

830 EMPLOYEES

PACKAGING COMPETENCE SINCE

1950

3 TECHNOLOGIES

PACKAGING SOLUTIONS TO WHET THE APPETITE

PRODUCT BROCHURE

etimex

PRIMARY PACKAGING
EVERYDAY & EVERYWHERE

Best before 07.2023

PACK THE FUTURE
WITH PP MONO



etimex

PRIMARY PACKAGING
EVERYDAY & EVERYWHERE

Best before 07.2023

PACK THE FUTURE
WITH PP MONO



etimex

PRIMARY PACKAGING
EVERYDAY & EVERYWHERE

Best before 07.2023

PACK THE FUTURE
WITH PP MONO



etimex

Best before 07

PRIM

CONTENTS

ABOUT US	4
DEVELOPMENT, INNOVATION, SUSTAINABILITY	8
PRODUCTS, TECHNOLOGY	12
RANGE OF SERVICES	13
RANGE OF PRODUCTS	14
QUALITY, HYGIENE	16
EMPLOYEES	17
CAREERS & TRAINING	18
 PRODUCT INFORMATION	 19
 PHARMACEUTICAL FILMS & SHEETS	 20
PURELAY® LID/PURELAY® PHARM	20
 FLEXIBLE FILMS	 24
VISTALUX® LAMINATED FILMS CPP	24
VISTALID® PEELABLE FILMS CPP/VISTAPEEL® PEELABLE FILMS CPP	26
 THERMOFORMING SHEETS	 28
ETIMEX PP BARRIER THERMOFORMING SHEET	28
ETIMEX PP THERMOFORMING SHEET	29
VISTAFORM® PP FILMS WITH HIGH TRANSPARENCY	30
ETIMEX CPET AND APET THERMOFORMING SHEET	31
 INJECTION MOULDED POTS	 32
COMEDA®/CONVINA® POTS AND TRAYS	32
 READY MEAL TRAYS	 34
VITESSA® CPET & APET	36
CONVINA® PP BARRIER/COMEDA® PP	48
 SEALABLE FILMS	 56
LAMISEAL® PP	56
LAMISEAL® PET	57
 QUALITY MANAGEMENT	 58





ETIMEX HOLDING

ETIMEX PRIMARY PACKAGING GmbH develops and produces films and containers from different plastics for packaging solutions in the food and pharmaceutical industries as well as films for technical applications.

ETIMEX TECHNICAL COMPONENTS GmbH is a supplier of customer-specific blow and injection moulded parts and components. We have been supplying the leading automotive and appliance OEMs (white goods) with technically sophisticated, seamlessly 3-D blow moulded parts, plastic components and rubber parts for more than 30 years.

FACTS & FIGURES

- > Founded in 1950
- > 6 plants
- > 830 employees
- > € 160 million turnover/year
- > 5 technologies at the ETIMEX GROUP
- > Global sales network

The 6 ETIMEX plants in Europe and the USA

- > Rottenacker, Germany: Appliances
- > Dietenheim, Germany: Packaging
- > Waltershausen, Germany: Automotive
- > Bad Salzdetfurth, Germany: Automotive
- > Hranice, Czech Republic: Automotive
- > Charlotte, NC, USA: Appliances/Automotive



WELCOME TO THE ETIMEX WORLD – PRIMARY PACKAGING AT THE HIGHEST LEVEL



DEVELOPING IDEAS. IMPLEMENTING SOLUTIONS.

ETIMEX creates high-quality packaging solutions for food, pet food, baby food and convenience, pharmaceutical and technical products. Our highly motivated and experienced team offers our customers the highest degree of flexibility and efficiency.

Our technology combines

- > Extrusion
- > Thermoforming
- > Injection moulding
- > IML (In-mould labelling)

We guide our customers from the initial idea through

- > Design development
- > Prototype manufacturing (3-D)
- > Pilot tools & tool design
- > Sample part production
- > Start of production

ACHIEVING CUSTOMER SATISFACTION.

We contribute to the success of your products with individual and attractive packaging solutions.

Visit us online at www.etimex-pp.com or LinkedIn and be inspired by our film and product finder.



Follow us.

YOUR PARTNER FOR ALL YOUR PACKAGING REQUIREMENTS AND SPECIAL SOLUTIONS



FLEXIBLE
FILMS

INJECTION
MOULDED
POTS

READY MEAL
TRAYS

DIETENHEIM PLANT

Dietenheim is located at the south of Ulm, directly at the A7/A8 intersection, the most important north-south/west-east intersection of the German transit routes. We are in the heart of central Europe and therefore flexible and able to deliver at short notice throughout Europe wherever our customer needs the goods.

The airports at Munich and Stuttgart can be reached within 90 minutes.

FACTS & FIGURES

- > 3 technologies
- > 260 employees
- > 85,000 m² area
- > International sales network
- > More than 500 customers worldwide
- > 65 years of competence
- > Owner-managed company
- > Made in Baden-Württemberg

PACKAGING COMPETENCE SINCE 1950

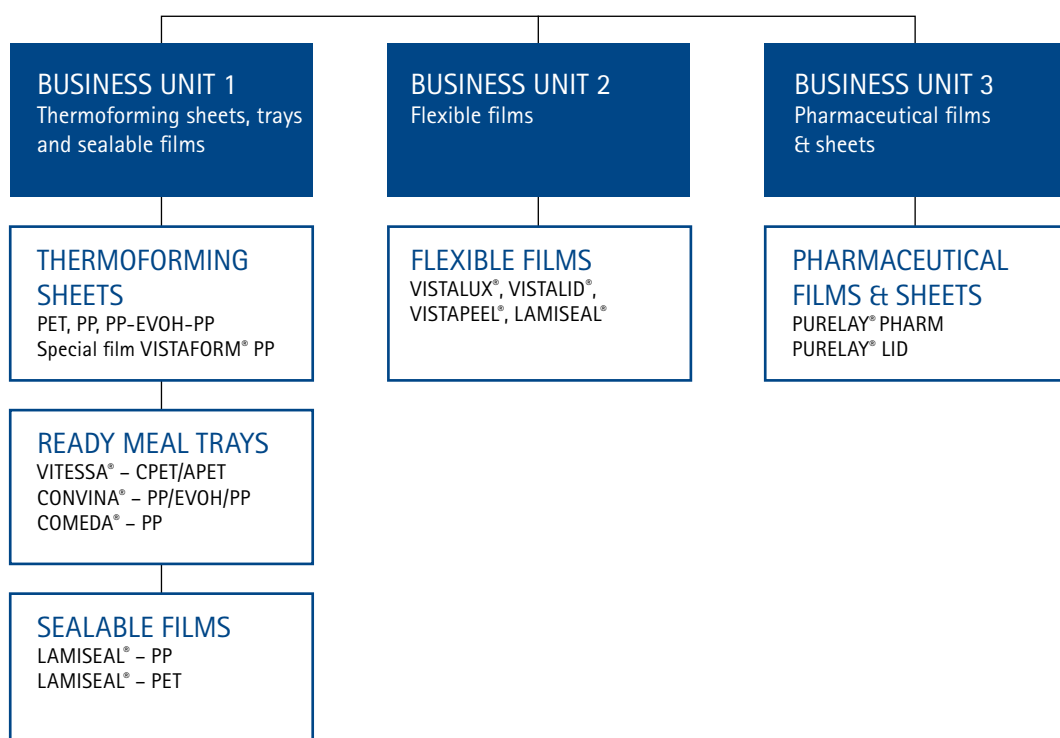


**THERMO-
FORMING
SHEETS**

**PHARMA-
CEUTICAL
FILMS**

BUSINESS UNITS

Our employees at the individual business units are experts in their fields and will provide comprehensive and competent advice, always with our customers objectives in mind.



IR-DETECTABLE
LAMISEAL® PP & PET SEALABLE FILMS
COMPOSTABLE TRAYS & POTS

INNOVATION

MONO MATERIAL SOLUTIONS – 100% RECYCLABLE
CPET TRANSLUCENT
PP HIGHLY TRANSPARENT
CIRCULAR PET

STATUS: 09.2019



INNOVATION AT THE CUTTING EDGE!

Our team of experienced technicians and design engineers will realize your ideas and in-house developments. From the selection of the ideal raw materials to the finished CAD-files we work continuously on the further development of our packaging solutions.

Defined and structured procedures, from brainstorming, creation of concepts until the development of the ideas, has made ETIMEX PRIMARY PACKAGING to one of the leading and most innovative companies in the packaging industry.

SUBJECTS THAT ARE IMPORTANT FOR US

- > Enhanced shelf life of the food products
- > Individual solutions considering profitability
- > Visual and tactile properties to create or emphasise brand identity
- > Convenience
- > Sustainable packaging solutions
- > Future-oriented primary packaging
- > Recyclable packaging solutions

INNOVATION IS OUR FUTURE!



ENVIRONMENT AND SUSTAINABILITY

Protecting the environment and sustainable energy policy are at the top of our list of priorities. Our aim is to improve energy performance whilst keeping our environmental impact as low as possible. This arises from our responsibility we have as a commitment to our workforce, our customers, the society and the environment.

At ETIMEX, efficiency and sustainability are not opposites, but mutually dependent. ETIMEX is ISO 14001 certified and operates a DIN EN ISO 50001 energy management system. This is our basis for constant improvement of our energy efficiency and systematic enhancement of energy flows.

ETIMEX uses a continuous management process to identify and evaluate potential savings and has taken measures to constantly optimise our energy performance.

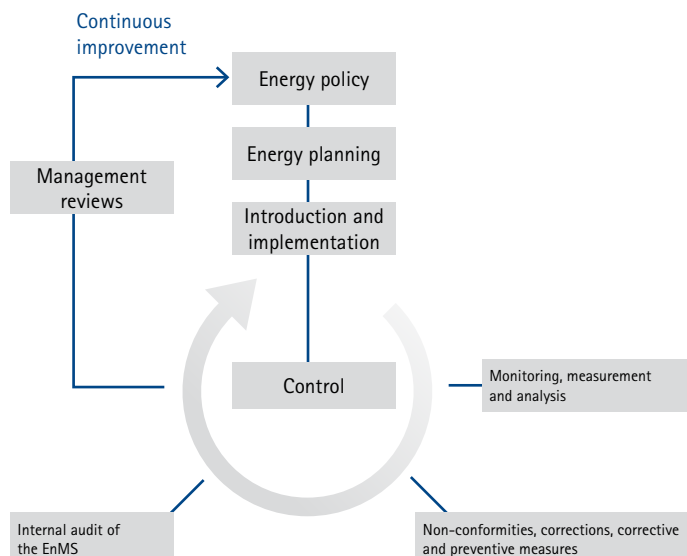
Contact us at:
sustainability@etimex-pp.com

COMPOSTABLE
RECYCLABLE
REUSABLE



ENVIRONMENT AND SUSTAINABILITY

The requirements of DIN EN ISO 50001 to an energy system are based on the below pictured PDCA-cycle (Plan-Do-Check-Act) which is a dynamic model for continuous improvement of the relevant processes and systems. This ensures, that energy consumption is continuously recorded, evaluated and optimised.



SOLUTIONS

- > Use of recyclable mono materials (100% PP-mono) for the trays, thermoforming sheets and flexible films
- > Manufacturing aluminium-free PP mono blister
- > Manufacturing detectable CPET trays
- > Using recycled plastic (if technically feasible and physiologically safe)
- > Energy saving and energy recovery
- > Reusable packaging
- > Weight reduction
- > Reuse of production-related plastic waste (punching scrap, etc.)
- > Optimisation of the logistics chain = reduction of CO₂



MINIMISATION OF FOOD WASTE

Save food starts with its packaging!

ETIMEX uses selected raw materials for its primary packaging, which leads to a reduction of food waste.

ETIMEX mono barrier films ensure:

- Extension of the shelf-life
- Optimisation of product safety
- High-quality products

The advantages of reducing food waste outweigh the CO₂ emissions from the incineration of packaging.

TARGETS

- Implementation of fully recyclable mono materials for the trays, thermoforming sheets, pharmaceutical films and flexible films
- Reduction of plastic by minimising film thicknesses
- Developing new formulations and materials
- Responsible use of resources
- Supporting initiatives such as "Zero pellet loss"
- Successful completion of the pilot project «PET-Tray Recycling» in cooperation with the «IK-Arbeitskreis»

ETIMEX PRIMARY PACKAGING GmbH aims to develop sustainable and recyclable mono solutions for the food and pharmaceutical industries. Today the majority of our products are already fully recyclable.

SAVE FOOD STARTS WITH ITS PACKAGING



PRODUCTS

Since 1950 ETIMEX has been supporting its customers with appealing high quality plastic packaging solutions combining an optimal protection together with an attractive presentation. We supply trays, pots and lids made from a wide range of plastics, tailored to the requirements of your products in terms of shelf-life and protecting the aroma and methods of preparation.

The manufacturing process for VISTAFORM® PP films enables simple processing with all popular FFS machines. The thermoforming sheets made from PP, PET and PP barrier are characterised by maximum transparency.

Our flexible PP cast films provide converters with customised mono and multi-layered films for stand-up pouches, printable peelable lids and sealable films, as well as for sterilised medical applications.

Our films for pharmaceutical applications are the ideal solution for environmentally friendly blister packaging replacing PVC/PVdC. The PP film is manufactured in a clean room and suitable for ultra hygiene requirements. An aluminium-free push-through film rounds off our range of products.

EXTRUSION

- > From 25 µm to 2500 µm and up to 9 layers
- > Cast film extrusion lines & coextrusion
- > Roll stack extruder
- > Water quenching technology
- > Ultra transparent, single- and multi-coloured films
- > Use of various barrier materials

THERMOFORMING

- > Standard forms, specially created designs, perforated trays, dividable trays, multi-compartment trays and press-fit trays
- > Decoration with labels (IML)
- > Use of robots for automated packaging

INJECTION MOULDING

- > PP without barrier
- > With and without labels (IML)
- > Use of robots for automated packaging



YOU ARE IMPORTANT TO US

CUSTOMER ADVICE

- > Target-actual comparisons in joint discussion considering all technical factors and the brand identity
- > Identification of opportunities and development milestones

DEVELOPMENT STEPS

- > Construction in CAD and presentation of the design proposals
- > Production of prototypes (3-D) or sample tools

IMPLEMENTATION

- > Testing pilot series
- > Support in the filling processes for the new packaging
- > Definition of sealing parameters and autoclave settings
- > We guide you through the first series production run on-site upon request



PHARMA-
CEUTICAL
FILMS



FLEXIBLE
FILMS



PHARMACEUTICAL FILMS & SHEETS

PURELAY® PHARM – PURELAY® LID TABLET BLISTER PACKS, MONO BLISTER PACKS

We are the leading manufacturer of thermoformable polypropylene pharmaceutical films for tablet and syringe blister packs. The films are produced in a "GMP Class D" clean room.

Our PP push-through film substitutes aluminium and enables the manufacturing of environmentally friendly mono blister packs.

Further information about PURELAY® can be found at:
www.purelay-die-pharmablisterfolie.de

FLEXIBLE FILMS

VISTALUX® – VISTALID® – VISTAPEEL® LAMINATED FILMS FOR FLEXIBLE PACKAGING

Our flexible films are mainly used for stand-up pouches, easy-opening lid films, sealable films and siliconisable films, separating films.

We process exclusively plastics for sealable, peelable or coatable cast polypropylene films (CPP) that are approved for use in the food industry. This PP laminated films are used as a functional layer in stand-up pouches, lid films and sealable films. Siliconised variants can be used as release films.



READY MEAL
TRAYS

THERMO-
FORMING
SHEETS

INJECTION
MOULDED
POTS

THERMOFORMING SHEETS, READY MEAL TRAYS AND SEALABLE FILMS

VITESSA® – CONVINA® – COMEDA® –
VISTAFORM® – LAMISEAL®

For ready meals – chilled, refrigerated, frozen or long-lasting (pasteurised, sterilised), soups, sauces, snacks and convenience products, coffee capsules, patés, spreads, sushi, antipasti and gourmet products, desserts, fruit salads, baby food, airline meals, meat and sausages, catering, pet and wet food.

We supply individual packaging as thermoforming sheets, trays, pots from CPET, APET, PP and PP barrier for well-known brands. ETIMEX PP and PET sealable films round off our range of primary packaging. Technically sophisticated and visually attractive solutions are our speciality, standard applications are taken for granted.

PLEASE USE OUR PRODUCT-FINDER
FOR FIRST IDEAS.

INJECTION MOULDED POTS

INJECTION MOULDING FOR COMEDA® PP POTS
& TRAYS

With the same properties many thermoforming products can be produced in injection moulding, thus providing

- > Cost-effectiveness for large quantities
- > Including with flanged lids

CONTACT US TO FIND OUT MORE.



QUALITY IS ESSENTIAL

QUALITY AND HYGIENE

ETIMEX's management of quality and hygiene during the production is monitored and audited by independent certification authorities. Numerous customer audits confirm our high standard and the continuous improvement in the areas of hygiene and quality.

The high requirements of the food industry are our minimum benchmark. For many years, ETIMEX has not only been certified in accordance with ISO 9001, but also according to the BRC/IoP standard.

We manufacture in a clean room of class „GMP class D“ in the segment of pharmacy, healthcare and dietary supplements.

WE ARE CERTIFIED IN ACCORDANCE WITH

- > ISO 9001 (Quality)
- > ISO 14001 (Environment)
- > BS OHSAS 18001 (Occupational Health & Safety)
- > BRC (Hygiene)
- > ISO 50001 (Energy management)
- > Zero Pellet Loss (Chamber of Engineers)

QUALITY ASSURANCE

ETIMEX relies on comprehensive quality controls, from machine operator self-control to continuous inline testing of the processes. Numerous inspections of the finished products in the laboratory secure compliance with the high quality standard. Various analytical tests guarantee reproducibility in our production. The tests include measurements of the melt flow index (MFI), DSC measurement and IR spectroscopy.

Functional measurements like sealed seam strength, cold crack resistance, shape retention and dimensional stability are elements of the quality control in our company. Independent institutes regularly test and certify the safety of our products in terms of food regulatory health, in particular by using migration measurements.

The health of the consumer and smooth processing in your production are crucial factors for our quality.



CORPORATE SOCIAL RESPONSIBILITY CSR

ETIMEX is a member of the non-profit organisation "Sedex" (Supplier Ethical Data Exchange), which is committed to social and sustainable environmental conditions within the entire supply and manufacturing chain.

"EcoVadis" offers our customers additional information about our targets and successes in this area.

We also comply with other ethical principles like the „Code of Conduct“.

EMPLOYEES

Our employees are important to us.

What we offer:

- > Occupational health & safety, certified in accordance with OHSAS 18001
- > Ongoing professional development
- > Promotion of young talents and in-house health care provisions demonstrate our social commitment far beyond the legal requirements

OUR EMPLOYEES ARE THE CORE PART OF OUR BUSINESS ENTERPRISE



PROFESSIONAL TRAINING AT ETIMEX

We offer apprenticeships in various functions and are always looking for open-minded, creative young people who want to shape the future of our company.

We train young people in a wide variety of jobs at our company.

INDUSTRIAL AREA

INDUSTRIAL MECHANIC FOR PRODUCTION TECHNOLOGY (M/F/X)

> Training period 3.5 years

ELECTRICIAN FOR INDUSTRIAL ENGINEERING (M/F/X)

> Training period 3.5 years

PROCESS MECHANICAL ENGINEER FOR PLASTIC AND RUBBER TECHNOLOGY (M/F/X)

> Training period 3 years

COMMERCIAL/TECHNICAL AREAS

INDUSTRIAL CLERKS (M/F/X)

> Training period 3 years

IT SPECIALISTS FOR APPLICATION DEVELOPMENT (M/F/X)

> Training period 3 years

Good grades could lead to a reduction of the training period and permanent employment in all functions.

Our current vacancies are available at:

www.etimex-pp.com

PRODUCT INFORMATION

PHARMACEUTICAL FILMS & SHEETS	20
PURELAY® LID/PURELAY® PHARM	20
 FLEXIBLE FILMS	 24
VISTALUX® Laminated films CPP	24
VISTALID® Peelable films CPP/VISTAPEEL® Peelable films CPP	26
 THERMOFORMING SHEETS	 28
ETIMEX PP barrier thermoforming sheet	28
ETIMEX PP thermoforming sheet	29
VISTAFORM® PP films with high transparency	30
ETIMEX CPET and APET thermoforming sheet	31
 INJECTION MOULDING	 32
COMEDA®/CONVINA® pots and trays	32
 READY MEAL TRAYS	 34
VITESSA® CPET & APET	36
CONVINA® PP barrier/COMEDA® PP	48
 SEALABLE FILMS	 56
LAMISEAL® PP	56
LAMISEAL® PET	57
 QUALITY MANAGEMENT	 58

PHARMA- CEUTICAL FILMS



PURELAY® PHARM PHARMACEUTICAL FILMS

PURELAY® PHARM film offers the best water vapour barrier with easy quality control in your packaging process – only the wall thickness distribution has to be measured

PROPERTIES & ADVANTAGES

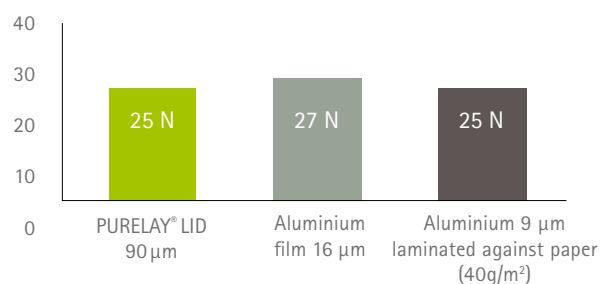
- > High transparency
- > High water vapour barrier
- > Cost effectiveness
- > High machine performance
- > Clean room manufacturing
- > Excellent reproducible thermoforming properties
- > PURELAY® PHARM and PURELAY® LID is a PP mono blister pack which is the best replacement for PVD/PVdC.

PURELAY® LID FILMS

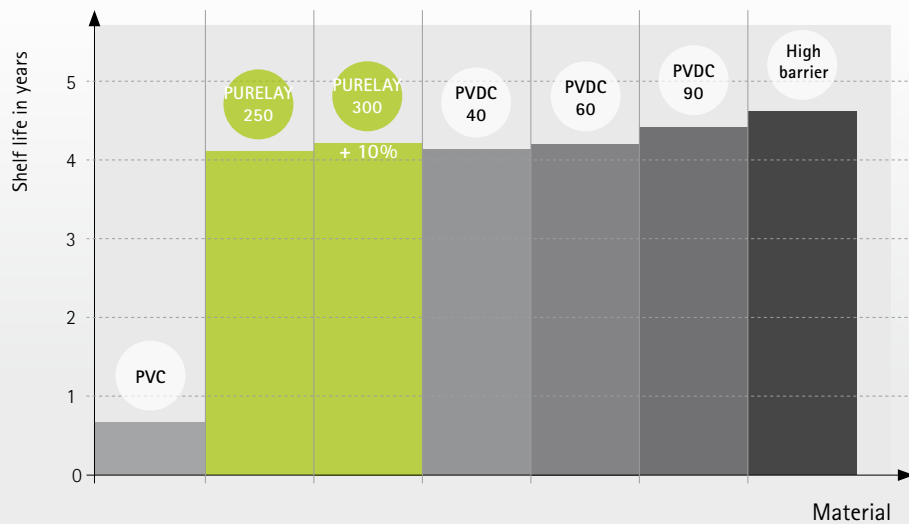
- > Push-through PP sealable film for pharmaceutical blister packs
- > Substitution of e.g. aluminium possible
- > The film can be printed or recoated with heat-resistant topcoat

PURELAY® PHARM and PURELAY® LID will give you environmentally friendly and aluminium-free PP mono blister packs.

PUSH-THROUGH FORCE (N)



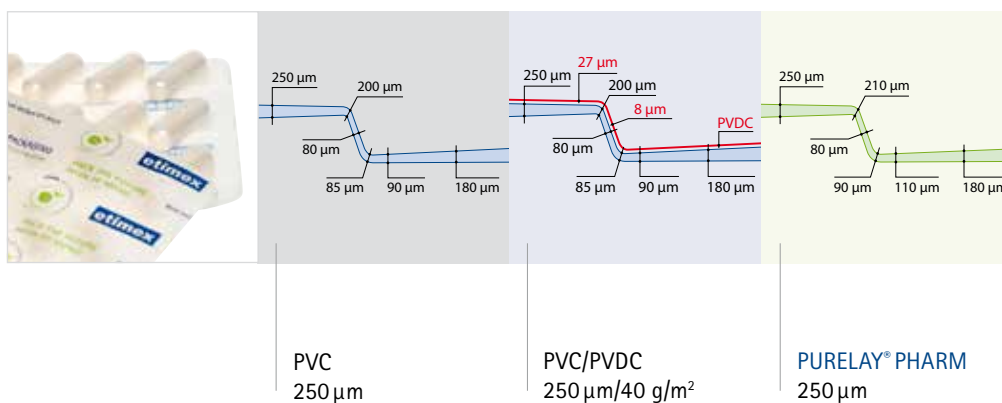
ABSORPTION TIME OF WATER VAPOUR



PRODUCT PROTECTION

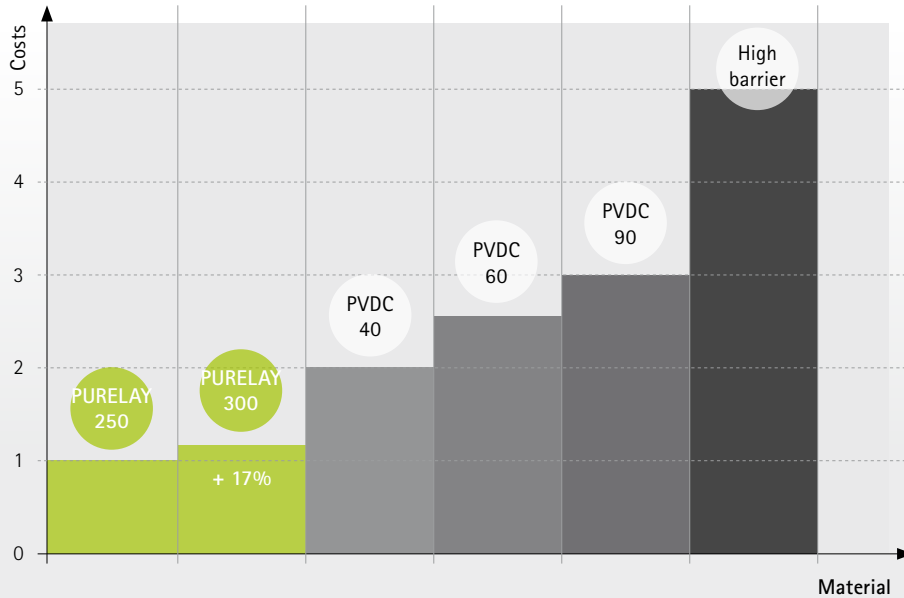
The specific properties of our PP PURELAY® PHARM film define the lasting drug safety in a moulded thermoformed blister pack. PURELAY® PHARM film offers a significant advantage compared to the existing PVD/PVdC solutions.

DISTRIBUTED WALL THICKNESS



The diagrams show the lateral cross-section of a blister pack

COSTS - MATERIAL



PHARMACEUTICAL FILMS OUTSTANDING QUALITY

PURELAY® PHARM provides the best protection for your product in blister packs. The moulded film protects the product against environmental influences. Our pharmaceutical PP PHARM film comes with an excellent water vapour absorption time comparable or better than other laminated films.

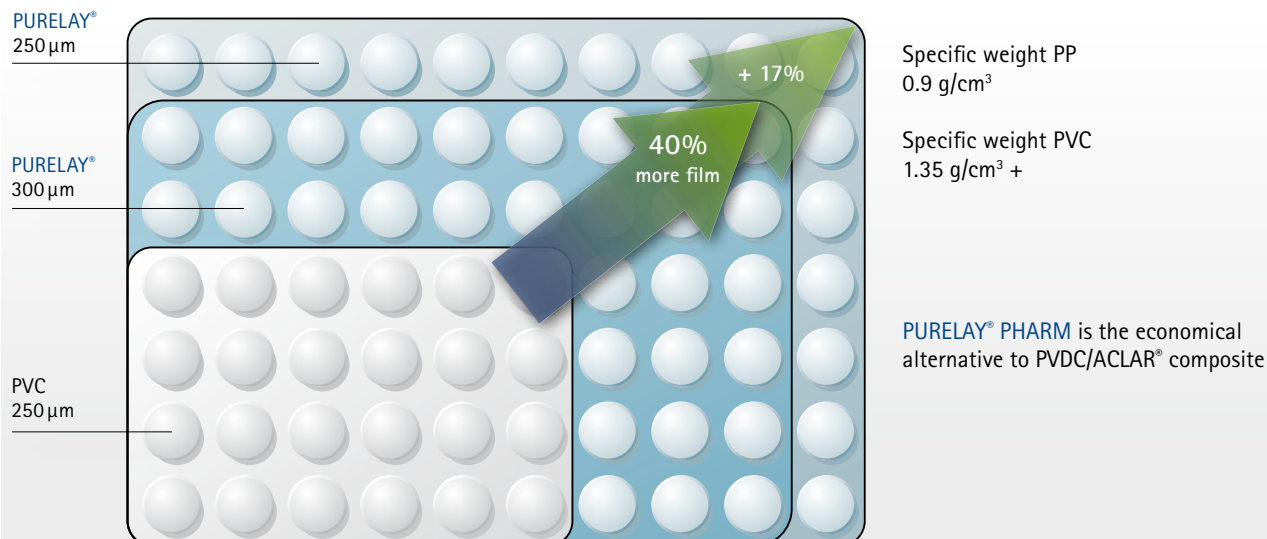
Testing the quality of the entire barrier is quick and simple by measuring the wall thickness distribution. Quality issues as a result of a damaged barrier layer or of a bad wall thickness distribution of the barrier layer can be ruled out.

We only use medically approved types of polypropylene for PURELAY® PHARM. PURELAY® PHARM thermoforming sheets are available in 250 µm to 900 µm in transparent, white or red. All colours meet the requirements of the regulatory authorities (DMF No. 17748).

Many renowned customers in the pharmaceutical industry have been relying of the quality of PURELAY® PHARM for many years. Quality assurance from ETIMEX achieves outstanding standards. Our proven quality statistic is available on request.

The clean room meets DIN EN ISO 14644 (category 8). This is equivalent to the prior FDA 209 B (category 100,000). Particle concentration is continuously monitored.

FILM YIELD IN RELATION TO WEIGHT



OPTIMISING PROFITS SAVING PACKAGING MATERIAL COSTS

With PURELAY® PHARM thermoforming sheets we achieve the same shelf-life results for your product at considerably lower costs.

Our team will support you to find the most cost effective packaging system and eliminates over gauged multi-layer composite solutions wherever possible.

Due to the lower density of PURELAY® PHARM you will considerably receive more yield per area (productivity). We support our customers to reduce packaging material costs in the long term and to eliminate quality risks for one of the most significant primary packaging materials.

PURELAY® PHARMACEUTICAL FILMS THE ENVIRONMENT IS THE WINNER

As PURELAY® PHARM only consists of a mono material based on carbon and hydrogen, it can be utilised both in terms of material and the recovery of waste to energy.

The utilisation of PURELAY® LID mono blisters takes place in the volume flow of the PP plastic fraction. The recycling as thermal utilisation takes place in the composite with aluminium and leads to a reduction in fossil fuel use.

You can find further information online at:
www.purelay-die-pharmablisterfolie.de



FLEXIBLE FILMS



VISTALUX®, VISTALID® & VISTAPEEL®

ETIMEX uses modern cast film extrusion lines to produce high-quality mono- and coextruded films suitable for the converting industry. Flexible CPP based films from ETIMEX offer customised properties for many areas of application.

VISTALUX® LAMINATED FILMS COATING FILMS

are sealable films with high sealing strength to securely close packaging with heavy duties. The film only bonds to PP or onto itself. Our PP laminate films are safe for direct contact with the packaged product and allow secure closure of the packaging.

Manufacturing according to the legal standards on food and choosing the raw materials with suitable licensing give you reliability when selecting the right films for your composite.

VISTALUX® (THICKER FILM)

VISTALUX® polypropylene laminated films are used in the following areas:

- > Medicine
- > Hygiene
- > Technology
- > Food

APPLICATIONS

- > Test strips for urinalysis
- > In-vitro diagnostics
- > Graphics, printing plate mounting
- > Release liner
- > Hygiene, fastening for baby nappies and incontinence products
- > Adhesive wound dressings
- > Use as a seal in valve plates for aerosol cans and for back-on-valve usage
- > Bonding agent film for solvent-free lamination on sheet metal and other metallic surfaces
- > EAA film – hot melt adhesive film with exceptional adhesion to metal, i.e. for the insulation of cables



FOR THE FOOD & PET FOOD SEGMENT

- Stand-up pouches
- Sealed pouches
- Contact film for food products

TYPES

- Standard colours transparent and white, additional colours available upon request
- Mono- and coextruded, also textured
- Raw materials are adapted to your individual requirements
- Films for siliconisation (additive-free, smooth or embossed)
- Films with pharmaceutical licensing, single or double-sided pre-treated
- Special formulations possible on request

APPLICATIONS

Laminated against PET, OPP, OPA, aluminium, sheet metal, paper etc.

The finished duplex or triplex composites can be used for sealed pouches, sealable film and stand-up pouches for packaging of food, pet food, medical and technical products.



VISTALID® & VISTAPEEL® FILMS (THINNER FILM)

Are PP-based peelable films for packaging with easy open functions.

VISTALID® FILMS

- > Coextruded, transparent and white, punchable variants (opaque with white filling)
- > 40 to 300 µm, opaque white from 80 µm
- > Film width unfilled ≤ 1550 mm, filled ≤ 1350 mm

VISTAPEEL® FILMS

Peel with ultra-seal seam strength against PP and to itself, can be used for sterilisation with high requirements

- > Naturally transparent, white
- > 40 to 200 µm
- > Film width ≤ 1550 mm



APPLICATIONS

These products are laminated against PET or are lacquered with a heat-resistant coating to be used as peelable sealing films in FFS machines. The filled versions are also suitable as punched plastic boards for peelable sealing of trays and pots. Special designs are also suitable for the sterilisation of the filled packaging.

SPECIAL APPLICATIONS

Peelable against itself in composite film pouches.

OUR RANGE OF PRODUCTS IN THE FLEXIBLE FILMS SEGMENT

- > Formulations for pharmaceutical or sterilisation applications available
- > Mechanical properties can be changed, to a certain degree
- > Coloured variants (translucent and opaque)

VISTALID® & VISTAPEEL® POLYPROPYLENE PEELABLE FILMS

Are used in the food area, lid film for dairy products, fruit pots and clip-on lids to maintain freshness following removal of the film lid.

These film formulations can also be used in other segments, when products should be opened easily by peeling, e.g. contact lens packaging.

THERMO- FORMING SHEETS



ETIMEX PP BARRIER THERMOFORMING SHEETS

Thermoformable polypropylene barrier film with EVOH as a barrier layer (PP-EVOH-PP) is suitable for manufacturing thermoformed packaging with a high oxygen barrier.

- > Temperature-resistant from +2 °C to +125 °C
- > Shelf-life up to 18 months
- > Own development department

APPLICATION AREAS

- > Sterilised foods
- > Baby food
- > Fruit salads
- > Coffee capsules
- > Desserts
- > Pet food
- > And many more items

PROPERTIES

COLOURS

- > White/white, ivory/white, black/black or black/white and transparent
- > Additional colours available upon request
- > Dual-coloured

STERILISATION

- > Up to 125 °C

ADDITIVES

- > The films can be adapted to individual product requirements on request, e.g. equipping with antistatic agents, scavengers (absorbers) and special laser additives for visual changing of colour pigments

WIDTH

- > 200 – 750 mm

THICKNESS

- > 600 – 2500 µm

MONO SOLUTIONS ...



ETIMEX PP THERMOFORMING SHEETS

Thermoformable mono/multi-layer polypropylene (PP) film, suitable for manufacturing thermoformed packaging on thermoform-presses and FFS machines.

- > Made from polypropylene (PP mono film)
- > Temperature-resistant from +2 °C to +125 °C (Homo-PP) and -40 °C to +125 °C (Co-PP)
- > Own development department

APPLICATION AREAS

- > Chilled ready meals
- > Refrigerated ready meals
- > Frozen ready meals
- > Snacks
- > Confectionery
- > Dishwasher tabs
- > Battery packaging

PROPERTIES

COLOURS

- > Transparent, white, black and coloured
- > Additional colours, also with two colours

ADDITIVES

- > Films can be adapted to individual product requirements on request, e.g. equipping with antistatic agents, etc.

WIDTH

- > 200 – 750 mm

THICKNESS

- > 600 – 2500 µm

... 100% RECYCLABLE



VISTAFORM® PP THERMOFORMING SHEETS

Thermoformable propylene (PP) mono film with a fine crystalline structure, manufactured according to a patented process. The hallmarks of this film are its excellently reproducible thermoforming properties and high transparency.

Suitable for manufacturing thermoformed packaging on thermoform-presses and FFS machines.

APPLICATION AREAS

- > Snack packaging
- > Blister packaging in the food and technical segments (e.g. tablets, dragées, batteries, chewing gum and other mono blister packaging)
- > FFS for ambitious applications

PROPERTIES

COLOURS

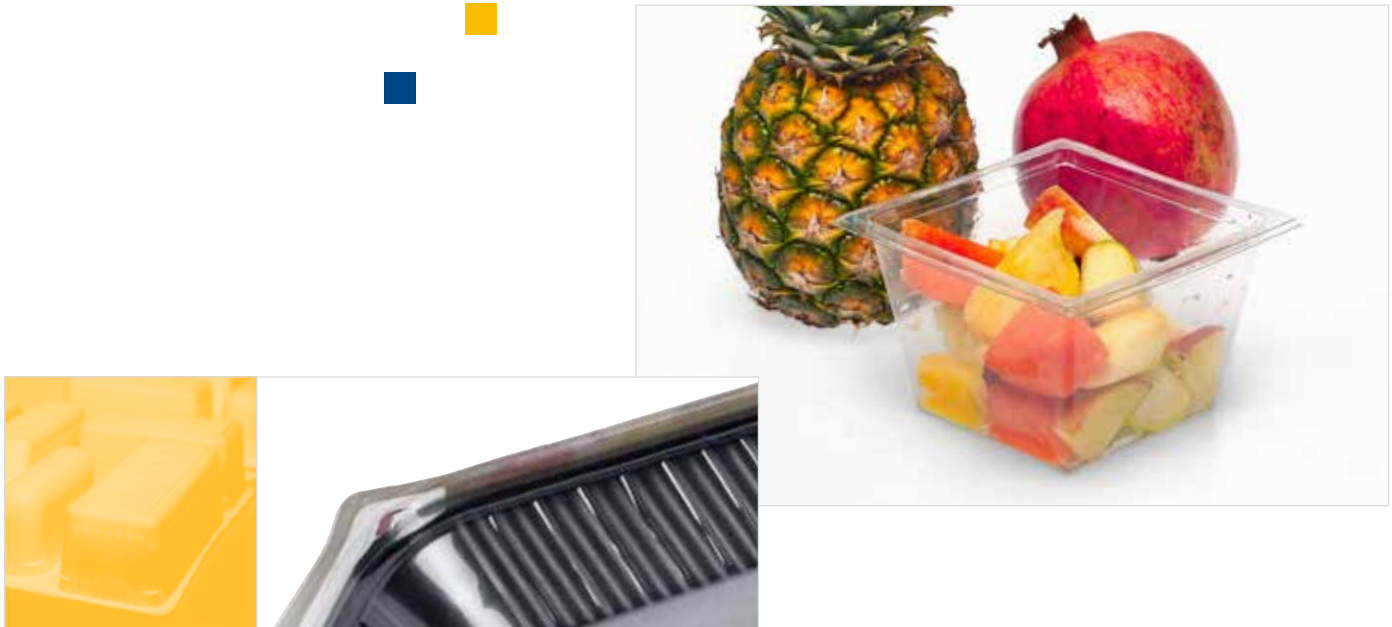
- > Transparent
- > Additional colours available upon request

WIDTH

- > 150 – 1220 mm

THICKNESS

- > 250 – 800 µm
- > Other dimensions available upon request



ETIMEX CPET- AND APET- THERMOFORMING SHEETS

Thermoformable mono/multi-layer polyester (PET) film, suitable for manufacturing thermoformed packaging on thermoform-presses and FFS machines.

- > Made from amorphous (APET) and crystalline (CPET) polyester
- > Glass clear, black, white and translucent
- > Temperature-resistant from -40°C to $+70^{\circ}\text{C}$

APPLICATION AREAS

- > Chilled snacks and salads
- > Gourmet food
- > Frozen products
- > Ready meals
- > Suitable for MAP

PROPERTIES

COLOURS

- > Natural coloured
- > Glass clear
- > Black
- > White
- > Additional colours available upon request

ADDITIVES

- > Films can be adapted to individual product requirements on request, e.g. using a slip agent, etc.

WIDTH

- > 200 – 710 mm

THICKNESS

- > 400 – 800 μm
- > Other dimensions available upon request

LEGAL REQUIREMENTS FOR FOOD

All plastics used for making the films are approved for direct contact with food in accordance with current applicable EC Directives. Migration is within the limits prescribed in the EC Directive. FDA is available on request.

INJECTION MOULDED POTS



INJECTION MOULDING FOR COMEDA® PP POTS & TRAYS

Many thermoformed products with the same properties can also be made by injection moulding, offering cost advantages with automated production of large quantities.

- > Also for flanged lids or side seal
- > PP
- > With and without labels (IML)
- > Suitable for robotic handling and packaging systems

[CONTACT US TO FIND OUT MORE.](#)



READY MEAL TRAYS



STANDARD RANGE

VITESSA® CPET- & APET-READY MEAL TRAYS

We offer several solutions for a variety of applications.
We have plenty of inspiring ideas to whet the appetite.

OUR SPECIALITIES IN THE READY MEAL TRAY SEGMENT

- > Complex geometries (e.g. engraving of logos, multi-compartment trays etc.)
- > Multilayer film structure, also available multi-coloured
- > Bottom ventilation (channels), ribs for better stability
- > Trays with labels (IML)
- > Clamp lids, snap-on lids, also highly transparent, with or without a label (IML)
- > Dual-coloured trays

VITESSA® CPET TRAYS

Temperature-resistant from -40 °C to +220 °C

APPLICATION AREAS

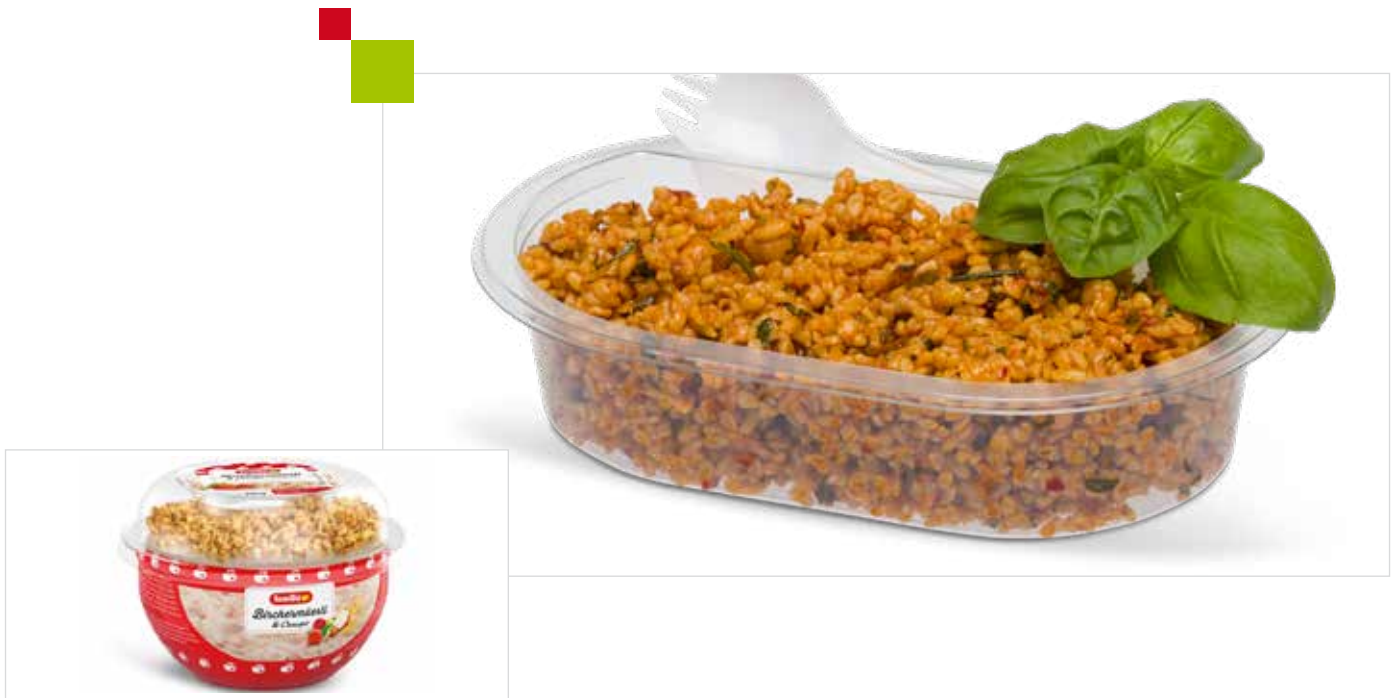
For chilled or frozen ready meals such as lasagne, pasta or soups as well as pasteurised meals.

Can be heated in conventional and fan ovens or micro-wave.

In compliance with lowest tolerances we ensure proper automatic unstacking and a precise sealing with our trays on the established tray sealers.

NEW: CPET TRANSLUCENT

Show what is in your packaging.



VITESSA® APET TRAYS

Temperature-resistant from -40 °C to +70 °C

APPLICATION AREAS

For sensitive products such as antipasti, gourmet salads, dips, spreads and snacks.

Suitable for MAP.

APET trays class-clear – The high transparency of ETIMEX APET trays is impressive. Their excellent oxygen barrier ensures an optimal presentation of the product at the POS.



If you are looking for a solution for your product, our configurator will assist you.














www.etimex-pp.com/en/products/trays/

Trays	 Art. No.	Volume ml – brimful		Depth mm	Comments
	1161	145	105 x 87	27	no denest
	1093 1094 1092	300 360 400	145 x 106 145 x 106 145 x 106	34 44 50	no denest stacking rim stacking rim
	1660	325	145 x 106	35	AB-denest
	1680	340	151 x 111	34	AB-denest
	1232 1231	400 500	155 x 127 155 x 127	30 40	stacking rim stacking rim
	1420	390	160 x 122	39	AB-denest
	5060 5061	556 700	160 x 140 160 x 140	47 53	AB-denest with ribs
	5140 5141	590 730	160 x 160 160 x 160	40 50	AB-denest AB-denest
	1531	340	161 x 107	30	AB-denest
	1464	570	165 x 123	43	AB-denest
	1798	380	171 x 98	35	AB-denest

PRIMARY PACKAGING

EVERYDAY & EVERYWHERE

Trays	 Art. No.	Volume ml – brimful		Depth mm	Comments
	1054	365	171 x 127	25	no denest
	1053	550	171 x 127	40	AB-denest
	1052	660	171 x 127	50	AB-denest
	1056	550	171 x 127	40	AB-denest
	1785	510	171 x 127	35	AB-denest
	1787	500	171 x 127	35	with ribs
	1788	785	171 x 127	53	AB-denest
	1783	650	171 x 127	53	stacking rim
	1072	680	176 x 162	35	no denest
	1073	750	176 x 162	40	no denest
	1075	900	176 x 162	50	no denest
	1079	1010	176 x 162	53	AB-denest
	1184	500	187 x 137	34	AB-denest
	1182	620	187 x 137	36	AB-denest
	1188	640	187 x 137	40	AB-denest
	1180	730	187 x 137	45	AB-denest
	1189	1055	187 x 137	63	AB-denest
	1186	420	187 x 137	25	stacking rim
	1401	565	188 x 118	37	AB-denest
	1940	735	200 x 155	36	AB-denest
	1813	620	200 x 155	30	AB-denest
	1444	1100	200 x 155	56	stacking rim

Trays	 Art. No.	Volume ml – brimful		Depth mm	Comments
	1430	800	201 x 154	35	stacking rim
	1920	890	202 x 157	40	AB-denest
	1360 1363	725 820	208 x 158 208 x 158	32 37	AB-denest AB-denest
	1581	1010	226 x 176	34	AB-denest
	1009 1002	1000 1360	226 x 177 226 x 177	36 51	stacking rim AB-denest
	1772	1375	226 x 177	51	AB-denest
	1020 1774	890 1655	226 x 177 226 x 177	31 63	AB-denest AB-denest
	1018	1200	227 x 177	40	AB-denest
	1671	1030	234 x 184	34	AB-denest
	1450	1065	235 x 185	33	AB-denest
	1950 1951 1952	1260 1380 1310	244 x 149 244 x 149 244 x 149	49 55 55	AB-denest AB-denest AB-denest, with ribs


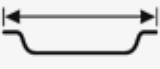







Trays	 Art. No.	Volume ml – brimful		Depth mm	Comments
	5053	1380	263 x 163	50	AB-denest
	1755 1756	1980 2340	325 x 176 325 x 176	50 60	AB-denest AB-denest 1/3 gastro standard
	1750 1752 1751	3190 3750 5000	325 x 265 325 x 265 325 x 265	51 60 81	AB-denest AB-denest AB-denest 1/2 gastro standard
	1630	130	171 x 123	12	no denest
	1650	465	265 x 190	17	no denest
	1930	700	220 x 186	30	AB-denest
	1270	580	220 x 192	23	stacking rim
	1059	$330 / 225 = 555$	171 x 127	40	AB-denest
	1057	$440 / 35 = 475$	171 x 127	40	no denest
	1076	$250 / 190 = 440$	176 x 162	30	no denest
	1077	$325 / 265 = 590$	176 x 162	35	no denest

Trays	 Art. No.	Volume ml – brimful		Depth mm	Comments
	1078	445 / 405 = 850	176 x 162	53	AB-denest
	1181	300 / 250 = 550	187 x 137	36	AB-denest
	1187	400 / 335 = 735	187 x 137	57	AB-denest
	1185	405 / 405 = 810	187 x 137	60	AB-denest
	1441	325 / 325 = 650	200 x 155	36	no denest
	1817	455 / 455 = 910	200 x 155	50	AB-denest
	1944	515 / 515 = 1030	200 x 155	59	AB-denest
	1443	390 / 265 = 655	200 x 155	36	AB-denest
	1941	425 / 425 = 850	200 x 155	54	AB-denest
	1810	450 / 450 = 900	200 x 155	50	no denest
	1811	440 / 360 = 800	200 x 155	55	no denest
	1814	515 / 515 = 1030	200 x 155	55	AB-denest
	1431	370 / 370 = 740	201 x 154	35	stacking rim
	1433	450 / 450 = 900	201 x 154	45	stacking rim
	1361	250 / 195 = 445	208 x 158	32	AB-denest






Trays	 Art. No.	Volume ml – brimful		Depth mm	Comments
	1364 1367	420 / 300 = 720 490 / 330 = 820	208 x 158 208 x 158	35 40	AB-denest AB-denest
	1582	560 / 380 = 940	226 x 176	34	AB-denest
	1019	480 / 310 = 790	226 x 177	30	AB-denest
	1932	540 / 460 = 1000	220 x 186	50	AB-denest
	1007 1016	600 / 460 = 1060 700 / 525 = 1225	226 x 177 226 x 177	44 52	AB-denest AB-denest
	1022	460 / 360 = 820	226 x 177	31	stacking rim
	1006 1779	440 / 380 = 820 490 / 420 = 910	226 x 177 226 x 177	31 35	AB-denest AB-denest
	1004 1778	480 / 310 = 790 700 / 445 = 1145	226 x 177 226 x 177	30 46	stacking rim AB-denest
	1010	605 / 605 = 1210	226 x 177	51	AB-denest
	1777	760 / 760 = 1520	226 x 177	65	AB-denest
	1672	560 / 370 = 930	234 x 184	34	AB-denest

Trays	 Art. No.	Volume ml – brimful		Depth mm	Comments
	1451	625 / 340 = 965	235 x 185	33	AB-denest
	1453	570 / 390 = 960	235 x 185	34	AB-denest
	1449	275 / 110 / 110 = 495	200 x 155	26	no denest
	1368	330 / 190 / 155 = 675	208 x 158	36	AB-denest
	1583	400 / 295 / 225 = 920	226 x 176	34	AB-denest
	4026	295 / 160 / 120 = 575	226 x 177	23	APET stacking rim
	1001 1003	390 / 200 / 150 = 740 545 / 280 / 210 = 1035	226 x 177 226 x 177	31 46	AB-denest AB-denest
	1014	320 / 255 / 155 = 730	226 x 177	31	AB-denest
	1024	485 / 280 / 180 = 945	226 x 177	41	stacking rim
	1026	490 / 425 / 245 = 1160	226 x 177	54	AB-denest
	1673	362 / 263 / 263 = 888	234 x 184	34	AB-denest

Trays	 Art. No.	Volume ml – brimful		Depth mm	Comments
	1674	480 / 230 / 200 = 910	234 x 184	34	AB-denest
	1452	340 / 280 / 280 = 900	235 x 185	33	AB-denest
	1454	390 / 265 / 265 = 920	235 x 185	34	AB-denest
	1105 1107	190 200	95 95	40 48	stacking rim stacking rim
	1106	254	95	52	stacking rim
	5000	340	124	53	stacking rim
	5001	280	124	38	stacking rim
	1871 1870	435 615	138 138	44 64	stacking rim stacking rim
	1136	280	195	14	no denest
	1133 1130	290 320	195 195	15 17	no denest no denest
	1138	630	195	30	AB-denest

Trays	 Art. No.	Volume ml – brimful		Depth mm	Comments
	1132	1450	195	70	no denest
	1134	1245	195	80	no denest
	1139	460 / 460 = 920	195	57	stacking rim
	1292	470	212	20	no denest
	1295	415	212	20	no denest
	1297	470	212	20	stacking rim
	1142	490	240	15	no denest
	1141 1140	1045 1380	240 240	30 41	no denest no denest
	1560 1563 1562	180 215 250	109 x 95 109 x 95 109 x 95	47 60 65	stacking rim stacking rim stacking rim
	1225	385	162 x 126	51	stacking rim
	1223 1224 1222	300 350 400	162 x 126 162 x 126 162 x 126	38 43 51	stacking rim stacking rim stacking rim

Trays	 Art. No.	Volume ml – brimful		Depth mm	Comments
	1762 1761	545 660	165 x 150 165 x 150	51 73	stacking rim stacking rim
	1490 1492	530 630	197 x 160 197 x 160	40 50	stacking rim stacking rim
	1790	325	168 x 111	33	stacking rim
	1991 1990	745 1260	240 x 178 240 x 178	31 54	AB-denest AB-denest
	1340	530	242 x 171	21	no denest
	1341	800	242 x 171	40	no denest
	1992	610 / 400 = 1010	240 x 178	50	AB-denest
	1830	1250	266 x 178	54	AB-denest
	1524	555 / 555 / 550 = 1660	285 x 240	50	stacking rim
	1525	380 / 345 / 220 = 945	285 x 240	26	stacking rim
	1522 1529	280 / 265 / 240 / 160 = 945 320 / 310 / 280 / 185 = 1095	285 x 240 285 x 240	30 32	stacking rim stacking rim

Trays	 Art. No.	Volume ml – brimful		Depth mm	Comments
	1520 1526	420 / 400 / 355 / 230 = 1405 455 / 440 / 395 / 260 = 1550	285 x 240 285 x 240	50 52	stacking rim stacking rim
	1523 1521 1527	275 / 265 / 185 / 135 / 90=950 410 / 395 / 220 / 220 / 105=1350 450 / 440 / 245 / 245 / 125=1505	285 x 240 285 x 240 285 x 240	30 50 52	stacking rim stacking rim stacking rim
	4111 4110 2180	210 310 -	134 x 100 134 x 100 138 x 104	27 40 11	APET tray stacking rim APET lid stacking rim

FURTHER PUNCHING GEOMETRIES UPON REQUEST

We look forward to work with you on developing individual trays, tailored to your needs.

LIDS AVAILABLE UPON REQUEST.

OUR SPECIAL RANGE OF PRODUCTS FOR VITESSA® APET & CPET TRAYS

- > Complex geometries (e.g. engraving of logos, multi-compartment trays, etc.)
- > Multilayer film structure, also multi-coloured
- > Ribs to increase stability
- > Clamp lids, snap-on lid, also highly transparent

NEW: CPET TRANSLUCENT





STANDARD RANGE

CONVINA® PP BARRIER & COMEDA® PP READY MEAL TRAYS

You can find several solutions for a great variety of applications. We have plenty of inspiring ideas to whet the appetite.

CONVINA® PP BARRIER TRAYS & POTS

Temperature-resistant from +2 °C to +125 °C, EVOH layer provide a high oxygen barrier, aroma protection and water-vapour barrier ensure long shelf life for sterilised meals at room temperature.

APPLICATION AREAS

For sterilised and pasteurised ready meals. Can be heated in microwave or bain-marie.



COMEDA® PP TRAYS & POTS

Temperature-resistant dependent on the raw material:

- > Homo-PP: +2 °C to +125 °C
- > Co-PP: -40 °C to +125 °C

APPLICATION AREAS

For chilled, refrigerated and frozen ready meals. Can be heated in microwave or bain-marie.













PP MONO – THE MONO MATERIAL SOLUTION:
100% RECYCLABLE WITH AND WITHOUT A
BARRIER

- > High transparent mono PP trays and pots – the APET replacement of the future



If you are looking for a solution for your product, our configurator will inspire you.

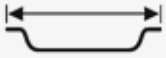











www.etimex-pp.com/en/products/trays/













Trays	COMEDA® Art. No.	CONVINA® Art. No.	Volume ml – brimful		Depth mm	Comments
	3086	8086	230	137 x 93	28	stacking rim
	3087	8087	255	137 x 93	31	
	3088	8088	300	137 x 93	38	
	3082	8082	340	137 x 93	48	
	3490	8490	500	144 x 105.5	52	AB-denest
	3910	8910	410	154 x 129	33	stacking rim
	3540	8540	315	163 x 119	28	
	3541	8541	430	163 x 119	38	
	3050	8050	435	171 x 127	30.5	AB-denest
	3451	8451	335	178 x 117	38	stacking rim
	3600	8600	390	180 x 112.5	34	stacking rim
	3601	8601	280	180 x 112.5	34	stacking rim
	3064	8064	465	187 x 137	25	
	3060	8060	610	187 x 137	36	
	3065	8065	880	187 x 137	50	stacking rim








PRIMARY PACKAGING

EVERYDAY & EVERYWHERE





Trays	COMEDA® Art. No.	CONVINA® Art. No.	Volume ml – brimful		Depth mm	Comments
	3962	8962	910	227 x 178	33	AB-denest
	3942	8942	1040	265 x 162	40	AB, ¼ GN
	3941	8941	1300	265 x 162	50	AB, ¼ GN
	3943	8943	1420	265 x 162	50	AB-denest
	3940	8940	1550	265 x 162	60	AB, ¼ GN
	3944	8944	1700	265 x 162	60	AB-denest
	3932	8932	2440	325 x 265	40	AB, ½ GN
	3930	8930	3065	325 x 265	50	AB, ½ GN
	3931	8931	3675	325 x 265	60	AB, ½ GN
	3933	8933	6000	325 x 265	100	AB, ½ GN
	3912	8912	235 / 160 = 395	154 x 129	36	stacking rim
	3660	8660	155 / 155 = 310	160 x 115	30	stacking rim
	3061	8061	290 / 245 = 535	187 x 137	36	
	3961	8961	545 / 363 = 908	227 x 178	35	AB-denest
	3960	8960	363 / 297 / 194 = 854	227 x 178	35	AB-denest
	3551	8551	100	80	31	
	3288	8288	95	80	34	
	3280	8280	140	80	47	
	3550	8550	145	80	50	stacking rim
	3287	8287	128	80	43	stacking rim

Trays	COMEDA [®] Art. No.	CONVINA [®] Art. No.	Volume ml – brimful		Depth mm	Comments
	3880	8880	120	84	58	stacking rim
	3950	8950	230	90	60	stacking rim
	3292 3295	8292 8295	330 225	93 93	80 62	
	3470 3471	8470 8471	340 245	95 95	85 56	with ribs
	3474	8474	200	95	50	stacking rim
	3472	8472	205	95	50	
	3411 3610	8411 8610	160 205	102 102	30 39	
	3570	8570	280	125	38	stacking rim
	3560	8560	435	138	44	
	3390	8390	570	148	62	
	3519	8519	450	180	29	

Trays	COMEDA® Art. No.	CONVINA® Art. No.	Volume ml – brimful		Depth mm	Comments
	3162	8162	470	184	32	
	3517	8517	640	180	33	
	3201	8201	505	180	36	
	3515	8515	$270 / 190 = 460$	180	33	
	3520	8520	$310 / 245 = 555$	180	33	
	3529	8529	$320 / 260 = 580$	180	36	
	3161	8161	$305 / 240 = 545$	184	32	no denest
	3516	8516	$330 / 180 / 115 = 625$	180	38	
	3160	8160	$235 / 200 / 145 = 580$	184	39	
	3210	8210	$281 / 202 / 121 = 604$	185 x 179	41	
	3190	8190	330	128 x 118	48	

Trays	 Art. No.	 Art. No.	Volume ml – brimful		Depth mm	Comments
	3181	8181	340	138 x 117	54	
	3136 3135 3134	8136 8135 8134	150 250 300	138 x 117 138 x 117 138 x 117	23 38 48	
	3185	8185	425	138 x 117	64	
	3313	8313	500	187 x 156	39	stacking rim

FURTHER PUNCHING GEOMETRIES UPON REQUEST

Lids		 Art. No.			Depth mm	Comments
		2601		90	12	stacking rim
		2600		90	28	stacking rim

OUR SPECIAL RANGE OF PRODUCTS FOR COMEDA® & CONVINA®

- > Complex geometries (e.g. engraving of logos, multi-compartment trays, etc.)
- > Multilayer film structure, also multi-coloured
- > Ribs to increase stability
- > Clamp lids, snap-on-lid, also highly transparent

We look forward to work with you on developing individual trays tailored to your needs.

ALL INFORMATION IS SUBJECT TO CHANGE.



PP APPLICATION AREAS



Ready meals



Fish



Fruit



Soups



Meat



Vegetables



PP DUAL PACKAGING: SEALABLE FILMS

PROPERTIES & ADVANTAGES

- > A one-shop solution for your project
- > Perfect recyclable mono material solutions
- > Fits with our ETIMEX Convina® PP barrier trays and thermoforming sheets the perfect mono packaging for a long shelf-life
- > Can be heated in microwave
- > Best sealing properties on the base of PP
- > Excellent odour and aroma barrier
- > Adjustable peel strengths offer optimum product safety
- > Suitable for trays and thermoforming applications
- > Top hygiene conditions in extrusion and thermoforming

- > Products optimise your procurement strategy
- > Bundling of orders reduces CO₂ emissions
- > Maximum output on the packaging machine
- > Available with a barrier and as a mono solution
- > PP barrier products: Made in Germany

Inner core diameter: 76 mm
 Reel diameter: customer-specific
 Length: customer-specific

ETIMEX PP Convina® tray and ETIMEX LAMISEAL® PP sealable film are registered trademarks of ETIMEX GmbH.



PET APPLICATION AREAS



Ready meals



Pasta



Soups



Sauces



PET DUAL PACKAGING: SEALABLE FILMS

PROPERTIES & ADVANTAGES

- Perfect sealing properties
- High oxygen barrier
- Aluminium-free
- Suitable for freezing
- Adjustable peel solution
- Excellent odour and aroma barrier
- Suitable for pasteurisation
- Protects your product against oxygen and moisture
- Can be heated in microwave and oven, max. 220 °C, 30 min.

Inner core diameter: 76 mm
Reel diameter: customer-specific
Length: customer-specific

ETIMEX CPET VITESSA® tray and ETIMEX LAMISEAL® PET sealable film are registered trademarks of ETIMEX GmbH.

Further information is available at:
www.etimex-pp.com

THE PERFECT DUO: TRAY AND SEALABLE FILMS FROM A SINGLE SOURCE!



MATERIAL PROPERTIES & APPLICATION AREAS FOR PLASTIC TRAYS

	CPET	APET	PP (homo)	PP (copolymer)	PP-EVOH-PP
Temperature range	-40 °C to +220°C	-40 °C to +70°C	+2 °C to +125°C	-18 °C to +125°C -40 °C upon request	+2 °C to +125°C
Heating	Fan oven Microwave Oven	-	Microwave Bain-marie	Microwave Bain-marie	Microwave Bain-marie
Density (g/cm ³)	1.35	1.33	0.91	0.91	0.95
Colouring (special colours upon request)	White Black	Transparent	White Black Contact transparent	White Black Natural	Ivory/white White/black Contact transparent
Application areas	Refrigerated, frozen, pasteurised ready meals	Refrigerated ready meals	Refrigerated ready meals	Refrigerated, frozen ready meals	Sterilised, pasteurised ready meals Storage at room tem- perature
Sealing capability	Suitable for sealing with all common sealable films.				

PERMEABILITY RATES FOR PLASTIC FILMS & TRAYS

			CPET	APET	PP	PP-EVOH-PP
CO ₂	Carbon dioxide	$\frac{\text{cm}^3 \times 100 \mu\text{m}}{\text{m}^2 \times 24\text{h} \times \text{bar}}$	55 – 65	100 – 120	2000 – 3000	1.7 – 10.8
O ₂	Oxygen	$\frac{\text{cm}^3 \times 100 \mu\text{m}}{\text{m}^2 \times 24\text{h} \times \text{bar}}$	15 – 20	25 – 30	520 – 800	0.3 – 2.2
N ₂	Nitrogen	$\frac{\text{cm}^3 \times 100 \mu\text{m}}{\text{m}^2 \times 24\text{h} \times \text{bar}}$	4 – 5	6 – 9	150 – 200	0.1 – 0.5
H ₂ O	Water vapour	$\frac{\text{g} \times 100 \mu\text{m}}{\text{m}^2 \times 24\text{h}}$	1.8 – 2.2	2.2 – 2.5	0.5 – 0.7	1.0 – 1.4

TESTING CONDITIONS

- > Gas permeability was measured with a 100 µm thick film at 50% relative humidity in accordance with DIN 53380.
- > Water vapour permeability was measured with a 100 µm thick film at 85% => 0% moisture gradient in accordance with DIN 53122.
- > The permeability values for the PP-EVOH-PP film refer to a multi-layer film with a 25 µm thick EVOH layer.

THE PERMEABILITY VALUES FOR THE SINGLE TRAY ARE CALCULATED AS FOLLOWS:

Gas permeability (CPET, APET, PP)

$$\frac{\text{Tabular value} \times \text{Tray surface in m}^2 \times 100}{\text{Average wall thickness of the tray in } \mu\text{m}} = [\text{cm}^3/(\text{Tray} \times 24 \text{ hrs.} \times \text{bar})]$$

Gas permeability (PP-EVOH-PP)

$$\frac{\text{Tabular value} \times \text{Tray surface in m}^2 \times 25}{\text{Average EVOH layer thickness in the tray in } \mu\text{m}} = [\text{cm}^3/(\text{Tray} \times 24 \text{ hrs.} \times \text{bar})]$$

Water vapour permeability (CPET, APET, PP, PP-EVOH-PP)

$$\frac{\text{Tabular value} \times \text{Tray surface in m}^2 \times 100}{\text{Average wall thickness of the tray in } \mu\text{m}} = [\text{g}/(\text{Tray} \times 24 \text{ hrs.})]$$



ETIMEX PRIMARY PACKAGING & ETIMEX TECHNICAL COMPONENTS
are companies of the independent ETIMEX HOLDING.

Further information available at: www.etimex.de



UPDATED: 09.2019



SALES DIVISIONS

TRAYS & POTS &
SEALABLE FILMS
TEL: +49 (0) 7347 67-436
trays@etimex-pp.com

THERMOFORMING SHEETS
TEL: +49 (0) 7347 67-431
sheets@etimex-pp.com

FLEXIBLE FILMS
TEL: +49 (0) 7347 67-414
flexibles@etimex-pp.com

PHARMACEUTICAL FILMS
TEL: +49 (0) 7347 67-451
purelay@etimex-pp.com

ENVIRONMENT & SUSTAINABILITY
sustainability@etimex-pp.com

SALES OFFICES

GERMANY-AUSTRIA-
SWITZERLAND-LIECHTENSTEIN
(D-A-CH)
d-a-ch@etimex-pp.com
TEL: +49 (0)152 09257383

FRANCE
france@etimex-pp.com
TEL: +33 (630) 208838

BENELUX
benelux@etimex-pp.com
TEL: +49 (0) 7347 67-435

SCANDINAVIA
scandinavian@etimex-pp.com
TEL: +49 (0)173 3018293

ITALY, SPAIN AND PORTUGAL
italy@etimex-pp.com
TEL: +39 (0)348 8532781

EASTERN EUROPE
easterneurope@etimex-pp.com
TEL: +49 (0)173 3018293

Martin-Adolff-Straße 44
D-89165 Dietenheim
GERMANY

TEL: +49 (0) 7347 67-0
info@etimex-pp.com

