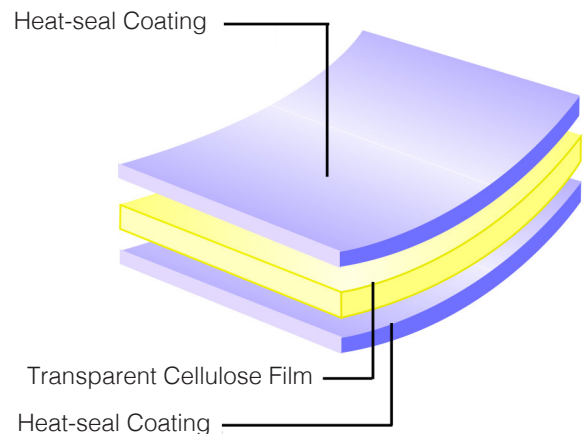


## NatureFlex™ NVR

Data

### Features - Transparent Heat-sealable Compostable Film

- Based on renewable resources
- Certified as compostable in both industrial and home composting environments, also suitable for anaerobic digestion
- Intermediate moisture barrier
- Heat-sealable on both sides
- Formulated for print and conversion receptivity
- Excellent transparency and gloss
- Excellent dead-fold characteristics
- Inherent anti-static properties
- Controlled slip characteristics
- Excellent barrier to gases and aromas
- Resistant to oils and grease



### Applications

NVR is a transparent film with an intermediate moisture barrier. It is heat-sealable, printable and can be used on different packaging machines. Target applications include pasta, pulses, rice, confectionery and bakery, as well as carton overwrap.

### Technical Properties (Typical Values)

Property	Test Basis	Test Conditions	Units	NVR		
				23μ	30μ	45μ
Thickness	Futamura Test		Micron	23.3	29.9	45.0
Yield	Futamura Test		m <sup>2</sup> /kg g/m <sup>2</sup>	29.9 33.5	23.3 43.0	15.5 64.5
Permeability to: Water vapour	ASTM E96	23°C 85% RH	g/m <sup>2</sup> .24 hrs	30		
		25°C 75% RH		30		
		38°C 90% RH		120		
Oxygen	ASTM F 1927	23°C 0% RH 23°C 50% RH	cc/m <sup>2</sup> .24 hrs	1.0 5		
Optical: Gloss	ASTM D 2457	45°	units	100		
Haze (wide angle)	ASTM D 1003	2.5°	%	5.0		
Coefficient of friction (film to film)	ASTM D 1894	Static Dynamic		0.25 0.25		
Tensile strength			ASTM D 882	MN/m <sup>2</sup> MD TD	125 70	
Elongation at break	ASTM D 882		% MD TD	22 70		
Elasticity modulus (1% secant)	ASTM D 882		MN/m <sup>2</sup> MD TD	≥1200 ≥600		
Sealing range	Futamura Test	0.5 secs; 69 kN/m <sup>2</sup>	°C	80-200		
Seal strength	Futamura Test	135°C; 0.5 secs; 69 kN/m <sup>2</sup>	g(f)/25mm	400		

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 ( <sup>14</sup> C)	89 - 93%	ASTM D6866
Biomass content (total)	89%	Futamura calculation
Carbon footprint (GHG) kgCO <sub>2</sub> eq/kg (incl.biogenic)	5.05	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)			
	1600	3200	6400	9600
23NVR	1600	3200	6400	9600
30NVR	1250	2500	5000	7500
45NVR	850	1700	3400	5100
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 NVR 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 NVR 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 NVR 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 Guidelines

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



www.futamuragroup.com  
email: info@futamuragroup.com  
™Trademark of Futamura Group

### Sales Offices

Europe (UK) Tel +44 (0)16973 41212  
Americas (USA) Tel +1 770 818 3012  
Asia-Pacific (Japan) Tel +81 52 562 1841

**Disclaimer:** Futamura Chemical Company, or any of its affiliated companies (hereinafter "Futamura") declines any liability with respect to the use made by any third party of the information contained herein. The information contained herein represents Futamura's best knowledge thereon without constituting any express or implied guarantee or warranty of any kind (including, but not limited to, the accuracy, the completeness or relevance of the data set out herein). Futamura is the sole owner or authorised user of the intellectual property rights relating to the information communicated. The information relating to the use of the products is given for information purposes only. No guarantee or warranty is provided that the product is adapted to the client's specific use. The client should perform his own tests to determine the suitability for a particular purpose. The final choice of use of a product remains the sole responsibility of the client.