

NatureFlex™ NK

TECHNICAL DATA SHEET



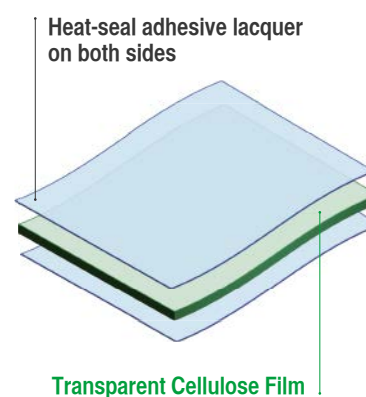
Renewable Compostable Heat-Sealable Barrier Film

Target applications include twistwrap, VFFS, overwrap, flow-wrap and lamination for moisture sensitive products.



Features

- ✓ Based on renewable resources
- ✓ Certified for home and industrial composting
- ✓ Compatible with a range of emerging advanced recycling technologies
- ✓ Heat-seal adhesive lacquer on both sides
- ✓ Excellent moisture barrier
- ✓ Excellent barrier to gases and aromas
- ✓ Resistant to oils and grease
- ✓ Excellent transparency and gloss
- ✓ Formulated for enhanced print and conversion receptivity
- ✓ Excellent dead-fold characteristics
- ✓ Inherent anti-static properties
- ✓ The incorporation of a minimal amount of PVdC to optimise moisture and gas barrier functionality allows for simpler and lighter packaging to extend and maintain shelf life of the packaged products.



Technical Properties (Typical Values)

Property	Test Basis	Test Conditions	Units	NK			
				19	23	30	45
Thickness	Futamura Test		Micron	19.4	23.3	29.9	45.0
Yield	Futamura Test		m ² /kg	35.7	29.9	23.3	15.5
			g/m ²	28.0	33.5	43.0	64.5
Permeability to: Water vapour	ASTM E96	38°C 90% RH	g/m ² .24hrs	20			
Oxygen	ASTM F 1927	23°C 50% RH	cc/m ² .24hrs	5.0			
Gloss	ASTM D 2457	45°	Units	105			
Haze (wide angle)	ASTM D 1003	2.5°	%	5.5			
Coefficient of friction (film to film)	ASTM D 1894	Static Dynamic		0.35 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			
Sealing range	Futamura Test	0.5 secs; 69 kN/m ²	°C	115-170			
Sealing strength	Futamura Test	135°C; 0.5 secs; 69 kN/m ²	g(f)/25mm	225			

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

Certifications



Environmental Data

Measure	Typical Value/ Suitability	Validation or Test Method
Biobased carbon content (¹⁴ C)	90 - 96%	ASTM D6866
Biomass content (total)	90%	Futamura calculation
Carbon footprint kgCO ₂ eq/kg (incl.biogenic)	4.6	Peer reviewed LCA 2020 GaBi software Impact 2002+ (Global warming 500yr - midpoint)
Industrial compostability	Certified	EN13432, EN14995, AS4736, ASTM D6400 and ISO 17088
Home compostability	Certified	OK Compost Home, AS5810 and NF T 51-800
Anaerobic digestion	Approved	ISO 15985

Please check for the availability of PEFC certified film.

NatureFlex films are suitable for a range of recycling methods. For the current position on recycling, please refer to literature reference N180.

Reel Specifications Nominal Reel Diameters

Film	Length/(metres)			
19μ	1900	3800	7600	11400
23μ	1600	3200	6400	9600
30μ	1250	2500	5000	7500
45μ	850	1700	3400	5100
Outside diameter for 77mm core	240mm	330mm	450mm	-
Outside diameter for 153mm core	-	355mm	475mm	570mm

Other lengths are available subject to negotiation.

Food Contact

NatureFlex NK 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

To maintain the high quality of this product during storage it is recommended that NatureFlex NK 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 NK is suitable for use for 6 months from the date of delivery and stocks should be used in rotation.

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

Health and Safety

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



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