



# Pentafood®

Films for food packaging



klöckner pentaplast



# innovation. delivered.

## Our films deliver

The dynamic food industry is continuously developing new product ideas. But without safe, effective packaging, those ideas will never reach the market. With Pentafood®, you can choose from kp's broad range of innovative films to transform your ideas into reality.

Do you sell ready-to-eat meals? Meat, cheese, salad, sandwiches, or pasta? kp films' unique barrier properties will protect against physical and environmental damage to ensure food safety and long shelf life. We offer temperature resistant solutions for hot-fill packaging, pasteurization/sterilization needs, microwaveable trays, and dual ovenable applications. Clamshells, trays, and blisters beautifully protect your fragile produce,

confectionery, and bakery products. Choose from a variety of convenience options, such as reclosable and multi-peel features.

But kp innovation goes further. With versatile Pentafood® films, you can design creative packages with powerful shelf-appeal, products that get noticed—and sell.

At kp, your needs power our innovation: challenge us with a new product or idea, and we will develop the optimal packaging film. We're not just innovating, we're innovating for you.

Bakery

Butter & margarine

Candies & sweets

Cheese

Convenience food

Deli goods

Fresh baked goods

Fruits

Ice cream

Jams & jellies

Meat

Pasta

Pet food

Pizza

Poultry

Produce

Ready-to-eat meals

Salads

Sandwiches

Seafood

Snacks

Vegetables



**solutions.**  
**delivered.**

### **Innovative products that meet your needs**

Pentafood® films make up the most comprehensive thermoformable food packaging line in the industry, with a full range of mono- and multi-layer rigid films. Combine the options you need—enhanced processing, consumer convenience, barrier performance, temperature resistance, and more—to get the film that works for you. And if we don't have the film you need, our engineers will design a custom formulation. With kp, the opportunities are endless.



- Options for flexo and rotogravure printing
- Options for lamination and metallization
- Unique haptic options
- High clarity for enhanced shelf appeal
- Superior sealability to a wide range of top webs
- Brilliant substrate for high-barrier films
- Controlled shrinkage for excellent processability
- High impact strength, resists punctures and abrasions
- Outstanding deep-draw characteristics
- Softer cutting formulations for less knife wear and increased uptime
- Optimal processability on all current packaging and converting machinery

## Pentafood® films overview

brand name	film structure	ease of thermoforming	enhanced sealability	barrier properties		temperature resistance						
				oxygen	moisture	frozen	refrigerator	hot filling	pasteurization	sterilization	microwaveable	dual ovenable
Pentafood® APET	APET	+++		++	++		✓					
Pentafood® APET HB	APET/EVOH/APET	+++		++++	++		✓					
Pentafood® CPET	CPET	+		++	+++	✓	✓	✓	✓	✓	✓	✓
Pentafood® PETBlend	PETBlend	++++		++	+++	✓	✓					
Pentafood® light PETBlend	EPETBlend	++++		+	+	✓	✓					
Pentafood® APET/PETBlend/APET	APET/PETBlend/APET	+++		++	++		✓					
Pentafood® PETG	PETG	++++		++	++	✓	✓					
Pentafood® light PETG	EPETG	+++		+	+		✓					
Pentafood® PP	PP	++		+	++++	✓	✓	✓	✓	•	✓	
Pentafood® PS	PS	++++		+	+	✓	✓	✓	•			
Pentafood® PS/PETG	PS/PETG	++++		+	+	✓	✓					
Pentafood® PVC	PVC	++++		++	+++	•	✓	•				
Pentafood® A/MA/B	A/MA/B	++++		++++	+		✓					
Pentafood® Biofilm™ PLA	PLA	+++		+	+		✓					
Pentafood® kpseal™ APET	APET/PE	+++	✓	++	+++		✓					
Pentafood® kpseal™ PETBlend	PETBlend/PE	++++	✓	++	+++	✓	✓					
Pentafood® kpseal™ light PETBlend	EPETBlend/PE	+++	✓	+	++	✓	✓					
Pentafood® kpseal™ PP	PP/PE	++	✓	+	++++	✓	✓	✓	✓		✓	
Pentafood® kpseal™ PS	PS/PE	++++	✓	+	++	✓	✓	✓	•			
Pentafood® kpseal™ PVC	PVC/PE	++++	✓	++	+++	•	✓	•				
Pentafood® kpbar™ APET	APET/EVOH/PE	+++	✓	++++	+++		✓					
Pentafood® kpbar™ PETBlend	PETBlend/EVOH/PE	++++	✓	++++	+++	✓	✓					
Pentafood® kpbar™ light PETBlend	EPETBlend/EVOH/PE	+++	✓	++++	++	✓	✓					
Pentafood® kpbar™ PPa	PP/EVOH/PE	++	✓	++++	++++	✓	✓	✓	✓		✓	
Pentafood® kpbar™ light PPa	EPP/EVOH/PE	++	✓	++++	++++	✓	✓	✓	✓		✓	
Pentafood® kpbar™ PPs	PP/EVOH/PP	++	✓	++++	++++	✓	✓	✓	✓	•	✓	
Pentafood® kpbar™ light PPs	EPP/EVOH/PP	++	✓	++++	++++	✓	✓	✓	✓	•	✓	
Pentafood® kpbar™ PS	PS/EVOH/PE	++++	✓	++++	++	✓	✓	✓	•			
Pentafood® kpbar™ light PS	EPS/EVOH/PE	++++	✓	++++	++	✓	✓					
Pentafood® kpbar™ PVC	PVC/EVOH/PE	++++	✓	++++	+++	•	✓	•				
Pentafood® alfoil® P PVC	PVC/PVdC	+++		+++	++++		✓					
Pentafood® alfoil® TS Peel PVC	PVC/PVdC/PE	+++	✓	+++	++++		✓					

E = expanded/high-yield

+ = good    ++++ = excellent

• = special formulation



## Pentafood® films

### Thermoforming solutions

With Pentafood® films, you can create innovative packages for fresh produce, sandwiches, salads, cookies, gum, chocolates, sweets, or jellies. Are you looking for a design that gets noticed? Then kp offers a thermoforming solution.

- Good processability on standard machinery
- Broad range of standard colors
- Bicolor structures for hinged clamshells



### Consumer convenience & appeal solutions

kp offers a variety of solutions to answer the growing demand for convenience packaging. Our films enhance your product's shelf-impact with functional properties that add value to your package.

- Excellent gloss and clarity
- Permanent, easy-peel, and reclosable sealant options
- Special sealants for sealing through contamination; reduce leakers
- Antifog features
- UV protection
- Fibre-like and soft touch options
- Different inside/outside and side-by-side colors for added shelf appeal
- Endless prints, including marble and wood effects



## Extended shelf-life solutions

With a variety of barrier options, you can protect your product against oxygen, water vapor, and aromas. These films are formulated for modified/controlled atmosphere packaging (MAP/CAP) and vacuum packaging.

## Improved temperature resistance solutions

Pentafood® films provide different levels of temperature resistance to suit your needs: deep freeze, refrigerated, hot fill, pasteurization, sterilization, microwaveable, ovenable, or freezer-to-microwave.

## Biopolymers & renewable resource solution

kp's Pentafood® line includes films made from renewable feedstocks. These films process on conventional thermoforming equipment and are ideal for organic and natural produce, baked goods, and dairy products.

## Source reduction solutions

With high-quality kp films, you can reduce material—and your manufacturing costs. We are the industry leader in thickness control for engineered gauge. Choose films for improved thermoformability and wall thickness distribution for downgauging and creating the optimal package shape. And all films process extremely well on current thermoforming and FFS machines. High-yield foamed products reduce packaging weight while maintaining comparable barrier and performance characteristics of conventional films.



# performance, delivered.

## Advanced technology, global sourcing

Since the first film rolled off a kp calender line in 1966, we have continually invested in state-of-the-art calendering, extrusion, laminating, and coating technology and equipment. When you buy kp film, you know it will perform on your machinery. Our plants execute your orders consistently, meeting precise specifications for color, surface, thickness, formulation, and function every time. The tolerances are very narrow, you can write tighter specifications to yield considerable cost savings.

At kp, we know that high-quality film is critical to food safety and hygiene, and we are dedicated to the special requirements of the industry. We have 100% control of raw materials and in-line manufacturing control. Raw materials are fully traceable and globally sourced by certified vendors. Consistent quality combined with minimal handling reduces the possibility of contamination.

To meet the needs of global food companies, we use this advanced technology at manufacturing sites across the globe. Wherever you package food, we can supply identical high-quality Pentafood® film from our sites in Asia, Europe, North America, and South America. kp global sourcing ensures security of supply. And we are unique in backing every order with outstanding local technical and customer service.

Pentafood® films are manufactured at plants registered ISO 9001:2000 & 9002, according to current GMP, BRC/loP & HACCP standards. Depending on the regional area of production, Pentafood® films are in compliance with the respective EU regulations and directives, FDA, and HPB, as well as the applicable national legislations and international standards. Additional certifications and compliances are available upon request.

## Solutions for a changing world

Protecting the environment is everybody's concern. At kp, we strive to produce film products that both enhance quality of life and protect the earth. We'll work with you to choose a Pentafood® film that meets your social, economic, and environmental sustainability goals. And often, we'll be able to help you reduce your packaging costs as well.

kp's innovative portfolio of food films helps you to meet your requirements for high-quality food packaging that helps preserve food to prevent waste, thus lessening the impact on the environment and saving resources, while maintaining product integrity and production economies. We advise customers on the environmental aspects of our products targeting lowest total packaging cost based on material price, processing performance, and sustainability considerations.

### Light weighting

Our team can help you choose the least amount of packaging necessary to meet your performance needs. Light weighting offers our customers significant benefits:

- Less energy used in manufacturing and transportation
- Lower greenhouse gas emissions
- Less post-consumer solid waste



### Pentafood® APET films

In addition to our line of prime APET films, kp offers products with recycled content to help meet sustainable packaging goals.

- SmartCycle™ films contain various guaranteed levels (for example 50% or 70%) of post-consumer recycled PET derived from beverage bottles
- Recycled content films certified for direct food contact according to national and international regulations
- Mono- and multi-layer structures provide ideal options for trays, clamshells, surface-sealed blisters and other containers

### Pentafood® vinyl films

These films are derived from 57% common salt, a virtually limitless resource, and 43% fossil fuels.

- High product visibility and protection while minimizing resource consumption
- Less energy and oil used in manufacturing
- Significantly lower greenhouse gas emissions than alternative materials

### Pentafood® Biofilm™ PLA films

Based on NatureWorks® biopolymer, these films are derived from corn.

- Manufactured from a renewable resource
- Can be thermoformed into trays for fresh produce, salads, and bakery products

### Reprocessing

In close cooperation with our thermoforming customers, we identify materials that can be re-used as film for technical applications or food packaging.

- Saves 15-35% of the film from the industrial waste stream
- kp's buy-back program converts matrix into packaging materials, reducing use of fossil resources



support.  
delivered.

## Our people stand behind our products

At kp, our people help you make the most of Pentafood® film. Our global sales force is the best trained in the industry. They work hand-in-hand with engineers to meet your needs. They understand the special needs of the food industry and often develop custom solutions.

kp service is also about improving performance to get your product to market faster. We offer the industry's most comprehensive technical support. Our technicians will visit you on-site for consulting, process optimization, troubleshooting, and training.

- Process mapping to identify areas for improvement
- Optimize processing conditions
- Choose optimal materials and shapes
- Find the ideal film substrate

- Determine correct material distribution and barrier protection
- Identify potential material, design, and process problems
- Avoid costly line trials
- Efficiently design new packages
- Reduce costs

kp is unique in backing every order with local service. This includes not only technical service, but customer service as well. Our teams, stationed across the globe, ensure on-time delivery wherever you need it.

Wherever you package food, kp is there to help, with the best support team in the industry.



results.  
delivered.

## A world leader in film

At kp, we believe in meeting the needs of our customers comprehensively, with the highest quality films, the broadest range of formulations, and service and support from beginning to end. We offer the strength and stability of a global company, delivering results to you wherever you are.

*Innovation. Solutions. Performance. Support. Results.*

***kp films deliver.***



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