS

Grade	Lacquered panel finishes	Film thickness (µm/mils)	Adhesion level	Features
4610	High gloss	70 µm / 2.8 mils	Low	Thick film Suitable for most high gloss lacquered panels
4506	High gloss	80 µm / 3.2 mils	Medium	Thick film Suitable for most high gloss lacquered panels
4511	High gloss or matt	80 µm / 3.2 mils	Medium high	Thick film Suitable for most matt lacquered panels
4544	Matt	55 µm / 2.1 mils	High	Suitable for most matt lacquered panels

FILMS FOR EDGEBANDS

Grade	Edgeband panel finishes	Film thickness (µm/mils)	Adhesion level	Features
4241	Glossy, soft matt, silk, velvet	60 µm / 2,4 mils	Medium	Blue film, suitable for smooth finishes
9373	Glossy, soft matt, silk, velvet	50 µm / 2 mils	Medium	Black and white opaque film
4333	Glossy, soft matt, silk, velvet	50 µm / 2 mils	Medium	Clear film, can be trap-printed
4324	Matt, super matt, rough woodgrain effect, textured	80 µm / 3.2 mils	Very high	Black and white opaque film suitable for severe finishes
4160	Matt, super matt, rough woodgrain effect, textured	60 µm / 2.4 mils	Very high	Clear film, suitable for severe finishes, can be trap-printed
9120	Matt, extra matt and coated decorative foils (anti scratch, anti finger print)	60 µm / 2.4 mils	Very High	Blue film designed for AFP coated matt furniture surfaces
9556	Matt, extra matt and coated decorative foils (anti scratch, anti finger print)	60 µm / 2.4 mils	Very High	Clear transparent film designed for AFP coated matt furniture surfaces

FILMS FOR 1D, 2D & 3D THERMOLAMINATES

Grade	Decorative furniture film finishes	Film thickness (µm/mils)	Adhesion level	Features
4346	High gloss	40 µm / 1.6 mils	Low	Premium solution with high quality clear backing for sensitive glossy surfaces
4609	Glossy, soft woodgrain, velvet	50 µm / 2 mils	Medium	Blue film to avoid being left on furniture
4540	Glossy, soft, velvet	50 µm / 2 mils	Medium high	Versatile solution suitable for glossy and 3D finishes
4334	Matt and super matt	80 µm / 3.2 mils	High	Black and white opaque film suitable for severe finishes
3050	Matt coated AFP	60 µm / 2.4 mils	Very high	Oxygen Vegetal film - eco-conceived solution of 9120
9120	Matt, extra matt and coated decorative foils (anti-scratch, anti-finger print)	60 µm / 2.4 mils	Very High	Blue and clear transparent films, designed for 3D forming press
9556	Matt, extra matt and coated decorative foils (anti-scratch, anti-finger print)	60 µm / 2.4 mils	Very High	Blue and clear transparent films, designed for 3D forming press
4160	Matt, extra matt and coated decorative foils (anti-scratch, anti-finger print)	50 µm / 2 mils	Very High	Film compatible with most AFP coating chemistry

For more grades or information, please refer to your sales representative.







www.novacel-solutions.com

