



PRE-COATED METALS

PROCESS & PROTECTIVE FILMS,
LAMINATORS, TECHNICAL TAPES





CONTENT

Introduction.....	3
Novacel's CSR Strategy.....	4
Oxygen, Novacel's eco-conceived range.....	5
Versatis, the unique versatile film for multiple surfaces.....	6
Films for building & architecture.....	8
Films for appliances.....	12
Films for signage and communication.....	14
Films for general industry.....	15
Novacel tapes.....	16
Lamination machines.....	17
Find your match.....	18

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 PRE-COATED METAL SURFACES

Pre-painted metals are versatile and can be used almost everywhere: on building exteriors and interiors, industrial appliances and transport.

Thanks to a wide variety of surface structures and colors as well as excellent workability and resistance to corrosion, pre-coated metals can satisfy all creative requirements. They also meet production needs in terms of quality and sustainability on construction sites.

However, pre-coated metals are vulnerable materials. They go through multiple severe processing operations before becoming finished products. The whole manufacturing process is therefore challenging for them, and they require the right solution to avoid being damaged.

As your committed partner, Novacel makes a point of staying ahead of new technical developments and changes in technology. We remain at your side, anticipating the risks and opportunities that arise and adjusting our solutions to support your pre-coated metal surfaces.

A DEDICATED RECOMMENDATION 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.

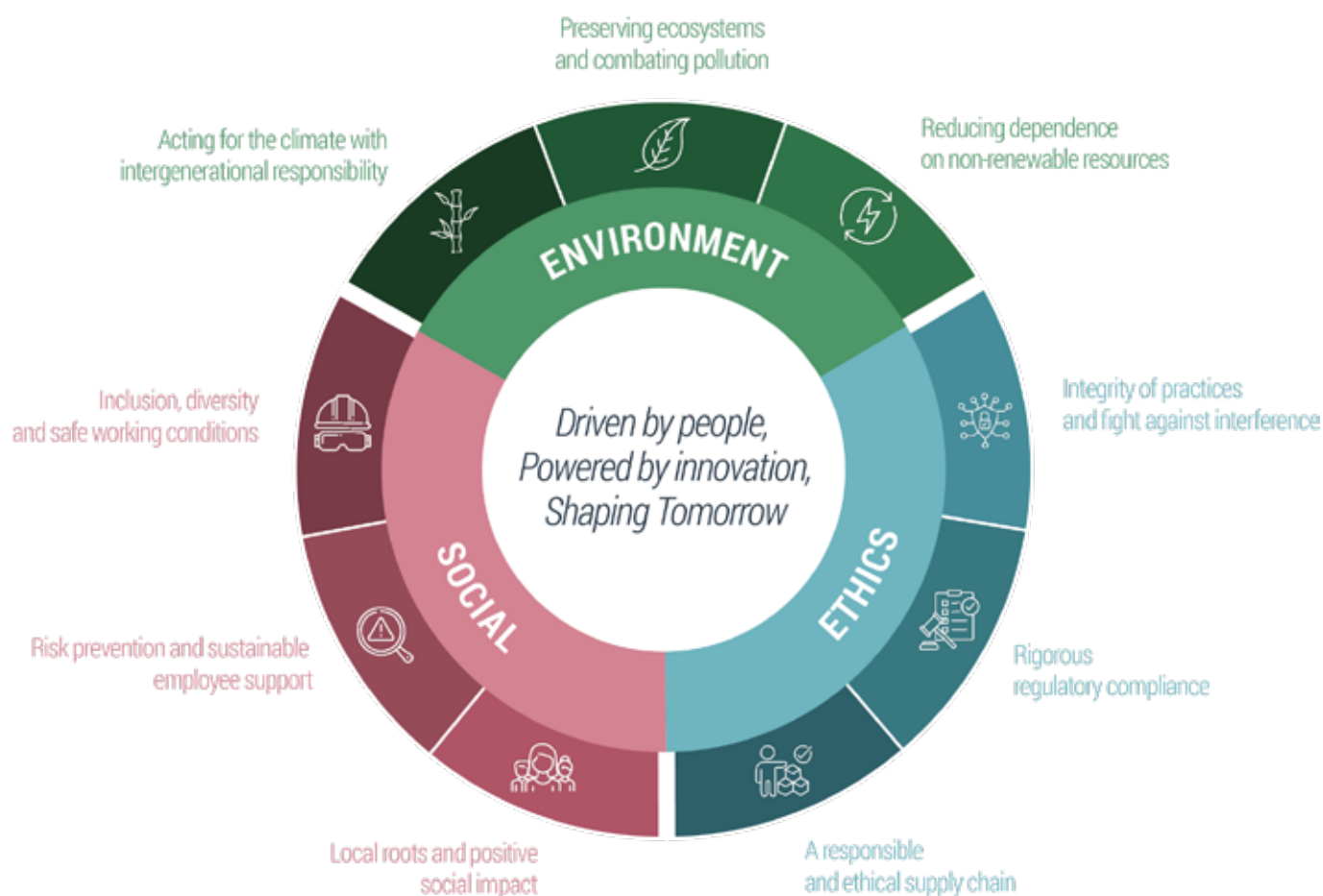
Our recommendation team is dedicated to advising you on the most suitable and customised process and protective films. This service, offered at no extra cost, is supported by a cutting-edge R&D laboratory equipped for detailed surface analysis and product testing.

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.

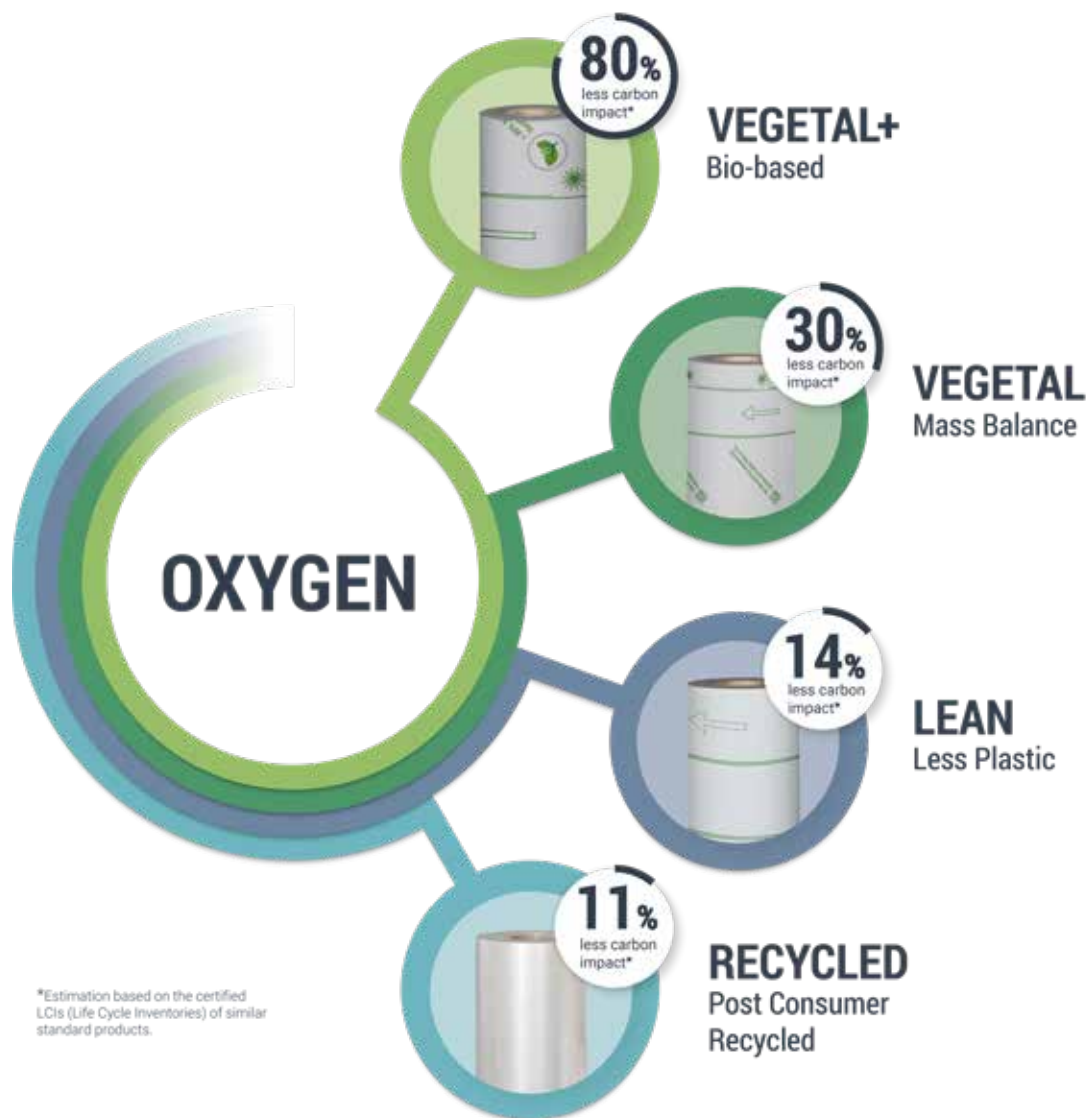


— OXYGEN, NOVACEL ECO-CONCEIVED RANGE

Manufacturers of pre-coated metals are driven by sustainability and seek to protect the environment. They are committed to reducing their carbon footprint by using less fossil-based film on their materials or even by significantly increasing the overall post-consumer recycled content.

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 Pre-coated Metals.

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 replacing virgin fossil resources with renewable feedstocks and reaffirms its commitment to best environmental practices.



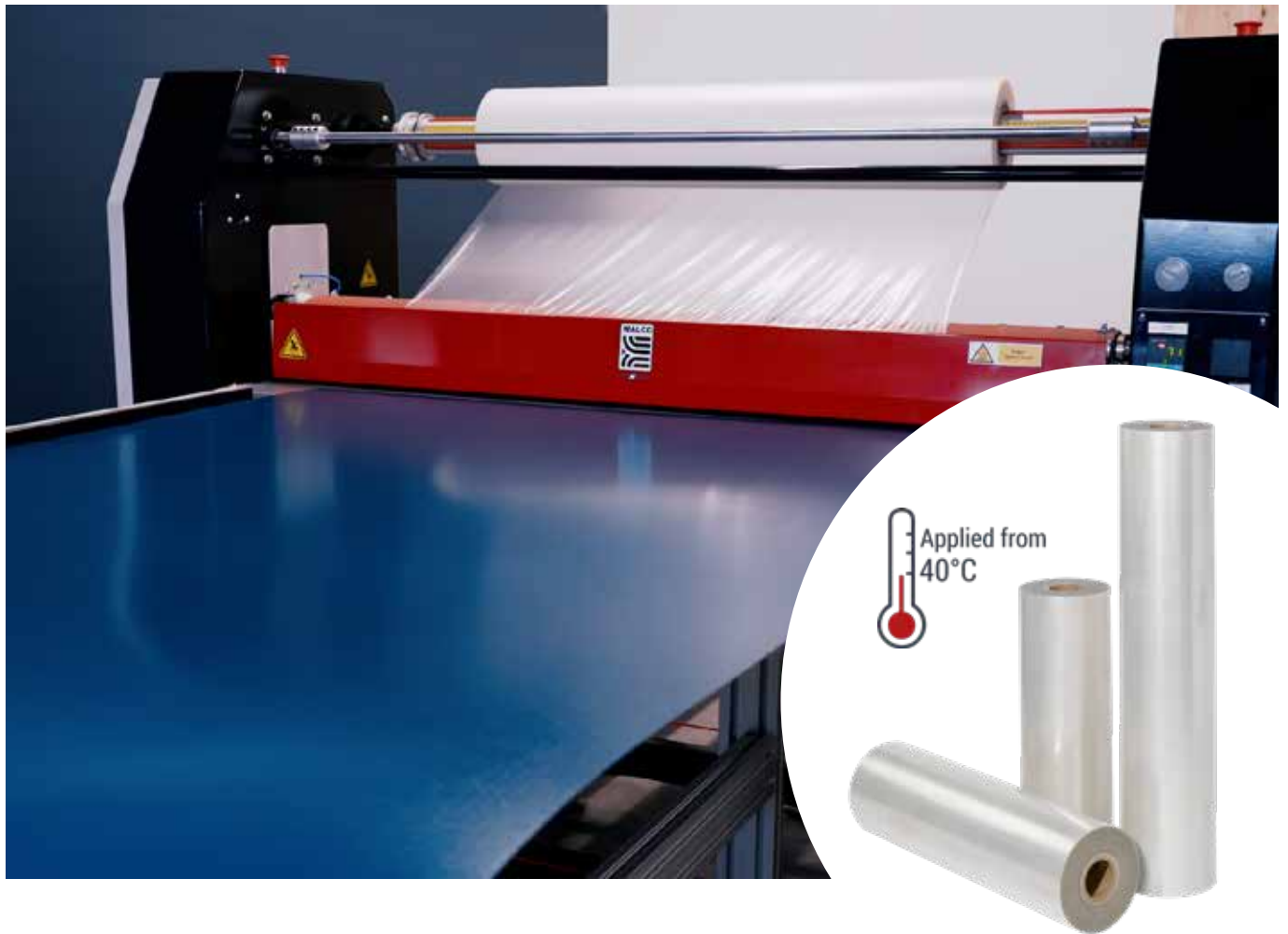
Novacel is certified Plastica Seconda Vida (audited by SGS) for its Oxygen recycled range. This certifies the percentage of recycled content in our products. It is a guarantee of trust and credibility towards our customers worldwide.

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

— VERSATIS, THE UNIQUE VERSATILE FILM FOR MULTIPLE SURFACES

NOVACEL VERSATIS 4444 is **suitable for various types of finishes and manufacturing processes**. This solution is a heat-activated film formulation, requiring a minimum of 40°C. It is **easy to apply and remove**.

Offering a "**second-skin effect**" to your products, it is **designed for pre-painted steel and aluminum** applications. Versatis perfectly **adapts to multiple types of paint systems** with both **smooth** and **textured surfaces**.



BENEFITS

- **A unique solution suitable for all type of pre-painted metal** finishes with various paint systems
- **Perfect adhesion** to your surfaces: a clear transparent solution for a "second-skin effect"
- **No glue residue and no defects** left on your materials
- **Easy removal**
- **Productivity and efficiency gains**: can replace up to 10 film products
- **Reduction of your waste**



MULTIPURPOSE



Smooth

Grained

Textured

CHARACTERISTICS

Type of film	Polyolefins
Printable	No
Adhesive type	Heat-activated film formulation (minimum 40°C)
Adhesion level	High
Thickness	50 µm
Color	Transparent
Outdoor life	3 months worldwide
CO ₂ impact	< 0,18 kgCO ₂ eq/m ²

A HOLISTIC SOLUTION FOR UNMATCHED VERSATILITY AND EFFICIENCY

The **VERSATIS solution** has a specific adhesive activation which requires a minimum of 40°C for **easy and flawless application** to the surface. If you do not possess the technology required to apply this film, Novacel can provide you with **cost-effective heat application equipment options**.

A special module designed by WALCO, Novacel's special machines brand, can be **easily added to your existing production line**. This **comprehensive offer** is tailored for all types of pre-coated metal finishes and manufacturing processes, providing **unmatched versatility** and **efficiency** across a range of applications worldwide.

A MORE RESPONSIBLE SOLUTION TO REDUCE YOUR CARBON FOOTPRINT



CO₂ REDUCTION

Versatis can reduce your carbon footprint by cutting the waste caused by rolls not being fully utilized on medium to short runs. Because it is a glue-free product, Versatis can be easily recycled* after removal. This solution contributes to a more sustainable manufacturing process, making Versatis a responsible choice for your business.

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

— FILMS FOR BUILDING & ARCHITECTURE

GENERAL USE

The construction industry is increasingly turning to pre-painted metal to meet its design visions for both commercial and residential installations. **Pre-painted metal's versatility** for shaping and weather resistance, the **esthetic possibilities** for color and texture, options and the **environmental benefits** all make it ideal for both interior and exterior construction applications.

Pre-painted metal is increasingly used for insulated panels,

roofing, garage doors and a wide range of other building components. The construction market involves **severe processes** such as roll forming, bending and foaming, which require the **right film solution to protect the end-products**.

With its close relationship with producers and R&D laboratories, Novacel is constantly innovating to design a broad **range of films dedicated to a variety of construction shapes and surface finishes** surfaces.



NOVACEL ASSETS

- **Stable adhesion**
- **Optimal resistance** to mechanical and thermal processes
- **No impact** on the surface
- **Worldwide outdoor resistance** (up to 12 months)
- **Perfect protection against environmental impacts** (moisture, UV radiation, etc.)

OXYGEN, A MORE ECO-RESPONSIBLE RANGE: 3186, 3100, 3133

- **Winter range:** removal down to -20°C
- 25% recycled polyethylene content
- -11% less CO₂ emission with 0.09 kg CO₂/m² *
- Recyclable**



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

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

NOVACEL PREMIUM SOLUTIONS

THE OLYMPEAKS RANGE

The creativity of prescribers tends to favor more **textured, matt and colored surfaces** with the look of natural materials. To meet the construction industry's requirements, our range has been designed in partnership with the laboratories of paint manufacturers and coil coaters.

OLYMPEAKS provides **perfect adhesion** to matt, rough or wrinkled substrates. It is specifically formulated to **preserve the integrity of your surfaces** throughout all industrial processes and offers a **worldwide outdoor guarantee**.



THE ANTI-COIL COLLAPSE RANGE

Producers of **large coils** have a major need for solutions to prevent coils collapsing. Novacel has designed a dedicated "anti-collapse" range to **protect coils up to 12 tons**. It allows you to increase your productivity and get the full benefit of the protection at the end of the paint line with no risk of the coil slumping.

Grade	Thickness (µm/mils)	Adhesion	Outdoor resistance	Colors	Specific characteristics
4152	28 µm / 1.1 mils	Medium high	3 months	Clear transparent	For semi-glossy surfaces
3120	28 µm / 1.1 mils	Medium high	3 months	Clear transparent	Oxygen Recycled and Winter film - For semi-glossy surfaces
3186	30 µm / 1.3 mils	Medium high	3 months	Clear transparent	Oxygen Recycled and Winter film - For semi-glossy and lightly matt surfaces
3100	33 µm / 1.3 mils	Medium high	3 months	Clear transparent	Oxygen Recycled and Winter film - For semi-glossy surfaces
9042	33 µm / 1.3 mils	Medium	3 months	Clear transparent	Anti-coil collapse film
9371	35 µm / 1.4 mils	Very high	3 months	Clear transparent	For matt and metalized surfaces
3133	35 µm / 1.4 mils	Very high	3 months	Clear transparent	Oxygen Recycled and Winter film - For matt and metalized surfaces
9383	45 µm / 1.8 mils	High	3 months	Clear transparent	Olympeaks film - For embossed and matt surfaces
4444	50 µm / 2.0 mils	Medium high	3 months	Clear transparent	Innovative versatile solution for various finishes
9562	90 µm / 3.4 mils	Ultra high	3 months	Black and white	Rubber film for rough and wrinkled surfaces

ALUMINUM COMPOSITE PANELS

Aluminum Composite Panels (ACP), consisting of Aluminum Composite Materials (ACM), are flat panels comprising two thin coil-coated aluminum sheets bonded to a non-aluminum core. This type of material is specifically designed for the construction, renovation and refurbishment of ventilated facades.

It provides solutions that can be **adapted to all types of architecture**. ACPs are **easy to install** and are **resistant to chemicals, moisture, corrosion and UV radiation** as compared to conventional cladding materials.

Novacel has designed the **perfect solutions to preserve your ACPs** and to be **easily removable without damaging the surface**.

NOVACEL ASSETS

- **Optimal resistance** to mechanical processes
- **Prevention of surface damage** and retention of the original finish
- **Worldwide outdoor resistance** (up to 12 months)
- **Clean surface** after removal

OXYGEN 3000, OUR ECO-CONCEIVED SOLUTION:

- Thickness: 70 µm
- Uses 30% vegetal oil waste via a mass balance approach
- Around -30% less CO₂ emission with 0.16 kg CO₂/m²*
- Recyclable**



Grade	Thickness (µm/mils)	Adhesion	Outdoor resistance	Colors	Specific characteristics
4800	50 µm / 2 mils	Medium high	6 months	Clear transparent	For smooth, glossy, lightly structured and semi-matt surfaces
4444	50 µm / 2 mils	Medium high	3 months	Clear transparent	An innovative versatile solution for various finishes
4254	50 µm / 2 mils	Very high	6 months	Clear transparent	For smooth, glossy, lightly structured and semi-matt surfaces
4233	70 µm / 2.8 mils	Medium	6 months	Black and white	For smooth, glossy, lightly structured and semi-matt surfaces
3000	70 µm / 2.8 mils	Medium	6 months	Black and white	Oxygen Vegetal grade Rubber film for smooth / glossy, lightly structured and semi-matt surfaces

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

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



FILMS FOR APPLIANCES

In the appliances market, **pre-painted metal** is mainly used for refrigerators, washing machines, and ovens, **offering an aesthetic finish**. New coating trends and technologies provide **added features**, such as fingerprint resistance for refrigerators and heat resistance for dishwashers.

With its extensive expertise, Novacel has created a **high-quality range tailored to market needs**. Our film formulation guarantees **retention of the premium visual aspect** of your surfaces, as well as **Easy-peel technology** to enable quick and efficient removal.

NOVACEL ASSETS

- **Premium quality** for high visual aspect
- **Fast and effortless unwinding**
- **Easy removal**
- **Perfect match** with specific coating
- **Stable adhesion**
- **Worldwide outdoor resistance** (up to 12 months)

OXYGEN 3074, OUR ECO-CONCEIVED SOLUTION:

- Thickness: 70 µm
- Uses 30% vegetal oil waste via a mass balance approach
- Around -30% less CO₂ emission with 0.16 kg CO₂/m² *
- Recyclable**



NOVACEL PREMIUM SOLUTION, EASY-PEEL:

Novacel's Easy-Peel range is a historic Novacel innovation designed for **extremely fast and effortless film removal**. The faster you peel, the easier it is to peel off the film, transitioning from smooth to sticky and slippery. These films also help **protect your**

workers from musculoskeletal disorders (MSDs) by making unwinding pain-free. Novacel Easy-Peel films, such as **4800 & 4254**, offer a perfect solution without compromising adhesion throughout the manufacturing process.



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

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



Grade	Thickness (µm/mils)	Adhesion	Outdoor resistance	Colors	Specific characteristics
4800	50 µm / 2 mils	Medium high	6 months	Clear transparent	For smooth, glossy, lightly structured and semi matt surfaces - exists in a yellow and blue version
4254	50 µm / 2 mils	Medium high	6 months	Clear transparent	For smooth, glossy, lightly structured and semi matt surfaces - exists in a yellow and blue version
4444	50 µm / 2 mils	Medium high	3 months	Clear transparent	A new versatile solution for various finishes
4274	70 µm / 2.8 mils	Medium high	6 months	Clear transparent	For smooth, glossy, lightly structured surfaces
3074	70 µm / 2.8 mils	Medium high	6 months	Clear transparent	For smooth, glossy, lightly structured surfaces

FILMS FOR SIGNAGE AND COMMUNICATION

Pre-painted metal is a popular choice for signage and communication ACPs due to its **durability and versatility**, offering a **wide range of customization options** to meet your branding requirements.

Novacel has designed a broad range of **solutions that can help preserve materials** throughout the entire manufacturing process, as well as during installation and long-term use. We are constantly innovating to provide **high-resistance films** to prevent paint and graphics on signage from deteriorating due to exterior environmental impacts.

NOVACEL ASSETS

- **Stable adhesion**
- **Optimal resistance** to mechanical processes
- **No impact** on the surface
- **Worldwide outdoor resistance** (up to 12 months)
- **Resistance** to environmental conditions
- **Fast, effortless unwinding and easy removal**

OXYGEN 3000, OUR ECO-CONCEIVED SOLUTION:

- Thickness: 70 µm
- Uses 30% vegetal oil waste via a mass balance approach
- Around -30% less CO₂ emission with 0.16 kg CO₂/m²*
- Recyclable**



Grade	Thickness (µm/mils)	Adhesion	Outdoor resistance	Colors	Specific characteristics
4800	50 µm / 2 mils	Medium high	6 months	Clear transparent	For smooth, glossy, lightly structured and semi-matt surfaces
4444	50 µm / 2 mils	Medium high	3 months	Clear transparent	An innovative, versatile solution for various finishes
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4233	70 µm / 2.8 mils	Medium	6 months	Black and white	For smooth, glossy, lightly structured and semi-matt surfaces
3000	70 µm / 2.8 mils	Medium	6 months	Black and white	Oxygen Vegetal grade Rubber film for smooth / glossy, lightly structured and semi-matt surfaces

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FILMS FOR GENERAL INDUSTRY

Due to their **durability and versatility**, **pre-painted metals** suit a **wide range of general industrial applications**: industrial machine casings, industrial boilers, air conditioning, sanitary applications, among others.

Thanks to its in-depth knowledge of the market and in partnership with producers' R&D laboratories, Novacel has developed **targeted, high-quality solutions** for your surfaces. Our products **support all manufacturing processes, preserve the materials** and ensure the longevity of the technical properties of pre-coated metals.

NOVACEL ASSETS

- **Specific, stable adhesion** systems
- **Optimal resistance** to mechanical and thermal processes
- **Worldwide outdoor resistance** (up to 12 months)
- **No impact** on the surface

OXYGEN 3140, OUR ECO-CONCEIVED SOLUTION:

- Thickness: 45 µm
- -25% recycled polyethylene content
- -11% CO₂ less emission with 0.09 kg CO₂/m²*
- Recyclable**



Grade	Thickness (µm/mils)	Adhesion	Outdoor resistance	Color	Specific characteristics
4155	45 µm / 1.8 mils	High	6 months	Clear transparent	For rough and matt surfaces
9383	45 µm / 1.8 mils	High	3 months	Clear transparent	For rough and matt surfaces
3140	45 µm / 1.8 mils	High	3 months	Clear transparent	Oxygen Recycled grade - For rough and matt surfaces
4444	50 µm / 2 mils	Medium high	3 months	Clear transparent	An innovative, versatile solution for various finishes
9384	80 µm / 3.2 mils	Medium high	12 months	Clear transparent	For very rough and wrinkled surfaces



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

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

— NOVACEL TAPES

Whether you are producing or shipping pre-coated metals, secure attachment of metal coils with **reliable tapes is essential for the safety of your personnel and the protection of your**

products. Novacel has developed a range of **technical tapes** for high tensile strength and long elongation in order to **avoid lift-up or tearing during handling.**

NOVACEL ASSETS

- **Metal coil end tabbing tapes:** a single-sided adhesive range offering strong adhesion and high tensile strength to secure metal coils that is easy to remove and leaves no residue on coils
- **Metal overlap splicing tapes:** a double-sided adhesive tape with heavy stress and high temperature resistance,

offering high efficiency for metal-manufacturing processes

- **Metal butt splicing and coil core starting tapes:** a high-adhesive, single-sided reinforced range offering maximum efficiency for metal splicing and coil core starting applications



Grade	Color	Carrier/backing	Type of adhesive	Total thickness (µm)	PAL/A	Tensile Strength (daN/cm)	Removability
BN6489	Black	MOPP	/	100	300	28MD*	*
BN6490	Blue	MOPP	/	110	250	30MD*	***
BN811	Transparent	PET	Acrylic Solvent	90	400	/	No
BN53	Green	PET	Silicone	80	300	/	**
BN6440 (mono-oriented)	Transparent	PP reinforced	/	130	1000	25 MD*	No
BN6441 (cross weave)	Transparent	PP reinforced	/	130	1000	27 MD*	No

*MD : Machine Direction

— LAMINATION MACHINES

With its Omma and Walco brands, **Novacel Special Machines (NSM)** proposes the **ultimate lamination technology** dedicated to the pre-coated metals industry based on long experience and know-how with innovative, often exclusive, and reliable invariably reliable solutions.

Our **Laminators** ensure easy, fast lamination, as well as wrinkle- and bubble-free film on any size and any flat surface. They can be used both on production lines and as standalone units and can be equipped with either manual or automatic cutting technology.



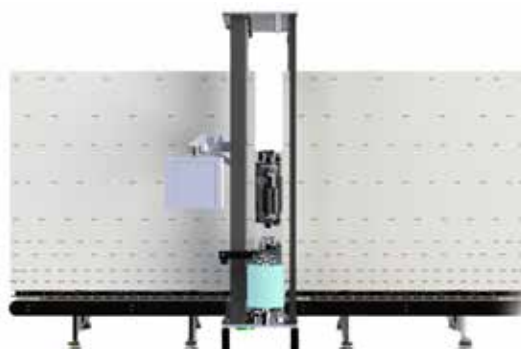
TX: Horizontal Laminator



Pro-jet: Horizontal Laminator

NOVACEL ASSETS

- **TX**, an in-line or off-line laminator with a high-precision automatic cutting system, designed and patented for the application of films on pre-coated metal surfaces
- **Pro-jet**: standard application machines with manual cutting
- **VX Smart**: a standalone vertical laminator for single application of the process film on pre-coated metal surfaces
- **Services**: installation and startup, maintenance, troubleshooting and software updates



VX Smart: Vertical Laminator

Lamination	Machine	Standard dimension	Thickness	Film application	Lamination Characteristics	Specific characteristics
Horizontal	TX	Widths: 1 300mm (51') up to 2 200mm (86")	Up to 80mm (3.15")	Single or double-sided	Precise film application	- Automatic length detection - Automatic cut
Horizontal	PRO-JET	Widths: 1 400mm (55") up to 2 000 mm (78")	Up to 80mm (3.15")	Single or double-sided	Suitable for low/medium batch production	- Entry-level applicator - Manual cut
Vertical	VX Smart	Minimal linked to the film roll size – Up to 3,000 mm (118")	Up to 80 mm (3.15")	Single	Standalone vertical laminator	- WALCO® patent on film positioning and cutting system - Entry-level machine - Reduced footprint (approximate length 7 m)

FIND YOUR MATCH

A formal approval process by Novacel experts is imperative before using our products. Our technical data sheets are available on request. Because the applications of NOVACEL films are very wide-ranging and use conditions 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 BUILDING & ARCHITECTURE

GENERAL USE

Grade	Thickness (µm/mils)	Adhesion	Outdoor resistance	Colors	Specific characteristics
4152	28 µm / 1.1 mils	Medium high	3 months	Clear transparent	For semi-glossy surfaces
3120	28 µm / 1.1 mils	Medium high	3 months	Clear transparent	Oxygen Recycled and Winter film - For semi-glossy surfaces
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ALUMINUM COMPOSITE PANELS

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FILMS FOR APPLIANCES

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TECHNICAL TAPES

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BN6489	Black	MOPP	/	100	300	28MD*	*
BN6490	Blue	MOPP	/	110	250	30MD*	***
BN811	Transparent	PET	Acrylic Solvent	90	400	/	No
BN53	Green	PET	Silicone	80	300	/	**
BN6440 (mono-oriented)	Transparent	PP reinforced	/	130	1000	25 MD*	No
BN6441 (cross weave)	Transparent	PP reinforced	/	130	1000	27 MD*	No

*MD : Machine Direction

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Vertical	VX Smart	Minimal linked to the film roll size – Up to 3,000 mm (118")	Up to 80 mm (3.15")	Single	Standalone vertical laminator	- WALCO® patent on film positioning and cutting system - Entry-level machine - Reduced footprint (approximate length 7 m)



www.novacel-solutions.com

