



Pentapharm®

Films for pharmaceutical packaging



innovation. delivered.

Our films deliver

The world's most innovative pharmaceutical companies demand the world's most innovative packaging films. With Pentapharm®, a full range of films for blister packaging, kp delivers.



Do you sell prescription drugs? OTC, generics, physician samples, nutraceuticals, or veterinary medicine? Blister packs made with kp films give you a competitive advantage. Our specially formulated films protect products against moisture, gas, oxygen, and UV rays, providing maximum efficacy and increased shelf life. Blister packs made from kp films are convenient and easy to use increasing compliance and ensuring your product is effective.

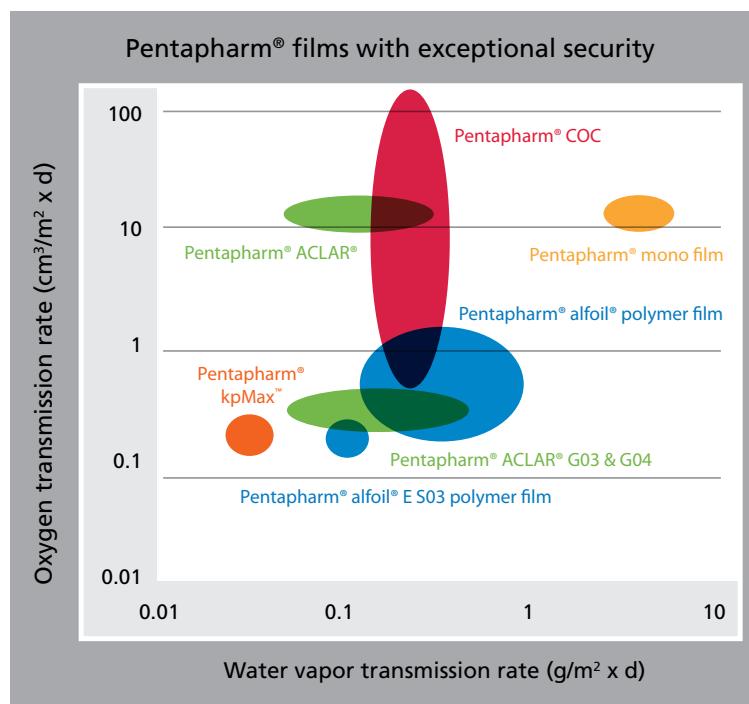
The pharmaceutical industry is constantly changing. But your needs power our innovation: challenge us with a new product or idea, and we will develop the optimal film. At kp, we're not just innovating, we're innovating for you—and the opportunities are endless.



solutions. delivered.

Innovative products that meet your needs

kp's line of pharmaceutical films is the most comprehensive in the industry. And if we do not have the film you need, our engineers will design a custom formulation. Our goal is to deliver the optimal solution for every application.



Typical values. measuring methods
WVTR: ASTM F1249, 38°C/90% RH
O₂TR: ASTM D 3985, 23°C/50% RH

Indicative values only 11/09



Pentapharm® films overview

brand name & polymer		film structure				general properties					thickness range (microns)
						moisture barrier	oxygen barrier	thermoformability	sealability side 1 / side 2	sterilization	
		layer 1	layer 2	layer 3	layer 4						
Pentapharm® mono films	Pentapharm® PVC 570, 170 series	PVC	-	-	-	+	++	++	++/++	EtO	150-500
	Pentapharm® PVC 577, 177 series	PVC	-	-	-	+	++	+++	++/++	EtO	150-500
	Pentapharm® PVC 578, 178 series	PVC	-	-	-	+	++	++++	++/++	EtO	150-600
	Pentapharm® APET 670 series	polyester	-	-	-	-	+	+	++/++	Gamma, EtO	100-1200
	Pentapharm® A/MA/B B92	A/MA/B	-	-	-	-	+++	+++	++/++	Gamma, EtO	191-381
	Pentapharm® PETG 678 series	polyester	-	-	-	-	+	+	+++	++/++	Gamma, EtO
Pentapharm® barrier films	Pentapharm® alfoil® P series	PVC	PVdC 40-80 g/m ²	-	-	++	+++	+++	++/+++	EtO	200-500*
	Pentapharm® alfoil® X	PVC	PVdC 90-120 g/m ²	-	-	+++	+++	+++	++/+++	EtO	200-500*
	Pentapharm® alfoil® T series	PVC	PE	PVdC 40-120 g/m ²	-	+++	+++	+++	++/+++	EtO	200-500*
	Pentapharm® alfoil® TS	PVC	PVdC 40 g/m ²	PE	-	++	+++	+++	++/+++	EtO	100-400*
	Pentapharm® alfoil® FS	PVC/PE	PVdC 180 g/m ²	PE/PVC	-	++++	++++	++	++/++	EtO	100*
	Pentapharm® alfoil® E S03	PVC	PVdC 120-180 g/m ²	PVC	-	++++	+++++	+++	++/++	EtO	127*
	Pentapharm® ACLAR® 02 series	PVC	ACLAR®	-	-	++++	++	++	++/-	EtO	191-500*
	Pentapharm® ACLAR® 03 series	PVC	PE	ACLAR®	-	++++	++	++	++/-	EtO	191-500*
	Pentapharm® ACLAR® S03 series	PVC	ACLAR®	PVC	-	++++	++	+++	++/++	EtO	127*
	Pentapharm® ACLAR® G03 series	PVC	PE-EVOH-PE	ACLAR®	-	++++	++++	++	++	EtO	191-400*
	Pentapharm® ACLAR® G04 series	PVC	ACLAR®	PE-EVOH-PE	PVC	++++	++++	++	++	EtO	60-127*
	Pentapharm® COC P/03	PP	COC	PP	-	+++	-	+++	+++/+++	Gamma, EtO	307-367
	Pentapharm® COC SD/03	PVC	COC	PVdC 90 g/m ²	-	++++	+++	+++	++/+++	EtO	358
	Pentapharm® kpMax™ S04 series	PVC	ACLAR®	PVdC 90-150 g/m ²	PVC	+++++	+++++	++	++/++	EtO	100-127*
Pentapharm® Speel™	PVC	PE	-	-	+	+	+++	++/++	EtO	100*	
* Single layer PVC skin thickness				- None	+ Low	++ Mid	+++ High	++++ Ultra High	+++++ Ultra, Ultra High		



mono & barrier films

kp mono films

Use kp mono films for pharmaceuticals requiring low moisture barrier. These plasticizer-free films work with a wide range of blister packaging equipment.

All kp mono films are available as homopolymer, copolymer, and high copolymer films. They deliver:

- Superior clarity, chemical resistance, thermoformability, and dimensional stability
- An excellent base for laminates and coatings
- Numerous thicknesses, colors, and grades designed to optimize your production line's performance

kp barrier films

kp developed Pentapharm® barrier films for pharmaceuticals that require more stringent moisture and gas protection. These highly protective, plasticizer-free films ensure a long shelf life with optimal product integrity.

All kp barrier films deliver:

- Superior sealability to a full range of lidding materials
- Exceptional strength and dimensional stability; controlled shrinkage; minimal neck-down
- Precise index registration
- Greater rigidity for easier cartoning, handling, and enhanced aesthetics
- Excellent machinability, higher yields for more good parts per pound/kilogram

kp mono films

Pentapharm® rigid vinyl films
 Pentapharm® rigid PETG films
 Pentapharm® rigid APET films

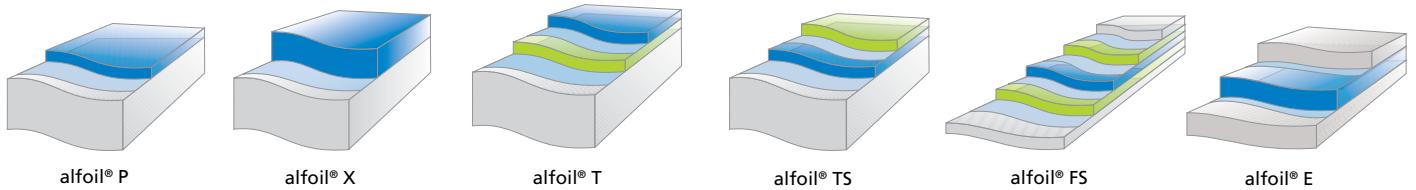
Pentapharm® rigid A/MA/B thin films
 Pentapharm® rigid PP films



kp barrier films

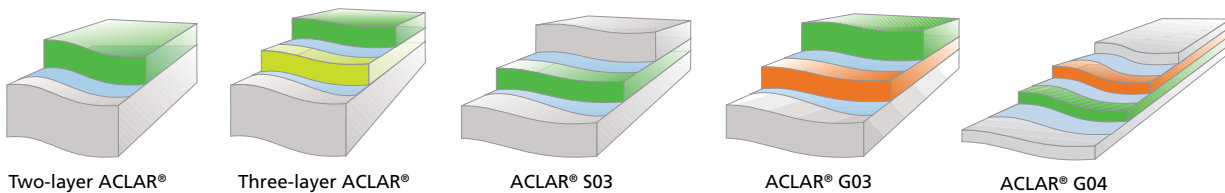
Pentapharm® alfoil® rigid polymer barrier films

For mid- to ultra-high barrier protection, these films are available in a wide range of structures with customized coatings. Our films optimize your application's requirements and SG developments with an improved surface ensure higher line efficiency.



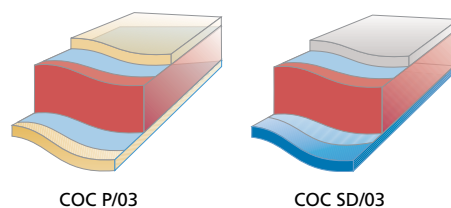
Pentapharm® ACLAR® rigid barrier films

For mid- to ultra, ultra-high barrier protection, these multi-layer laminate films are highly transparent and clear. They offer excellent thermal stability and can be processed using standard equipment and tooling. ACLAR® film is chemically inert.



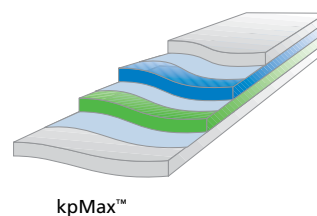
Pentapharm® COC rigid barrier films

These films combine cyclic olefin copolymer with other standard polymers to offer high barrier protection. They can be processed using standard equipment and tooling to produce high yields and even wall thickness. The films are ideal for deep-draw packages.



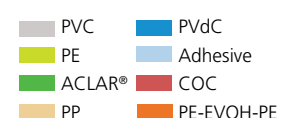
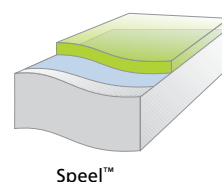
Pentapharm® kpMax™ rigid barrier films

For ultra, ultra high barrier protection, this film combines the best available properties of barrier materials into one multi-layer structure. Ideal for products that require these properties in a transparent, small footprint package.



Pentapharm® Speel™ rigid barrier films

Designed specifically for suppository packaging applications, these films are peelable and offer customizable barrier properties.





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. Raw materials are fully traceable.

To meet the needs of global pharmaceutical companies, we use this advanced technology at manufacturing sites across the globe. Wherever you package pharmaceuticals, we can supply identical high-quality Pentapharm® film from our sites in Asia, Europe, North America, and South America. kp global sourcing ensures security of supply. Re-qualifications for product transfers are no longer needed, so you get quicker access to new markets. And we are unique in backing every order with outstanding local technical and customer service.





kp plants are ISO 9001:2000, 9001:2008, and 14001:2004 certified and we manufacture according to current GMP and HACCP standards. All Pentapharm® films meet or surpass FDA, HPB, European Pharmacopoeia, and international regulatory standards:

- FDA Drug Master Files #3764 (Global DMF), #1060, #784, and #952
- Canadian Drug Master File #1989-033
- European Pharmacopoeia
- BgVV
- SFDA
- Russian Hygiene and GHOST
- Australian Therapeutic Goods Administration (TGA)

Solutions for a changing world

kp's innovative portfolio of pharmaceutical films helps you to meet your social, economic, and environmental sustainability goals, while maintaining product integrity and production economies. We advise customers on the environmental aspects of our products and offer options such as light weighting and removal of excess packaging.





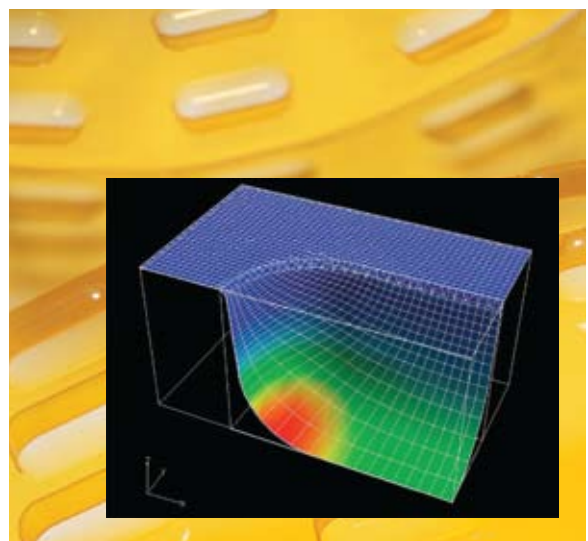
support.
delivered.

Our people stand behind our products

At kp, our people are there to help you make the most of Pentapharm® film. Our global sales force is the best trained in the industry. They work hand-in-hand with engineers to meet your needs. Our customer service teams, stationed across the globe, ensure on-time delivery wherever you need it. We also offer the industry's most comprehensive network of on-site, local technical support. Our technicians will visit your facility for consulting, troubleshooting, and training.

kp tech support is also about improving performance to get your product to market faster. At kp Packaging Technology Centers, the first of their kind in the industry, we internally develop new films and solve your issues. We evaluate blister materials, tooling and package design, and test your package under full production conditions.

Pentapharm® BlisterPro™, kp's innovative and proprietary software program, has introduced finite element modeling for thermoforming blister packages to the pharmaceutical industry. This program helps you design more cost-effective packages that ensure product integrity by testing film formulations and tool geometry, calculating estimates of thermoformed cavities, and assessing process conditioning in a virtual environment. With kp support, you save time and expense on tooling and line trials.





results. delivered.

A world leader in film

At kp, we believe in meeting the needs of our pharmaceutical clients 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.

Film options

- Customized formulations
- Clear, tinted, and opaque colors
- Customized film thicknesses
- Customized roll widths
- UV inhibitors

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