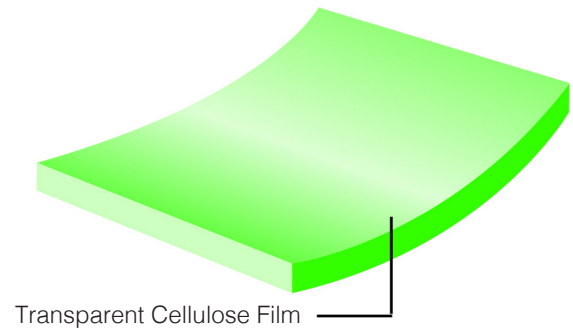


NatureFlex™ NP

Data

Features - Transparent, Non Heat-sealable Compostable Film

- Based on renewable sources
- Certified as compostable in both industrial and home composting environments, also suitable for anaerobic digestion.
- Excellent transparency and gloss
- Both sides of the film are equally receptive to inks and adhesives
- Highly permeable to water vapour with excellent barrier to gases and aromas
- Inherent, anti-static properties
- Excellent dead-fold characteristics



Applications

NP films can be used for twistwrap, glued bags and lamination, for products where protection from moisture is not required.

Technical Properties (Typical Values)

Property	Test Basis	Test Conditions	Units	NP							
				21μ	23μ	25μ	28μ	31μ	35μ	42μ	
Thickness	Futamura Test		Micron	20.8	22.6	24.3	27.8	31.3	34.7	41.7	
Yield	Futamura Test		m ² /kg g/m ²	33.3 30.0	30.8 32.5	28.6 35.0	25.0 40.0	22.2 45.0	20.0 50.0	16.7 60.0	
Permeability to: Water vapour	ASTM E96	38°C 90% RH	g/m ² .24 hrs	Not applicable							
Oxygen	ASTM F 1927	23°C 0% RH 23°C 50% RH	cc/m ² .24 hrs	1.0 10							
Optical: Gloss	ASTM D 2457	45°	units	95							
Haze (wide angle)	ASTM D 1003	2.5°	%	3.0							
Coefficient of friction (out to out)	ASTM D 1894	Static Dynamic	0.50 0.30								
Tensile strength	ASTM D 882		MN/m ²	MD TD		125 70					
Elongation at break	ASTM D 882		%	MD TD		22 70					
Elasticity modulus (1% secant)	ASTM D 882		MN/m ²	MD TD	≥1200						
					≥600						

All properties are tested under standard laboratory conditions: 23±2°C;50±5% RH, unless otherwise stated.

Where relevant, tests are based on international testing standards.

MD - Machine Direction TD - Transverse Direction

Environmental Data

Measure	Typical Value/ Suitability for use	Validation or Test Method
Biobased carbon content (¹⁴ C)	98%	ASTM D6866
Biomass content (total)	95%	Futamura calculation
Carbon footprint (GHG) kgCO ₂ eq/kg (incl.biogenic)	3.3	Peer reviewed LCA 2010 GaBi software
Industrial compostability	Certified	EN13432, EN14995, ASTM D6400 and ISO 17088
Home compostability	Certified	OK Compost Home
Anaerobic digestion	Approved	ISO 15985
Marine biodegradation	Approved	ASTM D6691-09



NatureFlex films are suitable for a range of Organic Recycling methods, as detailed above, and for incineration with energy recovery. However they are not designed for thermal (melt) recycling methods. Please check for availability of FSC™ certified film.

Reel Specifications

Nominal Reel Diameters

Film	Length/(metres)			
	1800	3600	7200	10800
21μ	1700	3400	6800	10200
23μ	1550	3100	6200	9300
25μ	1300	2600	5200	7800
28μ	1150	2300	4600	6900
31μ	1050	2100	4200	6300
35μ	900	1800	3600	5400
42μ				
Outside diameter for 77mm core	240mm	330mm	450mm	ns
Outside diameter for 153mm core	ns	355mm	475mm	570mm

Other reel lengths are available subject to negotiation.

ns = non-standard.

Food Contact

NatureFlex NP is formulated to comply with EU legislation for many room temperature food contact applications. Customers intending to use the film in a food contact application must request the Declaration of Compliance which gives full details. For information on other countries please contact your Futamura Sales Office.

Film Storage & Use

To maintain the high quality of this product during storage it is recommended that NatureFlex NP should be stored in its original wrapping away from any source of local heating or direct sunlight.

Recommended conditions of storage are:

Temperature: 17-23°C

Relative Humidity: 35-55%

NatureFlex NP is suitable for use for 6 months from the date of delivery and stocks should be used in rotation.

Films should be allowed to reach operating room temperatures for 24 hours before use.

Health and Safety Guidelines

For Health and Safety information, please refer to literature reference N190.



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