IMPRESSIVE. EXPRESSIVE.
FILMS AND SHEETS PORTFOLIO
FOR PRINTING AND ADVERTISING.

kp klöckner
pentaplast

ALL LEVELS OF FREEDOM FOR
®PENTAPRINT - PRINTING MEDIUM MADE OF RIGID FILMS

®PENTAPRINT - rigid films are an extremely versatile printing medium.

They have a long shelf life, are mechanically extremely resistant, are water- and chemical-resistant and are available in a large number of types, from translucent through to a wide range of colours.

After printing ®PENTAPRINT films can, for example, be refined, welded and thermoformed. In many cases, they also comply with statutory food regulations..

®PENTAPRINT therefore performs a wide range of tasks that can no longer be mastered using paper.

The films combine the durability typical of the material with high surface integrity and a wide range of processing possibilities.

Typical applications include:

+ **Labels**
+ **Organisational aids**
+ **Teaching Material**
+ **Operating instructions**
+ **Overhead acetates**   + **Mouse pads**
+ **Maps**   + **Identity cards**
+ **Art prints**   + **Calendars**
+ **Greeting cards**   + **Signs, displays**
                                 + **Banners, placards**
                                 + **Posters**

®PENTAPRINT can be used in all conventional printing technologies without any pretreatment. In sheet-fed printing, the overriding feature of the films is the ease with which they can be separated and used in machines. In rotary printing, ®PENTAPRINT - films offer optimal flatness and dimensional accuracy, and therefore good size conformity.
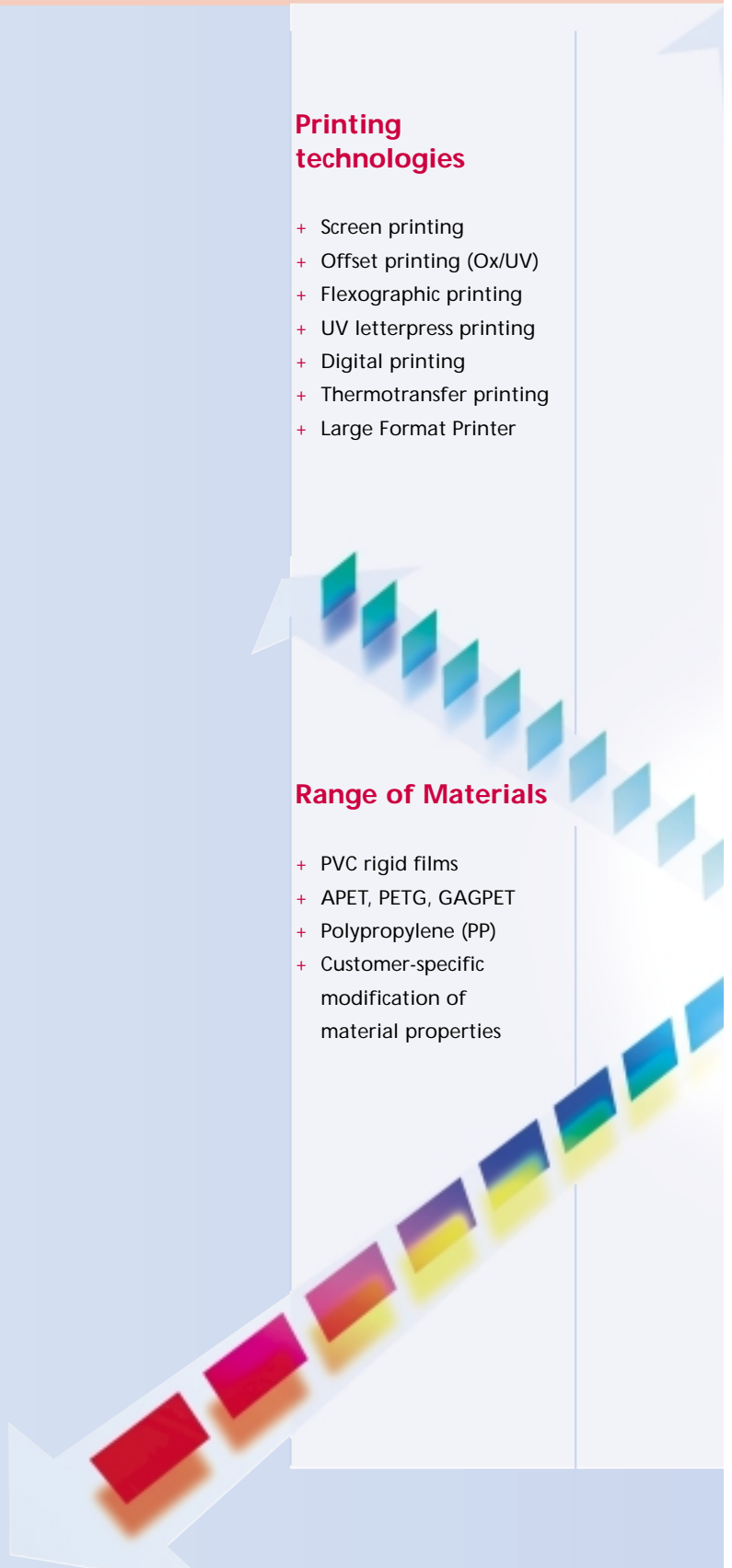
Delivery range

Standard types and dimensions can be supplied within ten days from a comprehensive stock and extensive sales network. Individual dimensions and colours can be produced at short term, whereby minimum quantities will be applied due to production constraints.

Printing technologies

+ Screen printing
+ Offset printing (Ox/UV)
+ Flexographic printing
+ UV letterpress printing
+ Digital printing
+ Thermotransfer printing
+ Large Format Printer

Range of Materials

+ PVC rigid films
+ APET, PETG, GAGPET
+ Polypropylene (PP)
+ Customer-specific modification of material properties

YOUR EXPRESSIVE PRINT PRODUCTS.

Refinement

+ Metal coating
+ Coating
+ Laminating

Finishing

+ Folding, bending, sewing
+ Grooving, channelling, embossing
+ Punching, boring, cutting
+ Thermoforming on all current machine types
+ Gluing with dispersion adhesives, solvents and hot-melt glues
+ Welding in thermal-impulse, thermal-contact, high frequency and ultrasound-contact procedure

Properties

(dependant on film-types)
+ Oil- and grease-resistant
+ Moisture resistant, dimensionally stable,
+ UV stable
+ Extremely high edge tearing resistance
+ Resistant to a large number of chemicals
+ Types with high brilliance and excellent transparency
+ Flame resistant, self-extinguishing
+ Suitable for recycling

Range of surfaces

+ Glossy
+ Various grades of matt
+ Embossed surfaces
+ Numerous surface combinations

Range of colours

+ Transparent, translucent
+ white and coloured
+ Customer-specific colour and transparency settings, more than 500 colours already produced

Express Service

We are available with advice and practical help for all questions concerning the application and processing of our films.
Whether you are working with ®PENTAPRINT for the first time or wish to achieve the best that printing techno-logy can offer, simply contact our information line direct in Montabaur.

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®PENTAPRINT offers the printing and advertising industry the entire range of functions of modern plastics, without creating new risks in design or the pre-print stage.
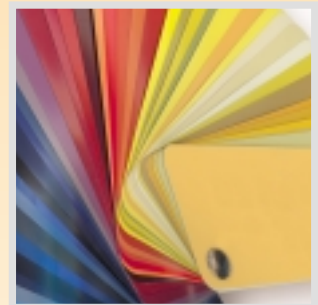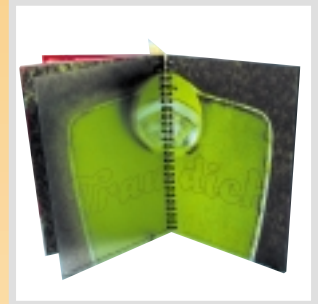
As a rule, everything that is technically possible using paper can be applied unreservedly to ®PENTAPRINT. With regard to applications and processing possibilities ®PENTAPRINT goes much further.

The surface integrity of ®PENTAPRINT allows, for example, problem-free offset printing in 100 lpcm grids. The standard range includes various opacities, colours and transparencies, thicknesses and formats. Attractive combinations of transparent and opaque materials and the use of mechanical, thermal and chemical properties allow a wide range of print products.

High-quality art calendars, ID cards with multiple requirements, complexed printed, thermoformed parts, weather-proof posters - ®PENTAPRINT opens up an array of design opportunities.

High standard - customised
®PENTAPRINT is easily processable by machines and in most cases can be used existing standard tools. The wide standard range includes thicknesses of 200 - 1.000 µm, but thicknesses of 60- 10.000 µm can also be produced. Please refer to the current data sheets or ask your sales representative for technical details.

MAIN POINTS.
KLÖCKNER PENTALPLAST.

For all printing technologies.
For the highest requirements.
For hard-hitting sales promoters.
From standard to customised solutions.
Quality proven many times.

Extremely close to the design price with ®PENTAPRINT PP

®**PENTAPRINT PP** - also known as ®**PENTAPROP** - is a premium material for designing modern organisational aids and amazing packaging. Its refined optics and haptics offer the ideal requirements for perfect image transfer and improved sales opportunities.

THE PRINT FILM
THE DESIGN FILM

®**PENTAPRINT PP is particularly suitable for:**

+ Packaging with high-impact images
+ Office and organisational aids
+ Thermoformed parts with high transparency and rigidity
+ Freezer packaging down to -40°C
+ Microwave packaging
+ Flame-resistant applications in electrical engineering

Even more applications due to additional polymers

The classic ®**PENTAPRINT** foil consist of a high-quality PVC material. Due to its well-known excellent properties for printing and further processing, it forms the basic material for a large number of printing and packaging applications.

®**PENTAPRINT PP** shows extraordinary rigidity, tensile strength and breaking strength at low densities. As an opaque, transparent and colourless or transparent but dyed through material with a wide range of surface properties, it can be adapted for our production range, ranging from modern, semi-transparent colours through to extremely high opacities for printing. ®**PENTAPRINT PP** can be made permanently antistatic, flame-resistant, suitable for lacquering glueing or sealing.

When it comes to perfect, glass-like transparency, we offer ®**PENTAPRINT PET**.

®PENTAPRINT PVC

Surfaces	Trade Name	Thickness (µm)
gloss/gloss		150 - 1000*
gloss/matt		150 - 1000*
matt/matt		150 - 1000*
embossed/gloss		150 - 1000*
embossed/matt		150 - 1000*

®PENTAPRINT PP

Surfaces	Trade Name	Thickness
gloss/gloss	Diamond	200 - 1200
gloss/matt	Ice	200 - 1200
matt/matt	Vision	200 - 1200
embossed/matt	Velvet	200 - 1200

®PENTAPRINT PET

Surfaces	Trade Name	Thickness
gloss/gloss		150 - 1200
gloss/matt		150 - 1200
matt/matt		150 - 1200

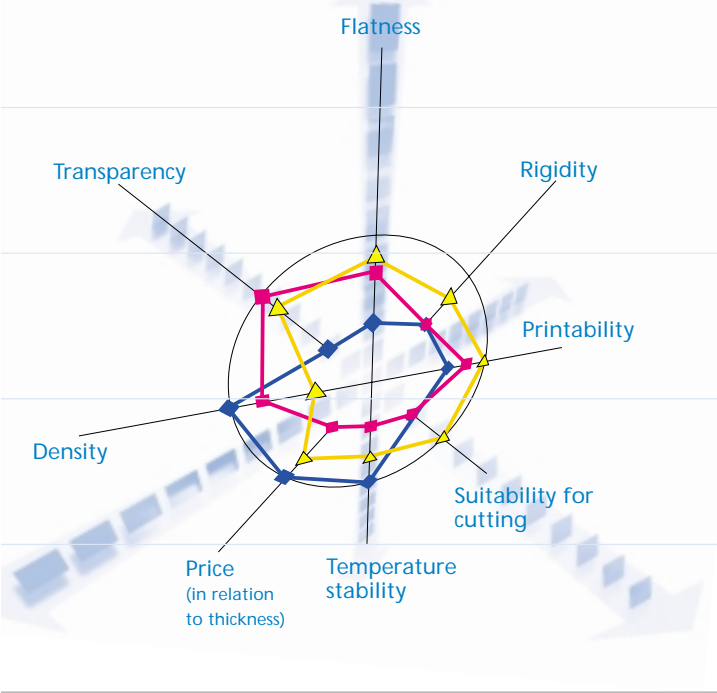*Extended thickness range of 60 µm to 10,000 µm available on request.

Special features

UV stabilisation, fire protection, shrink reduction, special deep-drawing qualities and modifications to the impact strength to accommodate extreme temperatures are examples of special features. Speak to your sales partner or direct with our application development agents about additional options. We specialise in customer-specific production.

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RIGID FILMS FOR PACKAGING.
®PENTACLEAR.

Comparison of polymers

- Flatness
- Rigidity
- Transparency
- Printability
- Density
- Suitability for cutting
- Price (in relation to thickness)
- Temperature stability

The various polymers give ®PENTAPRINT different properties.
The black outer circle shows the maximum for the respective
property, while the middle of the hair cross shows the value 0.
(yellow = PVC, blue = PP, red = PET)
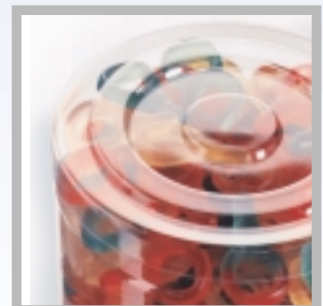
®PENTACLEAR refines and protects

The predominant features of ®PENTACLEAR rigid films for
the box industry are the optimal transparency, high gloss and
exceptional processing properties.

Strong resistance to chemicals and a barrier effect against
atmospheric forces, through to the addition of special resi-
stances makes ®PENTACLEAR a secure brand product both for
the food and non-food sector.

A wide range of processing options and high mechanical
strength round up the positive properties of this material.

®PENTACLEAR is therefore particularly suitable for:

+ Transparent packaging
+ Gift wraps
+ Round tubs
+ Folding boxes
+ Hooded lids
+ FMC lids
+ Transparent windows

For exclusive packaging.
For sophisticated print images.
For deep-drawing applications.
Suitable for food packaging.
Increased shelf life.

Product properties

+ Perfect transparency
+ High gloss
+ High scratch resistance
+ High impact strength
+ Excellent resistance
  to chemicals
+ Impervious to water
+ Low absorption
  of moisture
+ Low water vapour, gas
  and aroma permeability
+ Flame-resistant film types
+ Extremely good thermal
  formability and deep-
  drawing quality
+ Recycable

THE CLEAR RIGID FILM

®PENTACLEAR

+ **Box-films also available in
  PP or PET**

Processing techniques

+ Coating
+ Gluing
+ Welding
+ Forming
+ Folding
+ Edging
+ Printing
+ ...

®PENTACLEAR BX - PVC box films

**Standard type for folding cardboard boxes, transparent windows,
hooded lids and FMC lids**

Type	Properties	Thickness	Printing procedure
M 185/08	Impact resistant	80 - 600 µm	Offset (UV)
	Colour consistent		Screen printing
	Few flow marks		
	Improved scratch resistance		
	Increased impact elasticity		
	Suitable for ultrasound welding and HF-welding		

Standard type for round containers

Type	Properties	Thickness	Printing procedure
M 186/01	**High** impact resistance	80 - 600 µm	Screen printing
	Colour consistent		
	Few flow marks		
	Resistance to cold deep temperature		
	Improved scratch resistance		
	Maximum mechanical strength possible		
	Suitable for ultrasound welding and HF-welding		

Standard colours

51/9500	transparent blueish
71/9400	transparent greyish

Special types upon request

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®OCTACLEAR. ®OCTALIGHT. ®OCTALIGHT 1PLUS1.
THE SHEET RANGE FOR PRINTING

®OCTACLEAR - a transparent compact sheet
The UV-stabilized plastic sheets are suitable for displays, advertising stands and glazing both indoors and outdoors. The sheets are suitable for thermoforming. Contact-transparent surfaces are ideal for design applications. The combustion characteristics of the majority of the products in the range conform to DIN 4102 B1. Also available as „M1"-quality.

®OCTALIGHT - the light rigid-foamed sheet
®OCTALIGHT is the standard filling foam sheet for displays, trade fair and shop displays, signs and sunken letters, DIY material and toys. The plate is flame-resistant in accordance with DIN 4102 B1, has particularly good UV-stability and can be printed using numerous of techniques. **®OCTALIGHT** is well suited for use outdoors.

Typical applications for **®OCTACLEAR**, **®OCTALIGHT 1Plus1** and **®OCTALIGHT** as perfect printing medium as well as construction element.

®OCTALIGHT 1Plus1 -
Rigid-foamed sheet
®PENTAPRINT-surface

This unique sheet offers an ideal combination of materials for printing and advertising: a light rigid foam in an inseparable sandwich structure, covered with a perfectly smooth **®PENTAPRINT** film. This surface, perfect for printing and for and self-adhesive films, produces first-class printing results, increases printing strength and scratch resistance and also gives the sheet rigidity.

All these excellent properties are combined in the **®OCTALIGHT 1Plus1** sheet with the usual UV-stability and flame resistance in accordance with DIN 4102 B1, thus making it the first choice for outstanding quality.

Technical applications

®OCTATECH and **®OCTADOOR** are further sheet types in the KLÖCKNER PENTAPLAST product range. They are primarily used for technical applications in technical equipment of buildings and in the construction of apparatus, signs and displays. Ask your sales representative for advice.

For optimum printing results
For deep-drawing applications
Free of heavy metals
Lighter and more rigid
Suitable for foods and toys

SHEET PORTFOLIO

®OCTACLEAR   transparent clear/tinted blue

Thickness	1400x1000	2000x1000	3000x1500
0,8 mm	+		
1,0 mm	+	+	+
1,5 mm		+	+
2,0 mm		+	+
3,0 mm		+	+
4,0 mm		+	+
5,0 mm		+	+
6,0 mm		+	+
8,0 mm		+	+
10,0 mm		+	+

®OCTALIGHT Standard **white**

Thicknesds	2000x1000	2440x1220	3050x1220	3050x1560
1,0 mm			+	
2,0 mm		+	+	+
3,0 mm		+	+	+
4,0 mm		+	+	+
5,0 mm		+	+	+
6,0 mm		+	+	+
8,0 mm	+	+	+	+
10,0 mm	+	+	+	+

®OCTALIGHT 1PLUS1 Standard **white**

Thickness	2000x1000	2440x1220	3050x1220	3050x1560
3,0 mm		+	+	+
4,0 mm		+	+	+
5,0 mm		+	+	+
6,0 mm		+	+	+
8,0 mm	+	+	+	+
10,0 mm	+	+	+	+

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®PENTAPRINT. ®PENTACLEAR. ®OCTACLEAR.
RELIABILITY FROM ONE SOURCE.

KLÖCKNER PENTAPLAST is the world leading manufacturer of rigid films with extensive expertise in film manufacture and processing. We regard ourselves as a holistic supplier that is constantly expanding its knowledge and skills through partnership collaboration with customers and innovative companies specialising in further processing.

This involves more than a high level of quality and accurate work. It means being a reliable partner for both the everyday and the more unusual solutions and ensuring that everything falls into place, particularly when our customers require our help quickly and lateral thinking and expertise extending beyond one's own sphere of responsibility are required.

We are a competent partner for all issues concerning printing media.

Certified quality of the highest level
KLÖCKNER PENTAPLAST complies with all relevant quality standards and international and national regulations for maximum product quality. Regular certifications following invariably successful quality, hygiene, production and environmental audits and FDA and BGA conformity testify to our high level of quality.
Other voluntary commitments to directives such as HACCP, GMP, EMAS II etc. bear witness to our high product reliability level.

All processes are monitored and controlled using an extensive quality management system. This ensures optimum product reliability with consistent quality and high supplier reliability.

Reliability of supply through worldwide facilities
With in-house global logistics, we ensure that you receive your material on time, wherever you are.
Our worldwide production and logistics concept forms the basis for reliable supply.

Sustainable development – a must according to environmental requirements
Ecology is an important aspect of our production. The entire company feels committed in the spirit of the principles of sustainable development to protect the environment and resources. KLÖCKNER PENTAPLAST is a founder member of Deutsche PVC-Recycling GmbH. Our products are unplasticised.
They contain no lead or cadmium compounds, nor any other environmentally harmful additives.

®OCTALIGHT. ®OCTATECH.

Montabaur, Germany

Gendorf, Germany

Aerni-Leuch, Muri, Switzerland

Expertise of a leading manufacturer, directly from the Customer Care Centre

When making a purchase, you need rapid and first-hand expert advice. To this end we are equipped with a Customer Care Centre that can give you quick and accurate answers, by phone, fax or e-mail.

Our staff are very well trained. At KLÖCKNER PENTAPLAST, you will find customer care specialists not only in Sales, but also in Application Engineering, Research and Development and Production. For questions about deliveries, there is a Help Desk, and individual technical support at your premises is available at all times. This form of reliability is a cornerstone of our high level of quality, and has been for more than 30 years.

Reliability in size

KLÖCKNER PENTAPLAST is represented world-wide with 16 production sites and numerous branches. Each product segment has specialist production sites. Joint resources such as application development and logistics ensure that all segments run efficiently.

Our service:

Wide warehouse range and production according to customer specifications

Standard dimensions are available from the warehouse and deliverable within ten days. For all in-house made materials production batches are being set, recorded in their entirety and can be reproduced exactly at any time.

We offer customised dimensions and colours. Products adapted to your individual needs can be produced quickly, whereby minimum quantities will be applied due to technical constraints. Get in touch with us.

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