

NatureFlex™ Films Product Range



use our imagination...



NatureFlex™ Renewable & Compostable Packaging Films

Description	Film	Yield		Permeability to		Heat-seal Range (°C) 0.5s dwell 0.069MN/m ²	Optimum Deckle Widths	Literature Reference
		(m ² /kg)	(microns)	H ₂ O (g/m ² .24hrs) ASTM E 96 38°C 90% RH	O ₂ (cc/m ² .24hrs) ASTM F1927 23°C 0% RH			
Transparent, non heat-sealable film for applications such as bagmaking and where moisture barrier is not required	21NP*	33.3	20.8	N/A	1	N/A	1440	N200
	23NP	30.8	22.6					
	25NP	28.6	24.3					
	28NP	25.0	27.8					
	35NP	20.0	34.7					
	42NP	16.7	41.7					
Transparent, 2 side heat-sealable film, with enhanced moisture barrier	19NE30	35.7	19.4	30	1	80-200	1520 (19µ) 1320 & 1520	N300
	23NE30	30.4	22.8					
	30NE30	23.6	29.4					
	42NE30	16.7	41.7					
White, 2 side heat-sealable film, with enhanced moisture barrier	23NE30 White	30.4	22.8	30	1	80-200	1320 & 1520	N310
1 side coated film for lamination to paper and other biopolymer materials	22D-NE	31.3	22.2	50	1	80-200	1320 & 1520	N320
1 side metallised, high barrier film for twistwrap, flow wrap and lamination	23NM	29.9	23.3	10	<1	90-200	1450	N500
Transparent, 2 side heat-sealable, moisture permeable film	23NVS	29.9	23.3	360	1	90-200	1320 & 1520	N510
	30NVS	23.3	29.9					
White, 2 side heat-sealable, permeable film	23NVS White	29.9	23.3	360	1	90-200	1320 & 1520	N540
Transparent, 2 side heat-sealable intermediate moisture barrier film	23NVR	29.9	23.3	120	1	80-200	1320 & 1520	N530
	30NVR	23.3	29.9					
	45NVR	15.5	45.0					
Transparent, 2 side heat-sealable high barrier film	20NK	33.9	20.5	14	1	115-170	1320 1520	N700
	23NK*	29.4	23.6					
	30NK	23.0	30.2					
	45NK	15.4	45.1					
Transparent, 2 side heat-sealable high barrier film with enhanced jaw-release	19NKR	36.3	19.1	15	1	115-170	1450	N750
	23NKR	29.9	23.4					
	30NKR	23.3	30.0					
	42NKR	16.7	41.7					
Transparent, high barrier film, 1 side non heat-sealable	19NKA 42NKA	36.3 16.7	19.1 41.7	15	1	115-170 ***	1450	N740
White, 2 side heat-sealable film with high moisture barrier	26NK White	25.6	25.5	15	1	115-170	1320 & 1520	N710
**1 side metallised, high moisture barrier film	23NKM	29.9	23.3	10	0.5	115-170	1450	N720
Transparent, hermetic sealable film	N913	13.3	55	14	1	100-170	1400	N913

* Coloured versions of these grades are also available, please contact our Marketing team for more details.

** Not recommended for lamination.

*** Heat-seal side to heat-seal side only.

NatureFlex™ Renewable & Compostable Label Films

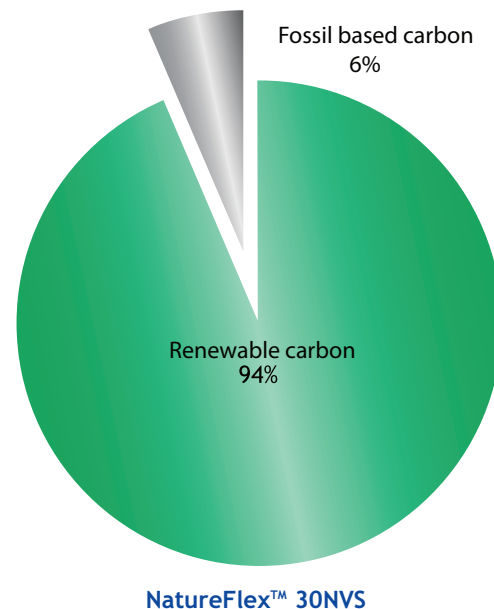
Description	Film	Yield		Gloss (45°)	Opacity	Temperature Flexibility Range	Optimum Deckle Widths	Literature Reference
		(m ² /kg)	(microns)					
Transparent, high gloss film for labelling applications	45NVL	15.5	45.0	105	N/A	0-290	1100 & 1500	NL1
White, high gloss film for labelling applications	45NVLW	15.5	45.0	60	68	0-290	1100 & 1500	NL2
Reverse metallised, high gloss film for labelling applications	45NML	15.5	45.0	N/A	N/A	0-290	1100 & 1500	NL3

Renewability

Most biopolymers are based on renewable raw materials such as corn, potatoes or wheat. NatureFlex™ films are based on cellulose which is the most abundant of all naturally occurring organic materials. NatureFlex™ films are produced from wood pulp sourced from managed plantations.

The biobased content of a range of NatureFlex™ films has been determined according to ASTM D6866, which is based on radiocarbon methodology.

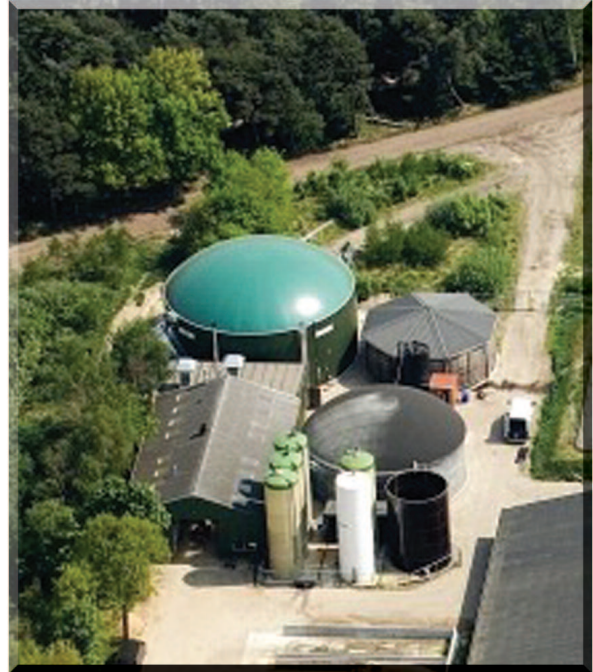
Depending on the grade of NatureFlex™, the biobased content can vary from 90% to 99%. A typical result is shown here.



Reducing our Carbon Footprint

The environmental impact of NatureFlex™ was quantified during 2007 by a Life Cycle Assessment. Significant improvements in energy efficiency and waste reduction have been made and will continue in the future. However, any manufacturing process will inevitably have an environmental impact and involvement in carbon reduction schemes allows Innovia Films to offset the overall effect of NatureFlex™ production to ensure that coated NatureFlex™ films are CarbonNeutral® at the point of despatch.

In the previous two years we have invested in reforestation in Cumbria and energy efficient stoves in Africa. In 2010, in conjunction with The CarbonNeutral Company, we are offsetting our carbon emissions through an anaerobic digestion project in the Netherlands.



Sterksel Biogas Project, The Netherlands



Certification

NatureFlex™ films are certified to both EN13432 and ASTM D6400 by Vinçotte, Din Certco and the BPI allowing them to carry the following logos:



www.innoviafilms.com email: natureflex@innoviafilms.com

™Trademark of Innovia Films Group

Sales Offices

Europe (UK)
Americas (USA)
Asia-Pacific (Aus)

Tel +44 (0)16973 42281
Tel +1 877 822 3456
Tel +61 3 9303 0600

Disclaimer: Innovia Films or any of its affiliated companies (hereinafter 'Innovia Films') declines any liability with respect to the use made by any third party of the information contained herein. The information contained herein represents Innovia Films' 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). Innovia Films 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.