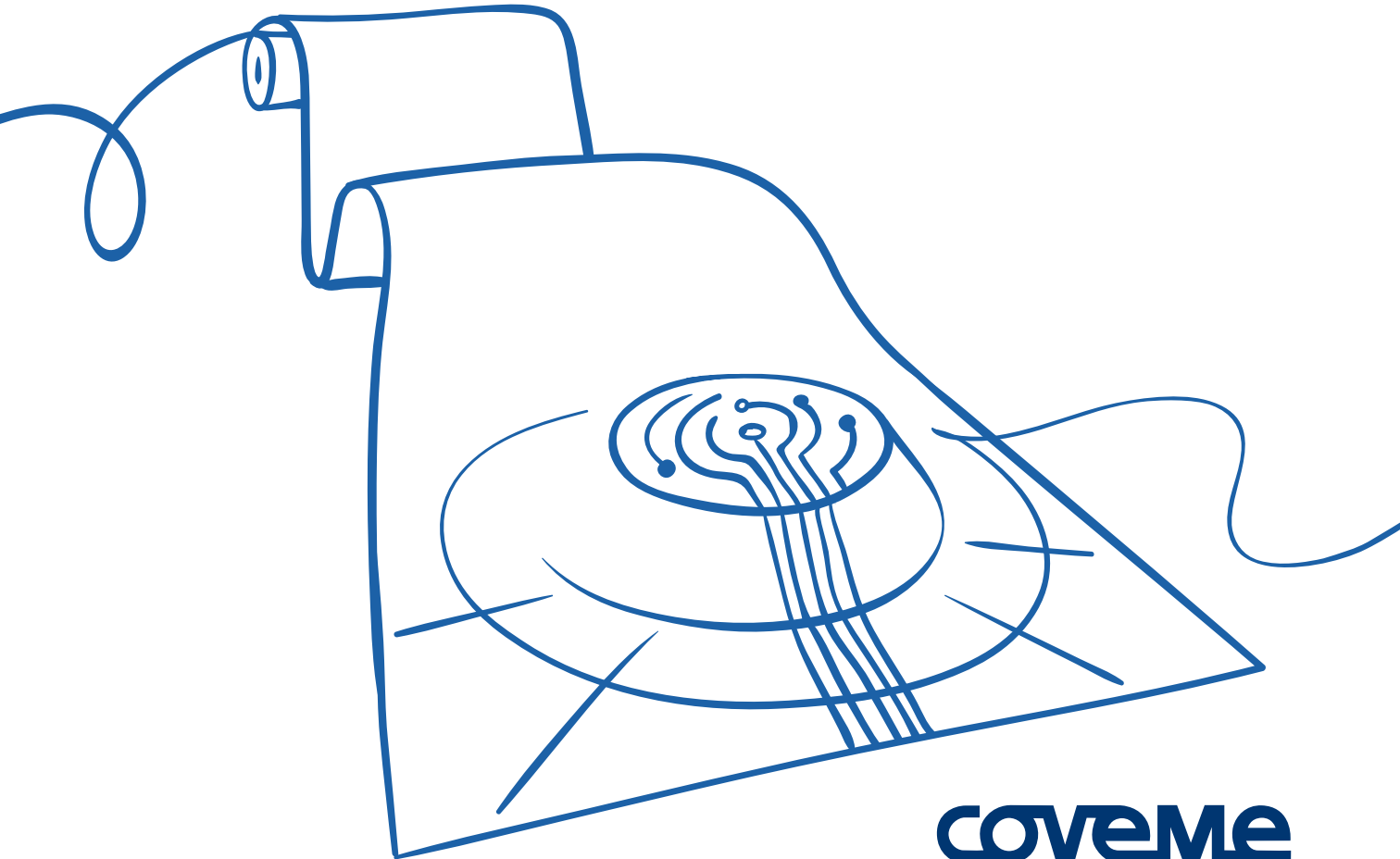


COVEME **FLEXIBLE CIRCUITRY**

*Polyester substrates and laminates for Printed,
Etched and In Mould Electronics*



COVEME

THE VALUE OF INNOVATION

COVEME - GLOBAL LEADER IN HIGH QUALITY TRANSFER FILMS

Coveme has over **fifty years of experience and know-how** in converting polyester film for various industries such as **Automotive, Consumer Electronics, Biotechnologies, White Goods and Renewable Energies**.

The privately owned company with **headquarter in Bologna, Italy**, has **two production sites in Italy and China**, and three research and development **laboratories in Italy, China and Germany**.

Our customers work with advanced production processes in **print, coating and lamination** where **Coveme materials** are designed to **perform under high mechanical stress and guarantee specific chemical and physical properties**.

This is why **Product and Process Innovation** are at the heart of Coveme's activities and **fundamentals for the development of new products for highly technological industries** of rapid growth and continuous evolution. In this context, the **strong partnerships with our clients and suppliers** are of utmost importance and vital for a successful common growth.

- ✓ **OVER 50 YEARS OF KNOW-HOW** in converting polyester film
- ✓ **LEADING EDGE** coating, chemical treatment and lamination technology
- ✓ **HIGH TECH PRODUCTION AND R&D** in Europe and Asia
- ✓ **CERTIFIED QUALITY, SAFETY AND ENVIRONMENTAL** standards
- ✓ **SUPPLIER OF LEADING PRINTED ELECTRONICS** manufacturers worldwide

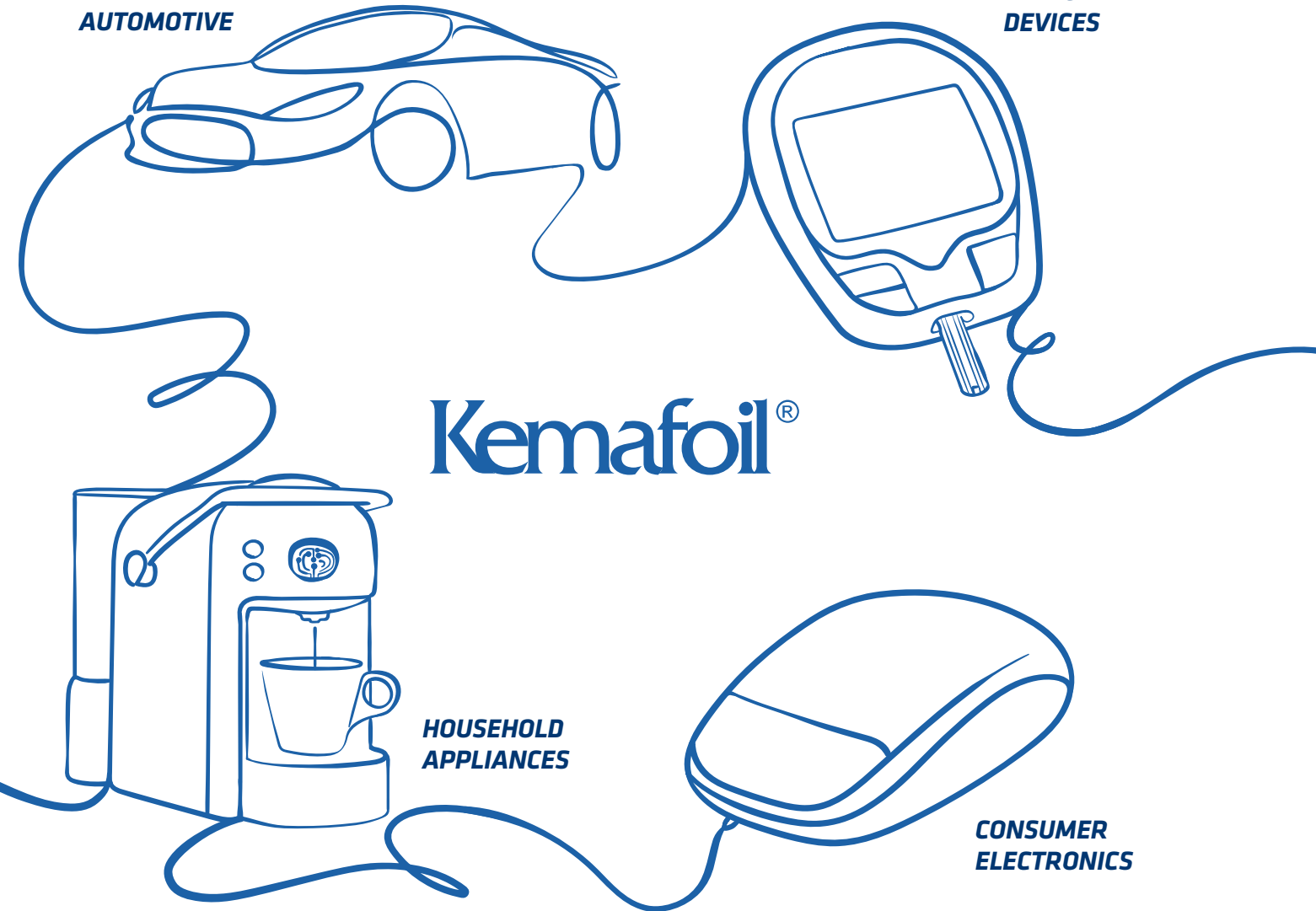
AUTOMOTIVE

**MEDICAL
DEVICES**

Kemafoil®

**HOUSEHOLD
APPLIANCES**

**CONSUMER
ELECTRONICS**



COVEME FLEXIBLE CIRCUITRY

"Roll to Roll" and "Sheet to Sheet" printing systems in the field of flexible circuitry require a support that guarantees planarity and dimensional stability as well as high adhesion with conductive inks with the highest conductivity. Coveme meets these requirements with a range of treated and heat stabilized polyester films, ideal for high speed printing.

Coveme technology has tuned a treatment for the surface of films which improves the adhesion of conductive inks and guarantees the proper performance in conditions of mechanical stress and harsh environments. Coveme's films for flexible circuitry are validated by the major multinational companies in the fields of electronics for automotive, avionics, home appliances etc. Amongst other applications of Coveme materials in the automotive industries are the manufacturing of passenger detection devices and flat cables for steering wheel commands. In the field of electrical appliances flexible circuitry printed on Coveme material is employed for membrane switches, whereas in the aviation industry flat cables are employed as filmic sensors. Another application, in the field of flexible circuitry, is represented by RFID antennas, where the control of products through the use of intelligent labeling is gradually replacing the barcode system: RFID labels allow a streamlined and digital management of the logistics of products.

Coveme has recently introduced a new range of thermoforming bioriented polyester films specifically designed for the manufacturing of In Mould Electronics parts for automotive, medical devices, household appliances and consumer electronics. Coveme is also IATF (International Automotive Task Force) certified for suppliers to the automotive industry, which certifies full compliance with global quality standards.

MAIN APPLICATIONS

- **TFC, THIN FLEXIBLE CIRCUITRY**
- **RFID, RADIO FREQUENCY IDENTIFICATION**
- **FPCB, FLEXIBLE PRINTED CIRCUITS**
- **FFC, FLAT FLEXIBLE CABLE**
- **MTS, MEMBRANE TOUCH SWITCH**
- **ELECTRO-LUMINESCENT SURFACES**
- **NFC, NEAR FIELD COMMUNICATION**
- **IME, IN MOULD ELECTRONICS**

PRINTED AND ETCHED CIRCUITRY

HSPL

TREATED AND HEAT STABILIZED FILM

Kemafoil® HSPL is a range of treated and heat stabilized polyester films with high surface tension and a very low residual shrinkage. They guarantee excellent dimensional stability and outstanding adhesion with conductive inks (carbon, silver, dielectric, etc), adhesives and lacquers. HSPL products are available also on VTMO flame retardant base.

PRODUCT RANGE	CHARACTERISTICS	TREATMENT	PET COLOUR	THICKNESS
HSPL	Heat stabilized	One or Both sides	Transparent, Hazy, White	50-350 µm
HSPL HT	Premium heat stabilized	One or Both sides	Transparent, Hazy, White	75-350 µm

MTSL

PRIMERED AND HEAT STABILIZED FILM

Kemafoil® MTSL is a range of polyester films primered to enhance the adhesion with conductive inks (carbone, silver, dielectric, etc). The choice of primer type depends on printing processes. Kemafoil® MTSL films are heat stabilized and guarantee excellent lay flat properties during printing processes.

PRODUCT RANGE	CHARACTERISTICS	TREATMENT	PET COLOUR	THICKNESS
MTSL	Acrylic primer and heat stabilized	Both sides	Transparent, Hazy, White	50-175 µm
MTSL DY	Co-polyester primer and heat stabilized	One or Both sides	Transparent, Hazy, White	50-350 µm

TSL

HEAT STABILIZED FILM

Kemafoil® TSL is a range of polyester films with a very low residual shrinkage thanks to the heat stabilization process done by Coveme. This makes the films the ideal support for printing processes with high temperature curing.

PRODUCT RANGE	CHARACTERISTICS	PET COLOUR	THICKNESS
TSL	Heat stabilized	Transparent, Hazy, White	50-350 µm

KAL

PET/ALUMINIUM LAMINATE WITH LOW SHRINKAGE

Kemafoil® KAL 50/9 is a clear polyester film and aluminium laminate with high dimensional stability for electronic etched circuitry. PET/Al laminates are a flexible solution for multiple applications; whether addressed to conductive or insulation products, these laminates are developed to meet the primary CTQ factors in the market, such as appropriate adhesion between layers, no stickiness and no yellowing after etching. The low residual shrinkage feature allows dimensional stability during the various steps of the process, thus granting consistency of the product characteristics and performances.

PRODUCT RANGE	CHARACTERISTICS	TREATMENT	COLOUR	THICKNESS
KAL 50/9	PET/Aluminium laminate	Heat stabilized	Transparent or White	PET 50µ / Al 9µ

IN MOULD ELECTRONICS

KTF H/HH

TREATED AND THERMOFORMING FILM

Kemafoil® KTF H/HH are polyester based films with deep forming thermal properties and high chemical resistance. Coveme's TCA treatment increases the surface wettability enhancing the film's receptivity for all types of inks in screen printed circuitry printable with conductive and non conductive inks. The both sides treated version can be customized with client's lacquers and coatings.

PRODUCT RANGE	CHARACTERISTICS	TREATMENT	COLOUR	THICKNESS
KTF H	Thermoforming, Printable, High scratch resistance	TCA One side	Transparent or White	50-350 µm
KTF HH	Thermoforming, Printable, High scratch resistance	TCA Both sides	Translucent or White	75-350 µm

KTF HC / HCH

HARD COATED AND THERMOFORMING FILM

Kemafoil® KTF H/HH are hard coated polyester based films with deep forming thermal properties. The Dual Cure UV hard coat guarantees a high scratch resistance, the films are highly chemically resistance and printable with conductive and non conductive inks. Specific versions with extra high surface wettability thanks to TCA treatment. Suitable for customized finishing and textures through client's lacquers and coatings or over screen printing.

PRODUCT RANGE	CHARACTERISTICS	TREATMENT	COLOUR	THICKNESS
KTF HC	Thermoforming, Printable, High Scratch and Chemical Resistance	One side UV, other side pretreatment	Transparent or White	50-350 µm
KTF HCH	Thermoforming, Printable, High Scratch and Chemical Resistance	One side UV, other side TCA	Translucent or White	75-350 µm

Coveme has received the Silver Medal Ecovadis certification as the result of a corporate sustainability performance evaluation.



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