



NatureFlex™ RENEWABLE AND COMPOSTABLE PACKAGING FILMS





WHY CHOOSE NatureFlex™?

Today's conscientious shopper is increasingly looking behind the brand. No longer content to accept the product without thinking, they are concerned as to the quality, nature and provenance of its ingredients. The same goes for the packaging that delivers it to store and keeps it fresh at home. Conventional plastic films offer exceptional packaging performance but they are derived from petrochemical sources. These days' there is mounting pressure on brand owners to provide packaging that is made from renewable resources and has sustainable end-of-life options, be it recyclability, reusability or compostability.

BEHIND THE BRAND

Renewable and compostable NatureFlex™ gives brand owners an unparalleled opportunity to speak proudly about their packaging. More often than not conventional films are then laminated to different materials, further improving performance but rendering them impossible to recycle after use. NatureFlex™ is different. It can be used on its own or laminated to a number of different biomaterials for tailor-made properties. However, NatureFlex™ is derived from readily renewable cellulose, sourced from responsibly managed plantations and is fully certified for home and industrial composting after it has served its principal role as a packaging film.

WHAT'S THE DIFFERENCE BETWEEN BIODEGRADABLE AND COMPOSTABLE?

Biodegradable means a material will breakdown when exposed to a microbial environment. Packaging materials should always be referred to as **compostable**; as they must meet strict standards, such as EN13432 and D6400, which define the space and time of biodegradation and its resulting output and toxicity.



WHAT'S THE DIFFERENCE BETWEEN MECHANICAL AND ORGANIC RECYCLING?

Mechanical recycling, simply put, is the mechanical breakdown of materials (plastics, tins, glass, etc.) to a basic form that can be reformed into a usable product. Organic recycling is the processing of organic waste such as food scraps, garden waste and compostable packaging; via composting or anaerobic digestion (AD) to produce biogas and / or soil enriching compost.





FLEXIBILITY IN ACTION

NatureFlex™ is a range, not just a single film type. Our proprietary expertise in cellulose and coating technologies allows us to tailor the properties according to the specific needs of the product to be wrapped.

FEATURES AT A GLANCE

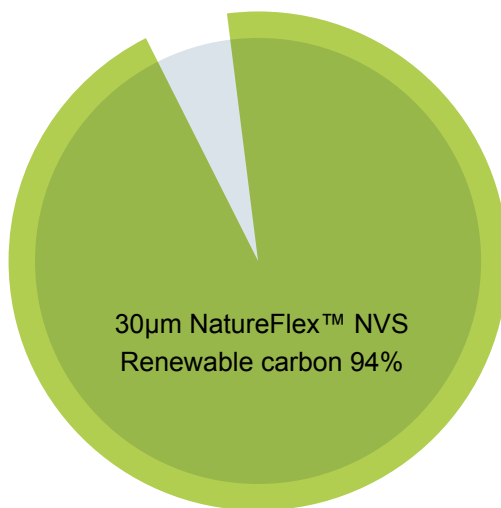
- Transparent, metallised, coloured and white
- Barrier properties for product protection
- High heat-resistance
- Conversion friendly for graphics
- Compatible with other bioplastic materials for enhanced packing performance via coating, lamination and lidding
- Naturally anti-static

INDEPENDENTLY SUBSTANTIATED

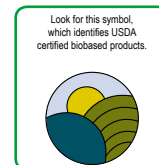
- NatureFlex™ films are derived from wood pulp sourced from responsibly managed plantations
- Renewable content is typically >90% in the finished film as confirmed by ASTM D6866 carbon dating tests
- Process improvements are measured by Life Cycle Assessment (LCA) methodology
- Our LCA has been peer-reviewed and the key findings are available upon request.

Quantifying Renewability:

ASTM D6866 differentiates between 'old' (fossil-based) and 'new' (renewable) carbon.



Demonstrating responsible sourcing:



ENVIRONMENTAL PERFORMANCE

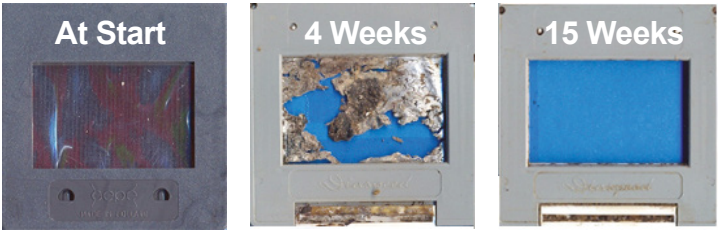
Pack performance is ensured by the choice of specific grade. Not only do NatureFlex™ films meet all the global standards for industrial composting, including EN13432, but they are also certified to the OK Compost Home standard for backyard composting. They are suitable for energy recovery via emerging anaerobic digestion technologies (both 'wet' and 'dry' systems).



AMBIENT COMPOSTABILITY

These images show how NatureFlex™ films break down in a home compost environment. These samples are from metallised film, which enhances barrier but does not impact on compostability due to the tiny amounts involved.

Home Compostability Test Programme Metallised NatureFlex™



OUR COMMITMENT TO SUSTAINABILITY

Futamura is a signatory to the Ellen MacArthur Foundation's New Plastics Economy Global Commitment, which aims for all plastic packaging produced to be reusable, recyclable or compostable by 2025.

Our objective is to produce only certified compostable or readily-recyclable packaging films by 2025.

We are dedicated to supporting our customers in meeting their sustainable packaging goals with our existing compostable films or through the development of new grades in order to meet specific technical requirements.



Global
Commitment



NATUREFLEX™ A TRUE EXAMPLE OF A CIRCULAR ECONOMY

Being made from renewable raw materials and compostable at the end of its useful life means that NatureFlex™ films are an example of a true circular economy. This is why our films are being used by hundreds of brand owners as they switch to a so called plastic free alternative.

Did you know?

Most plastic films are not recycled as they are either made from complex layers of different polymers or contaminated by food. If NatureFlex™ or a NatureFlex™ / biomaterial laminate was used instead, the food waste and film could be organically recycled or home composted together!

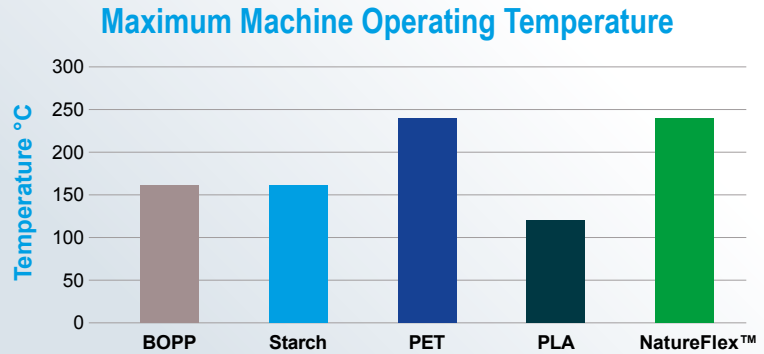
Did you know?

NatureFlex™ films are designed to be disposed of in a home or industrial composter, however if they do end up in a well-managed dry tomb landfill they will remain inert, it is not where they are intended to be, but they won't have a negative effect on the landfill.

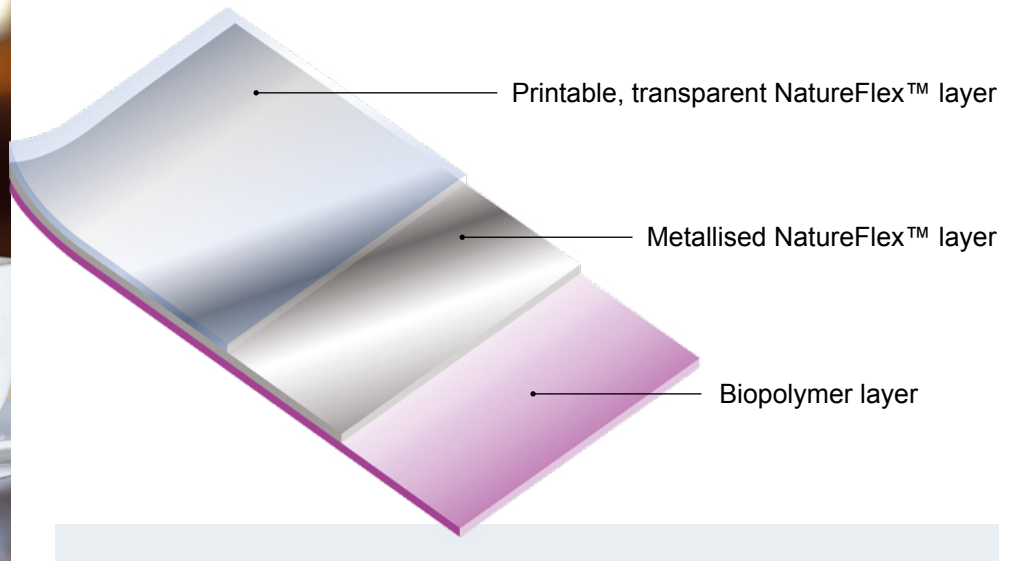




A UNIQUE BLEND OF PROPERTIES

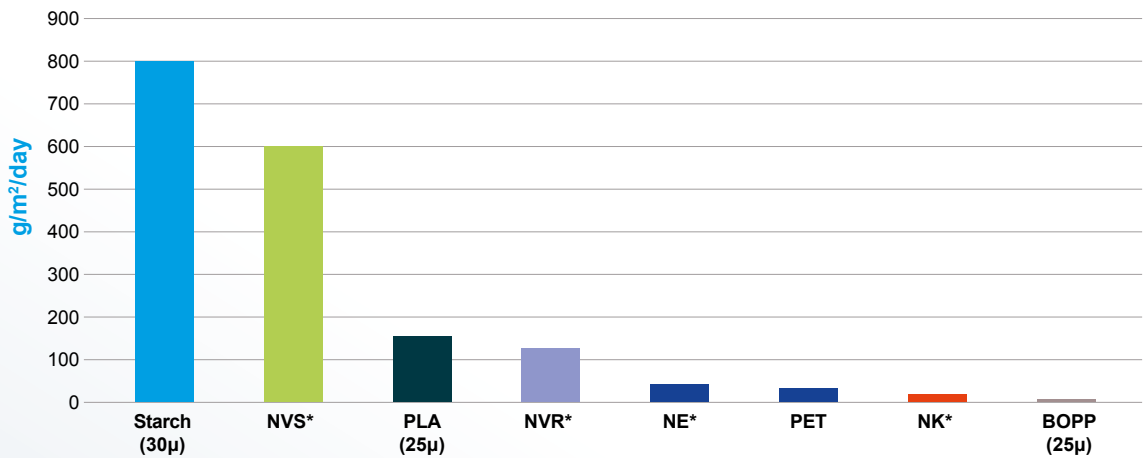


- The transparency and gloss of plastic
- The heat resistance of a paper
- NatureFlex™ can be used in a variety of laminated structures for applications that require high barrier



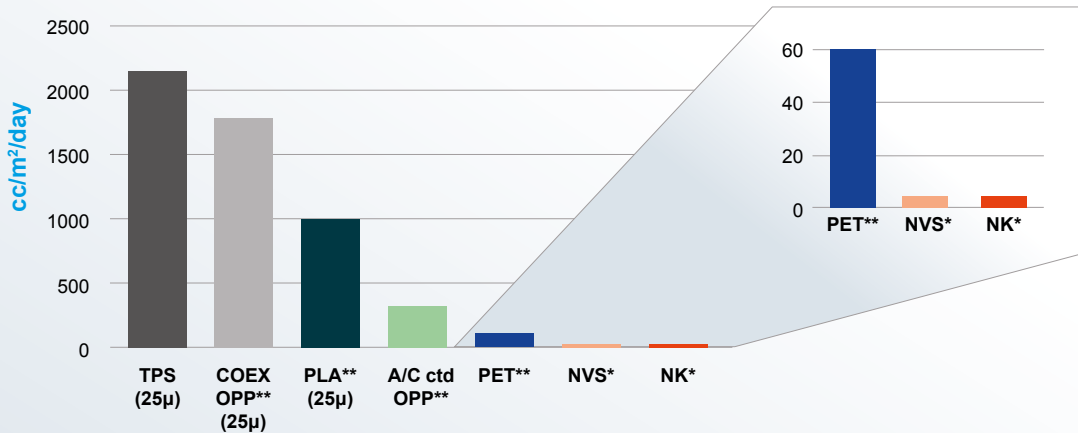
BARRIER FOR PRODUCT PROTECTION

Moisture Permeability (38°C/90%RH)



- Moisture barrier can be tailored to fit the product
- High gas barrier properties
- Excellent oxygen barrier

Oxygen Transmission Rate (23°C/50%RH)



*NatureFlex™ Grade

**Measured at 0%RH

OUR TIPS FOR COMPOSTING AT HOME:

It's really quite simple to make soil enhancing compost at home. You can create a basic compost heap on the ground or, better still, use a compost bin.

FOOD WASTE:

- Uncooked fruit and vegetable waste can all go in the compost.
- If you're adding a lot of food waste to your compost bin, it's worth knowing that these count as 'green' materials.
- You should aim for a roughly 50 / 50 balance of green to brown materials in your bin.

COMPOSTABLE FILMS, PAPER AND CARDBOARD:

- Certified home compostable films, paper and card are a great way to add air pockets to your compost and count as 'brown' materials.
- To maximise their benefit, scrunch them up a bit before you drop them in.
- To make sure your brown materials will breakdown, remove any tape from packaging and check they don't contain plastic or laminated materials.
- Every now and again turn over the contents of your compost bin and add a little water to give it a boost.



SALES OFFICES:

Europe (UK)

+44 (0)16973 41212

Americas (USA)

+1 770 818 3012

Asia-Pacific (Japan)

+81 52 562 1841

www.futamuragroup.com

info@futamuragroup.com

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