



Engineered Polyester Film





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Index

Company	2
Production	3
Research & Development	4
Sustainability	5
Biomedical division	6
Kemafoil® product range	9
• Hydrophilic coated PET film	
Kemafoil® HH	11
Kemafoil® HHNW	12
Kemafoil® H+	13
• Heat stabilised and treated PET film	
Kemafoil® HSPL 80	14
Kemafoil® HSPL 80 W	15
• Heat stabilised and primered PET film	
Kemafoil® MTSL	16
Kemafoil® MTSL W	17
Certifications	18

Company



Coveme is a global leader in the production and research of polyester film. The company was founded in Bologna, Italy in 1965. In the mid 1990's Coveme opened an own production plant in Gorizia and within few years the company has become one of the major players in the manufacturing of engineered polyester films for high-end uses. Today the turn-over related to converted film raises over 70% of the company's total with a clearly up-going tendency. Coveme's success keeps growing thanks to several important key factors:

- Know-how gained from over 50 years of experience
- Reliability of production lines equipped with the latest technology
- Long lasting and profitable collaboration with international partners
- Absolute transparency in all business relationships
- Highest quality on all levels guaranteed by UNI EN Iso 9001:2008 certification





Production plant



The company has its production facilities in Gorizia, Italy, staffed by specialized and dedicated personnel. Seven lines, active twenty-four hours a day, seven days a week, and a dedicated pilot line guarantee an effective response to the urgent requests of an ever expanding market. Our production lines are equipped with the latest lamination, coating and heat stabilization technology and quality is guaranteed by rigorous automated video controls. Thanks to its own slitting department Coveme can provide all materials in customized rolls, sheets and punched formats.

Research & Development

Our Research and Development laboratory has always been one of the most advanced and strong points of the company, where our technological and operative know how is at complete disposal of the clients' needs, with the aim to find for each of them the very best solution possible. Highly motivated teams of young technicians generate and sustain a technical/productive cross fertilization within the company while collaboration between clients and the production department and between the technical department and suppliers permits the exploitation of experience in order to realize innovative products. In the field of biomedical our clients are the world leading manufacturers of diagnostic devices and Coveme is renown for its understanding of business as a partnership with the client based on a common quest for constant innovation.





Sustainability

Coveme's commitment to renewable energy is completed by a concrete environmental and safety policy at our manufacturing sites and is of primary importance for the company currently under certification process for UNI EN ISO 14001 : 2004, the International Environmental Management System. Our production facilities are completely furnished with efficient systems for collecting and treating fumes from the various processing phases so that emissions are reduced to a minimum of only water vapour and CO₂. Areas where chemicals are stored are equipped with automatic blocking systems in case of leaks. The soil is protected by a special purification and containment system to avoid any contamination. Waste generated by the productive process is identified, differentiated and disposed of with the objective of recycling as much as possible. A process of electrical cogeneration allows the reemployment of the heat flow generated by the machinery.

Biomedical division

The need for medical diagnoses in emergency situations requiring real time and far from hospital facilities has made the so called “Near-Patient Diagnostics” extremely important in the medical analysis sector. These diagnostics help to increase savings in time and improve efficiency in the medical treatment process.

The use of electronic technology, combined with special polymeric substrates has made the realization of simple, fast miniaturized analysis kits possible. The main applications include blood glucose analysis (blood glucose strips or glucose monitoring), blood test monitoring and any microfluidic analysis device, including in vitro analysis carried out in specialized laboratories (diagnostic IVD).

Coveme supplies some of the most important multinational companies, operating in the biomedical diagnostics field, with polyester films. These films provide increased reaction elements that are suitable for chemical or electronic analysis. This product range includes substrates printable with conductive or enzymatic inks, gold-sputtered or hydrophilic films and other customized materials.

So, considering the extreme reliability required by these analytical devices, Coveme's films are certainly a warrant of reliability and consistency.

These characteristics are essential to gain and maintain the confidence of diagnostic equipment producers. With that said, our R&D laboratories constantly strive to develop new up-to-date solutions for future generations of more and more advanced accurate biosensors.







Engineered Polyester Film



Kemafoil®

PRODUCT RANGE

- **HYDROPHILIC COATED PET FILM**

Kemafoil® HH

Kemafoil® HHNW

Kemafoil® H+

- **HEAT STABILISED AND TREATED PET FILM**

Kemafoil® HSPL 80

Kemafoil® HSPL 80 W

- **HEAT STABILISED AND PRIMERED PET FILM**

Kemafoil® MTSL

Kemafoil® MTSLW

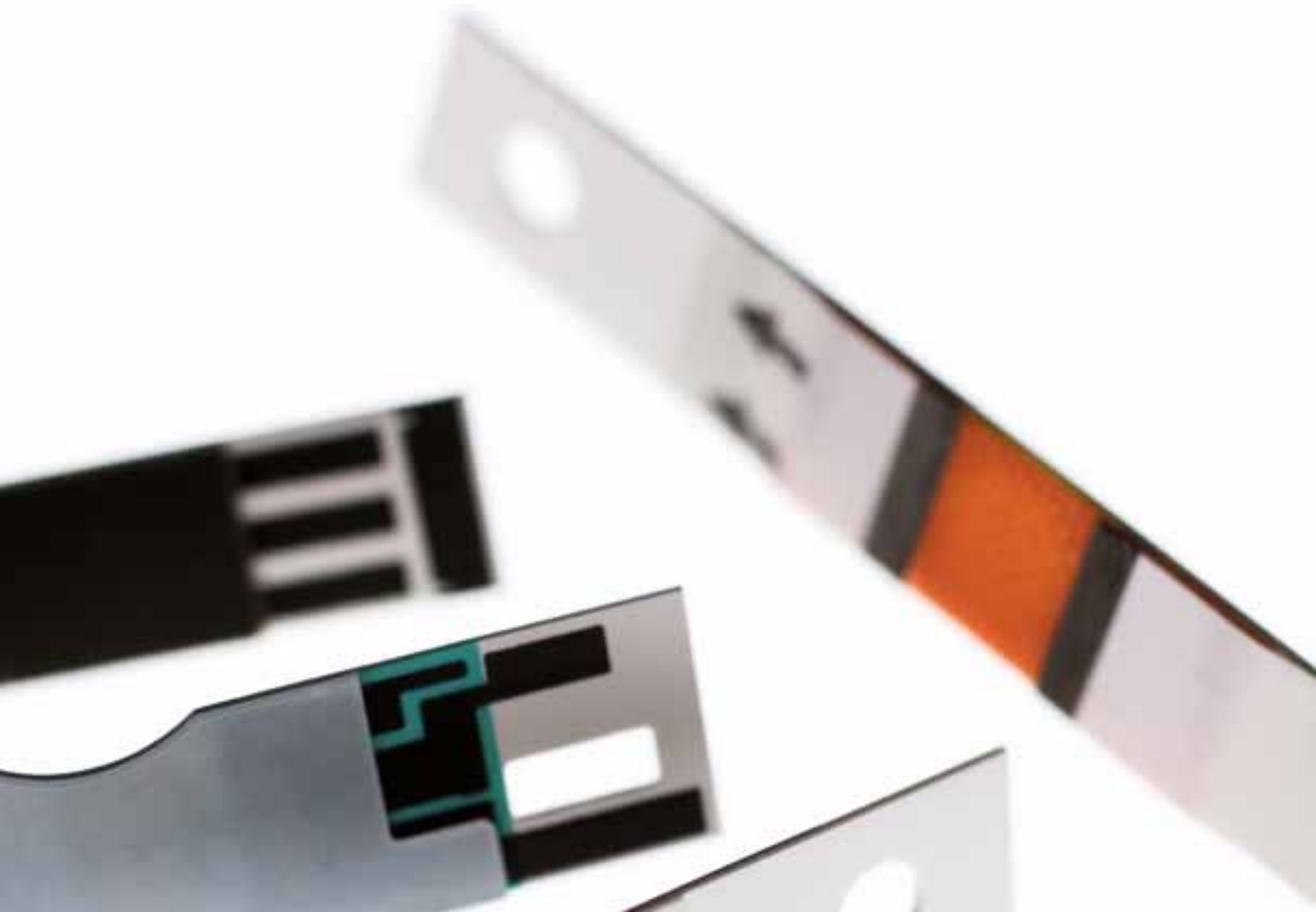


Hydrophilic coated PET film

Kemafoil® HH/HHNW/H+ are white or transparent polyester films used in the manufacturing of colorimetric and amperometric biosensor strips; Kemafoil® hydrophilic films improve the wicking of biological fluids along the capillary channel till the reaction point on the strip.

Kemafoil® hydrophilic films properties:

- Dimensional stability
- Superior adhesion with DA and heat sealable laminating tapes
- Non-leaching features of hydrophilic layers
- Availability in different thicknesses (23-350 mic) white or transparent versions



Kemafoil® HH

Kemafoil® HH is a white or clear polyester film, two sides coated with a hydrophilic coating for IVD diagnostic devices like Colorimetric, Amperometric and Potentiometric Biosensor strips

PROPERTIES	U.M.	50 mic	75 mic	100 mic	125 mic	175 mic	TEST METHOD
Thickness(*)	micron	50 +/- 5%	75 +/- 5%	100 +/- 5%	125 +/- 5%	175 +/- 5%	INTERNAL BY WEIGHT
Unit weight	g/sqm	70 +/- 5%	105 +/- 5%	140 +/- 5%	175 +/- 5%	245 +/- 5%	INTERNAL
Tensile strength (md)	kg/sqcm	1750 - 2500	1500 - 2500	1600 - 2500	1600 - 2500	1600 - 2500	ASTM D 882
Tensile strength (td)	kg/sqcm	1900 - 2800	1800 - 2800	1700 - 2800	1700 - 2800	1700 - 2800	ASTM D 882
Elongation at break (md)	%	100 - 200	100 - 200	100 - 200	100 - 200	100 - 200	ASTM D 882
Elongation at break (td)	%	100 - 200	100 - 200	100 - 200	100 - 200	100 - 200	ASTM D 882
Heat shrinkage (md) (150°C x 30 minutes)	%	typical 1,2	typical 1,2	typical 1,2	typical 1,2	typical 1,2	ASTM D 1204
Heat shrinkage (td) (150°C x 30 minutes)	%	typical 0,5	typical 0,5	typical 0,5	typical 0,5	typical 0,5	ASTM D 1204
Haze(**)	%	< 3,5	< 3,5	< 3,5	< 3,5	< 3,5	ASTM D 1003
Water contact angle	grade	typical 15/18°	typical 15/18°	typical 15/18°	typical 15/18°	typical 15/18°	INTERNAL INSTRUMENT PG-X

Notes

(*) Other thicknesses available on request

(**) Haze value refers to clear base film

One side coated available

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Kemafoil® is a Coveme registered trade mark

Standard supply specifications:

- Master roll
- Customized reels
- Inner core: 3" or 6"
- Cut sheets on request. Sizes and drills according to customer's drawings

Kemafoil® HHNW

Kemafoil® HHNW is a white or clear polyester film, two sides coated with a hydrophilic coating with no wobbling properties for IVD diagnostic devices like Colorimetric, Amperometric and Potentiometric Biosensor strips

PROPERTIES	U.M.	50 mic	75 mic	100 mic	125 mic	175 mic	TEST METHOD
Thickness	micron	50 +/- 5%	75 +/- 5%	100 +/- 5%	125 +/- 5%	175 +/- 5%	INTERNAL
Unit weight	g/sqm	70 +/- 5%	105 +/- 5%	140 +/- 5%	175 +/- 5%	245 +/- 5%	INTERNAL
Tensile strength (md)	kg/sqcm	1750 - 2500	1500 - 2500	1600 - 2500	1600 - 2500	1600 - 2500	ASTM D 882
Tensile strength (td)	kg/sqcm	1900 - 2800	1800 - 2800	1700 - 2800	1700 - 2800	1700 - 2800	ASTM D 882
Elongation at break (md)	%	100 - 200	100 - 200	100 - 200	100 - 200	100 - 200	ASTM D 882
Elongation at break (td)	%	100 - 200	100 - 200	100 - 200	100 - 200	100 - 200	ASTM D 882
Heat shrinkage (md) (150°C x 30 minutes)	%	typical 1,2	typical 1,2	typical 1,2	typical 1,2	typical 1,2	ASTM D 1204
Heat shrinkage (td) (150°C x 30 minutes)	%	typical 0,5	typical 0,5	typical 0,5	typical 0,5	typical 0,5	ASTM D 1204
Haze(**)	%	< 3,5	< 3,5	< 3,5	< 3,5	< 3,5	ASTM D 1003
Water contact angle	grade	typical 10/15°	typical 10/15°	typical 10/15°	typical 10/15°	typical 10/15°	INTERNAL INSTRUMENT PG-X

Notes

(*) Haze value refers to clear base film
One side coated available

Standard supply specifications:

- Master roll
- Customized reels
- Inner core: 3" or 6"
- Cut sheets on request. Sizes and drills according to customer's drawings

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Kemafoil® H+

Kemafoil® H+ is a white or hazy polyester film, one side coated with a hydrophilic coating with the lowest contact angle for IVD diagnostic devices like Colorimetric, Amperometric and Potentiometric Biosensor strips

PROPERTIES	U.M.	50 mic	75 mic	100 mic	125 mic	175 mic	TEST METHOD
Thickness	micron	50 +/- 5%	75 +/- 5%	100 +/- 5%	125 +/- 5%	175 +/- 5%	INTERNAL
Unit weight	g/sqm	70 +/- 5%	105 +/- 5%	140 +/- 5%	175 +/- 5%	245 +/- 5%	INTERNAL
Tensile strength (md)	kg/sqcm	1750 - 2500	1500 - 2500	1600 - 2500	1600 - 2500	1600 - 2500	ASTM D 882
Tensile strength (td)	kg/sqcm	1900 - 2800	1800 - 2800	1700 - 2800	1700 - 2800	1700 - 2800	ASTM D 882
Elongation at break (md)	%	100 - 200	100 - 200	100 - 200	100 - 200	100 - 200	ASTM D 882
Elongation at break (td)	%	100 - 200	100 - 200	100 - 200	100 - 200	100 - 200	ASTM D 882
Heat shrinkage (md) (150°C x 30 minutes)	%	typical 1,2	typical 1,2	typical 1,2	typical 1,2	typical 1,2	ASTM D 1204
Heat shrinkage (td) (150°C x 30 minutes)	%	typical 1	typical 1	typical 1	typical 1	typical 1	ASTM D 1204
Haze	%	< 3,5	< 3,5	< 3,5	< 3,5	< 3,5	ASTM D 1003
Water contact angle	grade	typical 8/15°	typical 8/15°	typical 8/15°	typical 8/15°	typical 8/15°	INTERNAL INSTRUMENT PG-X

Notes

(*) Other thicknesses available on request

(**) Haze value refers to clear base film

Two sides coated available

Standard supply specifications:

- Master roll
- Customized reels
- Inner core: 3" or 6"
- Cut sheets on request. Sizes and drills according to customer's drawings

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Kemafoil® is a Coveme registered trade mark

Heat stabilised and treated polyester film

Kemafoil® HSPL is a slightly hazy or white polyester film, with premium surface treatment and heat stabilization, suitable to be printed with conductive inks. Main end uses are the manufacturing of substrates for ECG/EKG electrodes and other printed flexible circuits for medical devices. Kemafoil® HSPL is available in different variants (types 00, 20, 80, 100) with increasing haze values.

Kemafoil® HSPL properties:

- Excellent conductive inks adhesion, maintaining electrical input transport during patient movements
- High bond with cushion substrates and premium dimensional stability
- Tear resistance
- Availability in different thicknesses (36-175 mic)
- Suitable for roll-to-roll and sheet-to-sheet production systems

Kemafoil® HSPL 80

Kemafoil® HSPL 80W, a haze polyester film, both sides surface treated and heat stabilised for ECG/EKG electrodes and medical flexible microcircuits

PROPERTIES	UNIT	METHOD	VALUE 23 µ	VALUE 36 µ	VALUE 50 µ	VALUE 75 µ	VALUE 100 µ	VALUE 125 µ	VALUE 175 µ
Thickness variation	mic.	INTERNAL	21.8 - 24.2	34.0 - 38.0	47.5 - 52.9	72.0 - 78.0	95.0 - 105.0	119.0 - 131.0	166 - 184
Density	gm/cm3	ASTM D 1505	1.395 - 1.405	1.395 - 1.405	1.395 - 1.405	1.395 - 1.405	1.395 - 1.405	1.395 - 1.405	1.395 - 1.405
Yield	sqm/kg	INTERNAL	31,06	19,84	14,28	9,52	7,14	5,71	4,08
Tensile strength (md)	Kg/cm2	ASTM D 882	1800 - 3100	1800 - 3200	1750 - 2500	1500 - 2500	1600 - 2500	1600 - 2500	1700 - 3000
Tensile strength (td)	Kg/cm2	ASTM D 882	1800 - 2800	1800 - 2800	1900 - 2800	1800 - 2800	1700 - 2800	1700 - 2800	1700 - 3000
Elongation at break (md)	%	ASTM D 882	90 - 180	90 - 180	90 - 180	90 - 180	90 - 180	90 - 180	90 - 180
Elongation at break (td)	%	ASTM D 882	90 - 180	90 - 180	90 - 180	90 - 180	90 - 180	90 - 180	90 - 180
Wetting tension	Dynes/cm	ASTM D 2578	>54	>54	>54	>54	>54	>54	>54
Heat Shrinkage (md) (150°C x 30 minutes)	%	ASTM D 1204	< 0,3	< 0,3	< 0,3	< 0,3	< 0,2	< 0,2	< 0,2
Heat Shrinkage (td) (150°C x 30 minutes)	%	ASTM D 1204	< 0,2	< 0,2	< 0,2	< 0,2	< 0,2	< 0,2	< 0,2
Opacity (*)	%	PHOTOVOLT	avg 7	avg 7	avg 7	avg 7	avg 7	avg 7	avg 7

(*) OPACITY VALUE REFERS TO CLEAR BASE FILM

Notes

One side treated available

Standard supply specifications:

- Master roll
- Customized reels
- Inner core: 3" or 6"
- Cut sheets on request. Sizes and drills according to customer's drawings

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Kemafoil® is a Coveme registered trade mark



Kemafoil[®] HSPL 80W

Kemafoil[®] HSPL 80W, a white polyester film, both sides surface treated and heat stabilised for ECG/EKG electrodes and medical flexible microcircuits

PROPERTIES	UNIT	METHOD	VALUE 50 µ	VALUE 75 µ	VALUE 100 µ	VALUE 125 µ	VALUE 175 µ
Thickness variation	mic.	INTERNAL	47.5 - 52.9	72.0 - 78.0	95.0 - 105.0	119.0 - 131.0	166.0 - 184.0
Density	g/cm ³	ASTM D 1505	1.41	1.41	1.41	1.41	1.41
Yield	sqm/kg	INTERNAL	14,08	9,39	7,14	5,71	4,08
Tensile strength (md)	Kg/cm ²	ASTM D 882	> 1250	> 1250	> 1250	> 1250	> 1250
Tensile strength (td)	Kg/cm ²	ASTM D 882	> 1550	> 1550	> 1550	> 1550	> 1550
Elongation at break (md)	%	ASTM D 882	> 50	> 50	> 50	> 50	> 50
Elongation at break (td)	%	ASTM D 882	> 50	> 50	> 50	> 50	> 50
Wetting tension	Dynes/cm	ASTM D 2578	>58	>58	>58	>58	>58
Heat Shrinkage (md) (150°C x 30 minutes)	%	ASTM D 1204	< 0,3	< 0,3	< 0,2	< 0,2	< 0,2
Heat Shrinkage (td) (150°C x 30 minutes)	%	ASTM D 1204	< 0,2	< 0,2	< 0,2	< 0,2	< 0,2
Whiteness		ASTM E 313	> 90	> 90	> 90	> 90	> 90
Total light transmission	%	ASTM D 1003	< 23	< 18	< 10	< 8	< 5

Notes

One side treated available

Standard supply specifications:

- Master roll
- Customized reels
- Inner core: 3" or 6"
- Cut sheets on request. Sizes and drills according to customer's drawings

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Kemafoil[®] is a Coveme registered trade mark

Heat stabilised and primered PET film

Kemafoil® MTSL is a white or transparent polyester film suitable to be printed with conductive inks, as base substrate, for the manufacturing of amperometric biosensors strips. Kemafoil® MTSL is surface coated with print receptive primers and heat stabilized to maintain good layflat properties during the curing of the conductive inks.

Kemafoil® MTSL properties:

- Excellent conductive inks adhesion
- Suitable for roll-to-roll and sheet-to-sheet production systems.
- Optimal adhesion with most common DA mounting tapes
- Availability in different thicknesses (50-350 mic)

Kemafoil® MTSL

Kemafoil® MTSL is a clear, heat stabilised polyester film with a print receptive coating on both sides for amperometric biosensor strips, IVD substrates and other.

PROPERTIES	UNIT	METHOD	VALUE 100 µ	VALUE 125 µ	VALUE 175 µ
Thickness variation	mic.	INTERNAL	95.0 - 105.0	119.0 - 131.0	166.0 - 184.0
Density	gm/cm3	ASTM D 1505	1.395 - 1.405	1.395 - 1.405	1.395 - 1.405
Yield	sqm/kg	INTERNAL	7,14	5,71	4,08
Tensile strength (md)	Kg/cm2	ASTM D 882	1800 - 2500	1800 - 2500	1800 - 2500
Tensile strength (td)	Kg/cm2	ASTM D 882	2000 - 2700	2000 - 2700	2000 - 2700
Elongation at break (md)	%	ASTM D 882	100 - 200	100 - 200	100 - 200
Elongation at break (td)	%	ASTM D 882	100 - 200	100 - 200	100 - 200
Heat Shrinkage (md) (150°C x 30 minutes)	%	ASTM D 1204	0,20	0,15	0,15
Heat Shrinkage (td) (150°C x 30 minutes)	%	ASTM D 1204	0,10	0,10	0,10
Haze	%	ASTM D 1003	1,0	1,5	1,5
Breakdown voltage	Kv	ASTM D 149	13	15	16
Dielectric costant		ASTM D 150	2,9	2,9	2,9

Standard supply specifications:

- Master roll
- Customized reels
- Inner core: 3" or 6"
- Cut sheets on request. Sizes and drills according to customer's drawings

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Kemafoil® MTSL w

Kemafoil® MTSL is a white, heat stabilised polyester film with a print receptive coating on both sides for amperometric biosensor strips, IVD substrates and other.

PROPERTIES	UNIT	METHOD	VALUE	VALUE 75 µ	VALUE 100 µ	VALUE 125 µ	VALUE 175 µ	VALUE 250 µ	VALUE 350 µ
Thickness variation	microns	INTERNAL	47.5 - 52.9	72.0 - 78.0	95.0 - 105.0	119.0 - 131.0	166.0 - 184.0	237.0 - 262.0	343.0 - 367.0
Density	g/cm ³	ASTM D 1505	1,41	1,41	1,41	1,41	1,41	1,41	1,41
Yield	sqm/kg	INTERNAL	14,08	9,39	7,14	5,71	4,08	2,82	1,98
Tensile strength (md)	Kg/cm ²	ASTM D 882	> 1250	> 1250	> 1250	> 1250	> 1250	> 1250	> 1250
Tensile strength (td)	Kg/cm ²	ASTM D 882	> 1550	> 1550	> 1550	> 1550	> 1550	> 1550	> 1550
Elongation at break (md)	%	ASTM D 882	> 50	> 50	> 50	> 50	> 50	> 50	> 50
Elongation at break (td)	%	ASTM D 882	> 50	> 50	> 50	> 50	> 50	> 50	> 50
Heat Shrinkage (md) (150°C x 30 minutes)	%	ASTM D 1204	< 0,3	< 0,3	< 0,3	< 0,3	< 0,2	< 0,2	< 0,2
Heat Shrinkage (td) (150°C x 30 minutes)	%	ASTM D 1204	< 0,2	< 0,2	< 0,2	< 0,2	< 0,2	< 0,2	< 0,2
Whiteness		ASTM E 313	> 90	> 90	> 90	> 90	> 90	> 90	> 90
Total light transmission	%	ASTM D 1003	< 23	< 18	< 10	< 8	< 5	< 4	< 2

Standard supply specifications:

- Master roll
- Customized reels
- Inner core: 3" or 6"
- Cut sheets on request. Sizes and drills according to customer's drawings

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Coveme spa is UNI EN ISO 9001-2008 certified



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