fatra

BO PET FILMS TENOLAN® AND LAMINATE FOLAM®

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Biaxially oriented polyethylene-terephthalate (BO PET) TENOLAN® films are designed for further processing in packaging technologies, for decoration purposes, as separating foils, etc.
They are supplied in rolls or cut to size.
Films intended for direct contact with foodstuff and meals comply with the applicable hygiene regulations.

DESIGN:

- Transparent (incl. lower turbidity, matt)
- Colour - coloured in the mass (yellow, white, black, red, blue, green)
- Other colours - according to specific customer requirements

SPECIAL TREATMENT:

- Corona surface tension treatment (foil ionization using corona)
- One-sided Al plating (metallization)
- Acrylate-based chemical coating
- PES-Copolymer-based chemical coating
- Increased resistance to UV radiation
- High temperature resistance

BASIC DIMENSIONS:

- Thickness: 6-150 µm
- Width: 10-2,900 mm

ASSORTMENT:

- Packaging BO PET films - production of flexible packaging for foodstuff and technical products
- Electrical-insulating BO PET films - production of cables and transformers and insulation of electric motor windings
- Other BO PET films - production of labels, adhesive tapes, silicone foils, ID and payment cards, office products

PRODUCTION LINE A - THIN FILMS

- A-B-A Coextrusion technology
- Film thickness: 6-50 µm

PRODUCTION LINE B - THICK FILMS

- Monoextrusion technology
- Film thickness: 36-150 µm

LAMINATION LINE

- Lamination by joining BO PET, PE, PP foil, paper, etc.
- Laminate thickness: 32-400 µm

All our products are certified and comply with EU standards.

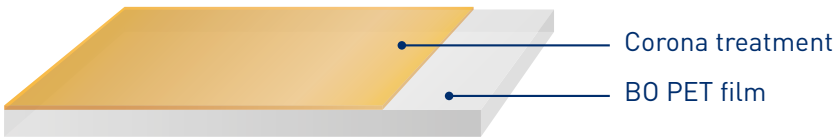
We are holders of CSN EN ISO 9001 and CSN EN ISO 14001.

ISO 9001
ISO 14001

BUREAU VERITAS
Certification

SUMMARY OF FILM TREATMENTS

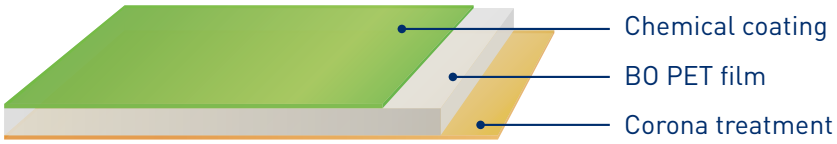
FILM WITH ONE-SIDED CORONA TREATMENT
(OAKN 0001+0006+0008+0011+0012+0013,
OCKN 0001+0003+0004+0023, IAK 0013)



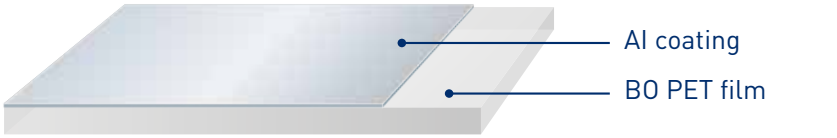
FILM WITH MATTE FINISH
(MAN 0005)

FILM WITH CHEMICAL COATING
(OAS 2102, OASN 2100+2200, OCSN 2100+2200)

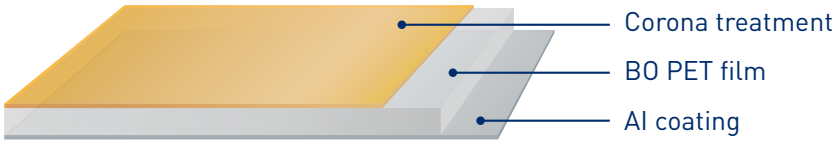
FILM WITH CHEMICAL COATING ON ONE SIDE AND CORONA TREATMENT ON THE OTHER SIDE
(OASN 2190+2290, OCSN 2190+2290)



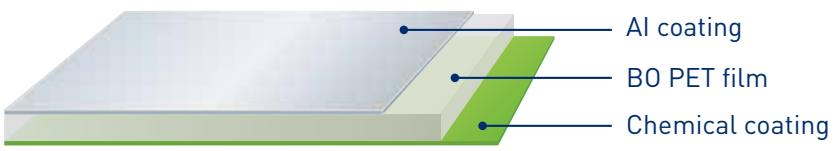
ALUMINIUM COATED FILM ON ONE SIDE
(OAMN 0111+0112+0113, OAMN 9012,
OCMN 0111+0112+0113)



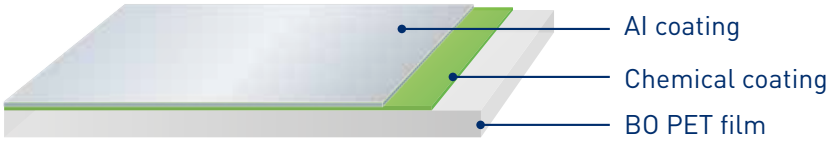
ALUMINIUM-COATED FILM ON ONE SIDE - WITH CORONA TREATMENT ON THE OTHER SIDE
(OAMN 0353, OCMN 0353)



ALUMINIUM-COATED FILM ON ONE SIDE - WITH CHEMICAL COATING ON THE OTHER SIDE
(OAMN 2151+2152+2153+2251+2252+2253,
OCMN 2251+2252+2253)



FILM WITH ONE-SIDED CHEMICAL COATING - SUBSEQUENTLY ALUMINIUM-COATED
(OAMN 2271+2272+2273)



PRODUCT OVERVIEW - TRANSPARENT FILMS

TRANSPARENT			
Type	**Specification**	**Thickness (µm)**	**Use**
OAN 0001	Standard	6 – 7 – 8 – 9 – 10 – 12 – 15 – 19 – 23 – 30 – 36 – 50 – 60 – 70 – 75 – 100 – 125 – 150	Production of food packaging
OAN 0006	Lower turbidity value	36 – 50 – 75 – 100 – 125 – 150	Technical applications, e.g. for box sights / Production of food packaging
OAN 0008	Low turbidity value	36 – 50 – 125 – 150	Production of food packaging and technical applications
OAN 0011	Low turbidity value / Lower shrinkage value	12 – 19 – 23	Production of food packaging and hot-stamp technologies
OAN 0012	Lower shrinkage value	12 – 19 – 23 – 30	Transfer technologies

TRANSPARENT WITH-ONE-SIDE CORONA TREATMENT			
Type	**Specification**	**Thickness (µm)**	**Use**
OAKN 0001	Standard	6 – 7 – 8 – 9 – 10 – 12 – 15 – 19 – 23 – 30 – 36 – 50 – 60 – 70 – 75 – 100 – 125 – 150	Production of food packaging
OAKN 0006	Lower turbidity value	36 – 50 – 75 – 100 – 125 – 150	Technical applications, e.g. for box sights / Production of food packaging
OAKN 0008	Low turbidity value	36 – 50 – 125 – 150	Production of food packaging and technical applications
OAKN 0011	Low turbidity value / Lower shrinkage value	12 – 19 – 23	Production of food packaging and hot-stamp technologies
OAKN 0012	Lower shrinkage value	12 – 19 – 23 – 30	Transfer technologies
OAKN 0013	Lower shrinkage value	50 – 75 – 100	Lamination and print

TRANSPARENT WITH CHEMICAL COATING BASED ON A POLYESTER / ACRYLATE COPOLYMER			
Type	**Specification**	**Thickness (µm)**	**Use**
OAS 2102	Higher shrinkage value / The film is provided with chemical coating based on a polyester copolymer on one side	23	Production of food packaging, for metallization, inkjet printing and lamination
OASN 2100	The film is provided with chemical coating based on a polyester copolymer on one side	12 – 19 – 23 – 36	Production of food packaging, for metallization, inkjet printing and lamination / Suitable for long-term contact with dry, aqueous, acidic, alcoholic and fatty types of foodstuff
OASN 2190	The film is corona treated on one side and provided with chemical coating on a polyester copolymer basis on the other side	12 – 19 – 23 – 36	Production of food packaging, for metallization, inkjet printing and lamination / Suitable for long-term contact with dry, aqueous, acidic, alcoholic and fatty types of foodstuff
OASN 2200	The film is provided with an acrylate-based chemical coating on one side	12 – 19 – 23 – 36 – 50	Production of food and industrial packaging / For lamination, metallization and printing / Suitable for long-term contact with dry, aqueous, acidic, alcoholic and fatty types of foodstuff
OASN 2290	The film is corona treated on one side and provided with an acrylate-based chemical coating on the other side	12 – 23 – 36 – 50	Production of food and industrial packaging / For lamination, metallization and printing

TRANSPARENT – SPECIAL			
Type	**Specification**	**Thickness (µm)**	**Use**
MAN 0005	**Matte finish** Higher turbidity / Good light transmission / Lower gloss	12 – 19 – 23 – 36	Technical applications and packaging in food industry
UV 0001	**UV radiation resistance** At the same time, it filters most of the transmitted UV radiation	19	Technical applications
IA 0001	**Electrical-insulating** Electrical-insulating features (electrical strength, resistivity, permittivity)	12 – 15 – 19 – 23 – 30 – 36 – 50 – 75 – 100 – 125 – 150	Electrical-insulating purposes - production of cables and transformers, grooved insulation of electric motors
IAF 0001	**For technical applications** Standard	36 – 44 – 50 – 62.5 – 75	Special insulating purposes / Technical applications
IAK 0013	**For technical applications** Lower shrinkage value / The film is corona treated on one side	100	Technical purposes

PRODUCT OVERVIEW - COLOUR FILMS

COLOUR (COLOURED IN MASS)				
Type	**Specification**	**Colour**	**Thickness (µm)**	**Use**
OCN 0001	Transparent colour film	Blue, green, yellow, red	7 – 8 – 10 – 12 – 15 – 19 – 23 – 36 – 50 – 75 – 100 – 125	Industrial production / Production of food packaging / Decorative applications
OCN 0003	Reduced coverage	Black, blue	12 – 19 – 23 – 25 – 36 – 50 – 125	Production of food packaging / Decorative applications
OCN 0004	Medium coverage	White, blue, black	12 – 15 – 19 – 23 – 36 – 50 – 75 – 100 – 125 – 150	Production of food packaging / Decorative applications
OCN 0007		White, red	36 – 50 – 75	Production of food packaging / Special purposes and decoration purposes
OCN 0023	Reduced coverage / Lower shrinkage	Black	12	Production of food packaging / Decorative applications

COLOURED WITH ONE-SIDED CORONA TREATMENT				
Type	**Specification**	**Colour**	**Thickness (µm)**	**Use**
OCKN 0001	Transparent colour film	Blue, green, yellow, red	7 – 8 – 10 – 12 – 15 – 19 – 23 – 36 – 50 – 75 – 100 – 125	Industrial production / Production of food packaging / Decorative applications
OCKN 0003	Reduced coverage	Black, blue	12 – 19 – 23 – 25 – 36 – 50 – 125	Production of food packaging / Decorative applications
OCKN 0004	Medium coverage	White, blue, black	12 – 15 – 19 – 23 – 36 – 50 – 75 – 100 – 125 – 150	Production of food packaging / Decorative applications
OCKN 0023	Reduced coverage / Lower shrinkage	Black	12	Production of food packaging / Decorative applications

COLOURED WITH CHEMICAL COATING BASED ON POLYESTER / ACRYLATE COPOLYMER				
Type	**Specification**	**Colour**	**Thickness (µm)**	**Use**
OCSN 2100	The film is provided with chemical coating based on a polyester copolymer on one side	Yellow	12	Production of food packaging, for metallization, inkjet printing and lamination / Suitable for long-term contact with dry, aqueous, acidic, alcoholic and fatty types of foodstuff
OCSN 2190	The film is corona treated on one side and provided with chemical coating on a polyester copolymer basis on the other side	White	12	Production of food packaging, for metallization, inkjet printing and lamination / Suitable for long-term contact with dry, aqueous, acidic, alcoholic and fatty types of foodstuff
OCSN 2200	The film is provided with an acrylate-based chemical coating on one side	Yellow, white, black	12 – 23 – 50	Production of food and industrial packaging / For lamination, metallization and printing / Suitable for long-term contact with dry, aqueous, acidic, alcoholic and fatty types of foodstuff
OCSN 2290	The film is corona treated on one side and provided with an acrylate-based chemical coating on the other side	Yellow	12	Production of food and industrial packaging / For lamination, metallization and printing

BAKING				
Type	**Specification**	**Colour**	**Thickness (µm)**	**Use**
PIN 0020	Transparent film / High heat resistance / Made from antimony-free type granulate		12 – 23	Food industry applications with high temperature resistance / Baking films for temperatures up to 220 °C
PCN 0002	Colour film / Increased heat resistance	Red, blue	150	Production of tightening clips for baking sleeves and bags / Baking films for temperatures up to 220 °C

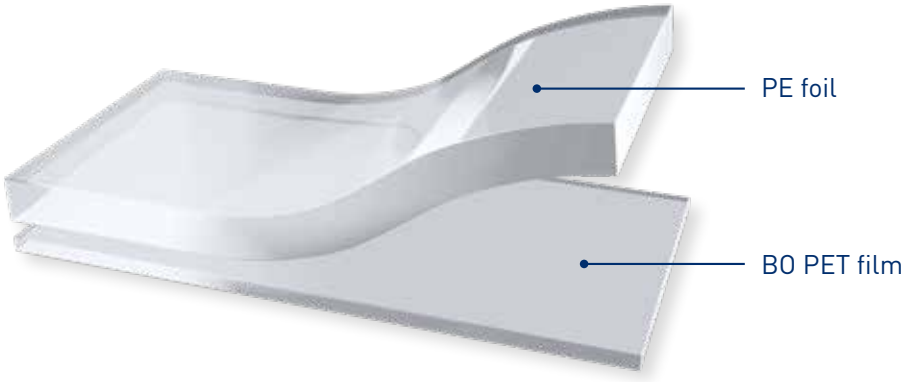
PRODUCT OVERVIEW - METALLISED FILMS

ALUMINIUM COATED ON ONE SIDE			
Type	**Specification**	**Thickness (µm)**	**Use**
OAMN 0111 OAMN 0112 OAMN 0113	Transparent films aluminium-coated on one side	8 – 12 – 15 – 19 – 23 – 30 – 36 – 50 – 70 – 75 – 100 – 125 – 150	Production of food packaging / Decorative and thermal-insulation applications
OAMN 9012	Transparent antimony-free films aluminium-coated on one side	23	Production of food packaging (duplex and triplex laminates) / Decorative and thermal-insulation applications
OCMN 0111 OCMN 0112 OCMN 0113	Coloured film aluminium-coated on one side	8 – 10 – 12	Production of food packaging / Decorative and thermal-insulation applications

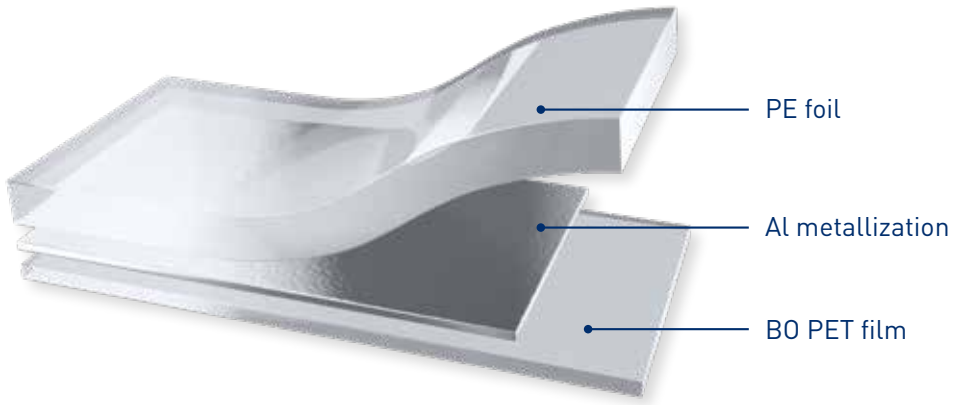
ALUMINIUM-COATED ON ONE SIDE - WITH CORONA TREATMENT ON THE OTHER SIDE			
Type	**Specification**	**Thickness (µm)**	**Use**
OAMN 0353	Transparent films aluminium-coated on one side	8 – 12	Production of food packaging / Decorative and thermal-insulation applications
OCMN 0353	Coloured film aluminium-coated on one side, with corona treatment on the other side	8 – 12	Production of food packaging / Decorative and thermal-insulation applications

ALUMINIUM-COATED - WITH CHEMICAL COATING			
Type	**Specification**	**Thickness (µm)**	**Use**
OAMN 2151 OAMN 2152 OAMN 2153	Transparent film aluminium-coated on one side, provided with a chemical coating based on a polyester copolymer on the other side	12	Production of food packaging (duplex and triplex laminates) / Decorative applications
OAMN 2251 OAMN 2252 OAMN 2253	Transparent film aluminium-coated on one side, provided with a chemical coating based on an acrylate on the other side	12 – 36	Production of food packaging (duplex and triplex laminates) / Decorative applications
OCMN 2251 OCMN 2252 OCMN 2253	Coloured film aluminium-coated on one side, provided with a chemical coating based on an acrylate on the other side	12	Production of food packaging (duplex and triplex laminates) / Decorative applications
OAMN 2271 OAMN 2272 OAMN 2273	Transparent film provided with an acrylate-based chemical coating on one side, subsequently coated with aluminium	12	Production of food packaging (duplex and triplex laminates) / Decorative applications

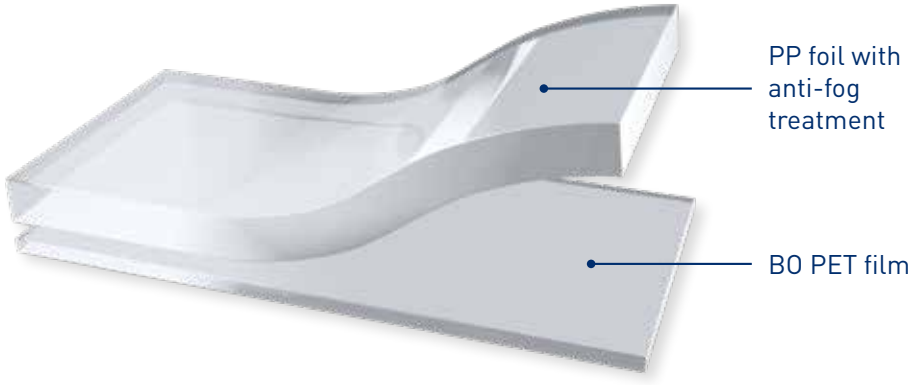
BO PET FILM + PE (PP) FOIL
(OABN 0722+2122, OANN 0722, OCAN 3222)



BO PET FILM AL COATED FROM THE INNER SIDE + PE (PP) FOIL
(OMDN 0722, OBDN 0722)



BO PET FILM + PP FOIL WITH ANTI-FOG TREATMENT
(OABN 0522)



BO PET / PP LAMINATE									
Type	**Specification**	**Total thickness / thickness of layers (µm)**							**Use**
OABN 0722	BO PET film + PP foil	**42**	**52**	**53**	**62**	**63**	**72**	**82**	Production of food packaging suitable for sterilization and pasteurization
		12/30	12/40	23/30	12/50	23/40	12/60	12/70	
OABN 2122	BO PET film + PP foil	**49**	**63**	**115**	**125**				Production of food and technical packaging
		19/30	23/40	75/40	75/50				
OABN 0522	BO PET film + PP foil with anti-fog treatment	**42**	**52**						Production of food packaging for meat products
		12/30	12/40						

BO PET / PE LAMINATE									
Type	**Specification**	**Total thickness / thickness of layers (µm)**							**Use**
OANN 0722	BO PET film + multilayer PE foil	**52**	**62**	**72**	**82**	**93**	**112**	**170**	Production of food packaging / Suitable for packing aggressive content (e.g. spices, sauerkraut)
		12/40	12/50	12/60	12/70	23/70	12/100	100/70	
OMDN 0722	BO PET film Al coated from the inner side + coloured PE foil	**52**	**62**	**72**	**82**	**92**	**93**	**112**	**122**	Production of food packaging
		12/40	12/50	12/60	12/70	12/80	23/70	12/100	12/110	
OBDN 0722	BO PET film Al coated from the inner side + coloured PE foil	**82**							Production of food packaging
		12/70							
OCAN 3222	Coloured BO PET film + PE foil - with low shrinkage at high temperatures	**37**							Production of food and technical packaging
		12/25							

The individual layers are joined over the entire surface with a solvent-free adhesive.

OTHER LAMINATE OPTIONS:

PE and PP foil can be laminated with any BO PET film Tenolan® from our offer:

- transparent BO PET film
- coloured BO PET film
- transparent / coloured coated BO PET film (acrylate-based or polyestere copolymer-based chemical coating)
- metallized BO PET film.

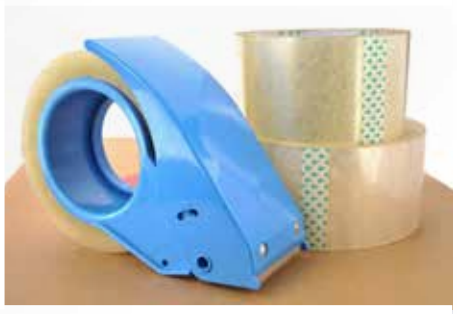




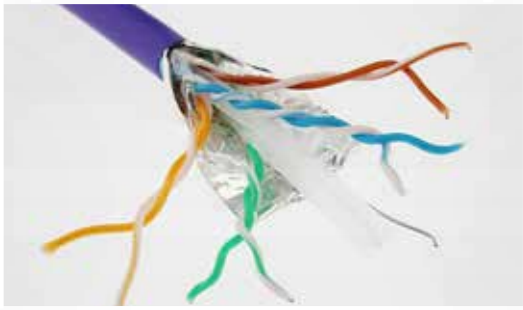









TENOLAN®

CHARACTERISTICS

Biaxially oriented polyethylene terephthalate films TENOLAN® are areal formations manufactured by extrusion technology with subsequent biaxial orientation.

Films can be transparent, coloured, with surface finish achieved by metallization, coating or coroning.

Films are designed for further processing in the packaging technology, electro-technical industry, for decoration purposes, as separation films, etc. They are supplied in rolls or cut to size.

Films are designed for direct contact with food and meals and they must comply with hygienic regulations in force.

DIMENSIONS

Manufactured films are thick from 6 µm to 150 µm. Standard thickness series are shown in material lists of particular types of films.

Film rolls are produced of widths from 20 mm to 2,900 mm.

Permitted film width tolerances are as follows: with widths up to 100 mm ± 0,5 mm; with widths 100-400 mm ± 1 mm; with widths exceeding 400 mm (+ 2 mm; -1 mm).

Other tolerances may be agreed on within a contract of purchase.

The length of film in the roll is affected by film thickness. The largest diameter of the roll is 800 mm. The permissible length tolerance in the roll is ± 1 %.

Greatest dimension of films trimmed to size is 1,140 mm.

Tolerances of trimmed films are ± 5 mm unless agreed otherwise.

PACKAGING

Films of required width and quantity are rolled on paper tubes or are trimmed to size.

Standard inner ø of a paper tube is 76.2 mm or 152.4 mm. With small rolls of film it is possible to use paper tubes of ø 40 mm.

The rolls may consist of several pieces joined together with a colour or transparent self-adhesive polyester tape. The number of joints may be agreed on within a contract of purchase.

Rolls whose widths exceed 300 mm are packed in protective PET films and as soon as plastic fronts are fixed, the rolls are loaded on pallets so that the total height of loaded rolls does not exceed 1.5 m. To prevent any spontaneous movement of rolls, they are fixed by a rope and the entire pallet is wrapped in a shrink foil.

Rolls whose widths are less than 300 mm (disks) are packed in PE bags or PET films and are kept in cardboards. Particular layers are interlined with trimmed cardboards. Cardboards are attached to a pallet with a rope lengthwise and crosswise.

Films trimmed to size or small rolls are packed in a protective foil and in a cardboard, or in a two-piece box of suitable dimensions.

Another method of packing can be agreed between the customer and the manufacturer in a contract of purchase so that the products are sufficiently protected against dust, dirt and damage.

STORAGE

Films are stored under conditions specified in Czech Standard ČSN 64 0090 unless specified otherwise in accompanying documents.

FOLAM®

CHARACTERISTICS

FOLAM® is a trademark used for multi-layer laminated materials manufactured by Fatra, a.s. The materials are mostly of film type, with the basic layer consisting of a BO PET film.

Individual types of FOLAM® materials are primarily used for packing operations. The barrier properties of the BO PET basic material and easy weldability of the auxiliary materials (PE, PP) provide a convenient combination for designing packaging products. The barrier properties may be enhanced by applying an aluminium coating while the product appearance may be improved by adding colour to the BO PET film. The product range also includes special types of FOLAM® laminates designed for technical applications.

DIMENSIONS:

Laminates are manufactured in thickness from 35 micron to 450 micron according to materials used for each layer. Standard thickness ranges are given on the material data sheets for individual types of the FOLAM® laminate.

Width of the laminate is from 15 mm to 1,200 mm.

Laminate length in the role is affected by the thickness of the product. Top roll diameter is 700 mm. Other dimensions may be agreed upon in the purchase contract.

PACKAGING:

Laminate in the desired width and quantity are wound of cores with a standard internal ø 76.2 mm and 152.4 mm.

Roles can be composed of several pieces connected of colored or transparent polyester adhesive tape. Number of joints in the role can be arranged under the purchase agreement. The role of widths greater than 600 mm, packaged in a protective PET film and stored on pallets in a pyramid according to the diameter. Rolls for 1-6 pieces (mostly the windings without trimming), or the use of plastic pallets in the store fronts so that the total height stacked rolls does not exceed 1.5 m. Against spontaneous displacements are secured roles on a palette secured by ledge with binding strips, a wooden stopper, and wrapping of full palette by stretch foil.

Rolls of smaller widths - up to 600 mm - are packed in PE bags or PET film and stored on a pallet. Individual layers are separated by cardboard sheets and secured by protective foil against displacement. Short-length rolls are covered in protective foil and placed into a cardboard box or a two-compartment box of suitable size.

The customer and the manufacturer may agree to different packaging for FOLAM® laminates to ensure that the product is sufficiently protected against dirt and damage.

TENOLAN® – LAP DIMENSIONS						
Thickness	Weight	Yield	Width	Max. lap ø	Lap lenght	Shell ø
µm	g/m²	m²/kg	mm	mm	m	mm
6	8.4	119	20 – 80	250	6 500	76.2
			80 – 2 900	700	48 000	76.2 / 152.4
7	9.8	102	20 – 80	250	6 500	76.2
			80 -2 900	700	48 000	76.2 / 152.4
8	11.2	89.3	20 – 80	250	5 000	76.2
			80 – 2 900	700	36 000	76.2 / 152.4
			800 – 2 500	800	48 000	152.4
9	12.6	79.3	20 – 80	250	5 000	76.2
			80 – 2 900	700	36 000	76.2 / 152.4
			800 – 2 500	800	48 000	152.4
10	14	71.4	20 – 80	250	3 000	76.2
			80 – 2 900	700	24 000	76.2 / 152.4
			800 – 2 500	800	36 000	152.4
12	16.8	59.5	20 – 80	250	3 000	76.2
			80 – 2 900	700	24 000	76.2 / 152.4
			800 – 2 500	800	36 000	152.4
15	21	47.6	20 – 80	350	5 000	76.2
			80 – 2 900	700	20 000	76.2 / 152.4
			800 – 2 500	800	28 000	152.4
19	26.6	37.6	20 – 80	350	4 000	76.2
			80 – 2 900	700	16 000	76.2 / 152.4
			800 – 2 500	800	22 000	152.4
23	32.2	31	20 – 80	350	3 500	76.2
			80 – 2 900	700	14 000	76.2 / 152.4
			800 – 2 500	800	18 000	152.4
30	42	23.8	20 – 80	350	2 500	76.2
			80 – 2 900	700	10 000	76.2 / 152.4
			800 – 2 500	800	14 000	152.4
36	50.4	19.8	20 – 80	350	2 250	76.2
			80 – 2 900	700	9 000	76.2 / 152.4
			800 – 2 500	800	12 000	152.4
50	70	14.3	20 – 80	350	1 600	76.2
			80 – 2 900	700	6 400	76.2 / 152.4
			800 – 2 500	800	8 000	152.4
70	98	10.2	20 – 80	350	1 100	76.2
			80 – 2 200	700	4 400	76.2 / 152.4
75	105	9.5	20 – 80	350	1 100	76.2
			80 – 2 200	700	4 400	76.2 / 152.4
100	140	7.1	20 – 80	350	800	76.2
			80 – 2 200	700	3 200	76.2 / 152.4
125	175	5.7	20 – 80	350	600	76.2
			80 – 2 200	700	2 400	76,2 / 152,4
150	210	4.8	20 – 80	350	500	76,2
			80 – 2 200	700	2 000	76.2 / 152.4

FOLAM® – LAP DIMENSIONS		
Feature	Unit	Value
Roll width	mm	15 – 1 200
Max. lap diameter	mm	700
Max. lap weight	kg	800
Inner shell diameter	mm	76.2 152.4

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