

Film for Printing Applications



KLÖCKNER
PENTAPLAST

PENTAPRINT®



klöckner
pentaplast



Klöckner Pentaplast: Value in Printing Films

Extensive Product Range

Klöckner Pentaplast of America, the leading North American rigid film manufacturer, is working with Klöckner Pentaplast GmbH to offer a full spectrum of vinyl, high-impact polystyrene, polypropylene, and polyester printing films. We have developed this broad range of films precisely because it provides the most cost-effective solutions for you, whatever your specific needs.

Manufacturing Excellence

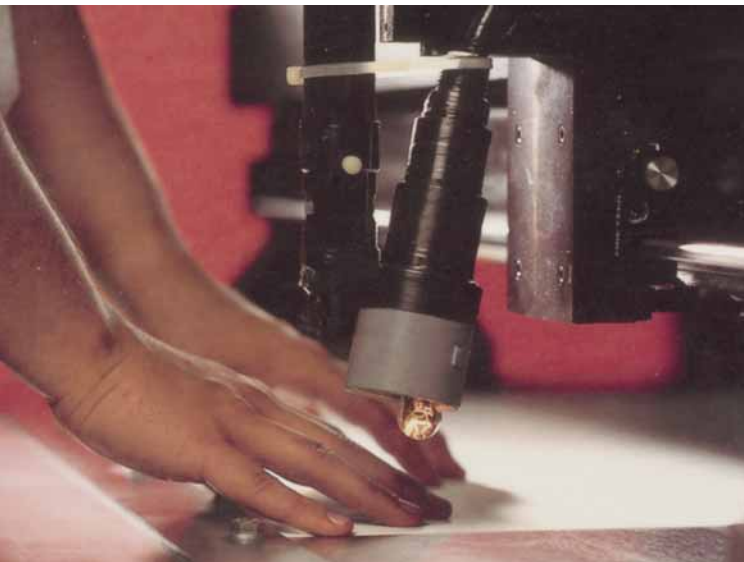
We engineer quality into all our products. We retain 100% control of raw materials and employ the most advanced calendering and extrusion technology available, allowing us to deliver films in a full range of thicknesses exactly to your specifications.

Because our tolerances are so close, you can write tighter specifications, yielding considerable savings in material costs. As a result, you enjoy the convenience and security of Klöckner Pentaplast accuracy, reliability, and production savings.



Commitment to Service

Klößner Pentaplast has assembled the most extensive, knowledgeable domestic sales, marketing, and technical support staff in the industry. We provide you with reliable customer service. Our engineers and quality specialists can develop and test special film formulations, pioneering new films to help you stay ahead of the market developments. And provide direct, hands-on technical support with material, equipment, processing, or ink problems to meet all your printing requirements.



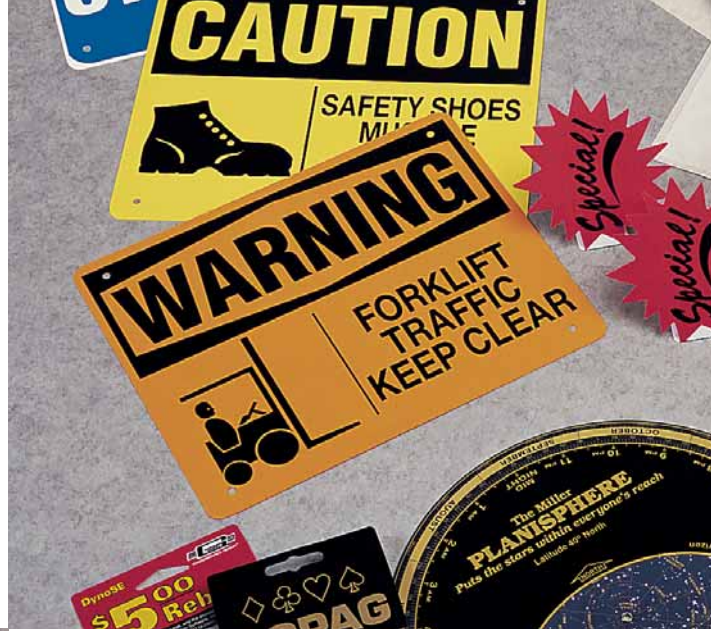
This dedication to service is equally apparent once your order is filled, regardless of global facility. In addition, we certify that every product leaves our factories precisely as ordered. Having our own transportation company, Klößner Intertrans Carrier, guarantees that you receive top priority when it comes to shipping. Your film is delivered—as specified—on time, all the time. It's that simple.

Dependable Delivery Around the World

At Klößner Pentaplast, we do more than produce the finest printing films. We build long-lasting relationships with our customers, working with them wherever they manufacture and market their products. We're the only U.S. producer with global sourcing. You can depend on Klößner Pentaplast for short lead times, quality, product consistency, and the best value in printing film anywhere in the world.



Pentaprint® Printing Films



High-Performance Films

When your products are competing for consumers' attention, Klöckner Pentaplast Pentaprint® films display your graphics to the best advantage by ensuring proper ink adhesion. You can count on superior printability, brilliant clarity, and easy die-cutability for all your print applications. To make sure you get the film that's perfect for your application, Klöckner Pentaplast chemists will customize formulations to meet your most demanding specifications.

Easier processing is achieved through a consistent smooth surface, strict gauge control, and better lay flat. Because the films have dimensional stability, your graphics remain in registration.

- Consistent surface
- Exceptional lay-flat properties
- Superb dimensional stability
- Superior gauge control
- Uniform ink adhesion
- Excellent printability
- Brilliant clarity
- Superior die-cutability
- Lot-to-lot consistency



Quality Manufacturing

Above all, you can depend on Klöckner Pentaplast films for performance, quality, and production efficiencies. Our Pentaprint® films are manufactured in a strictly controlled clean environment using the most advanced technology. The result: the best lot-to-lot gauge uniformity in the industry in a full range of products.

- Typical gauge control $\pm 2.5\%$ (guaranteed $\pm 5\%$)
- All production facilities are ISO 9001 or ISO 9002 registered
- Manufactured in a controlled environment to strictest cGMP standards
- Global sourcing via plants in North America, South America, Europe, and Asia
- Maximum packaging integrity—your material is kept clean
- Absolute traceability

Specification Standards

Thickness Tolerance

Typical $\pm 2.5\%$
Guaranteed $\pm 5\%$

Slit Width Tolerance

$\pm 1\text{mm}$ (1/25")

Precision Cut Sheet Tolerance

Length and width $\pm 1\text{mm}$ (1/25")
Diagonal $\pm 1\text{mm}$ (1/25")

Rough Cut Sheet Tolerance

Length and width $\pm 3\text{mm}$ (1/8")
Diagonal $\pm 5\text{mm}$ (1/5")

Standard Core ID

3", 6", 8"

Standard Roll OD

14 $\frac{1}{2}$ ", 18", 21"
(Custom ODs available upon request)

Film Options

- Custom formulations
- Gloss, matte, matte/gloss, or embossed surfaces
- Clear, transparent & opaque colors
- Custom film thicknesses
- Corona treatment available
- Rolls or sheets available
- Food grade available

A Range of Printing Processes



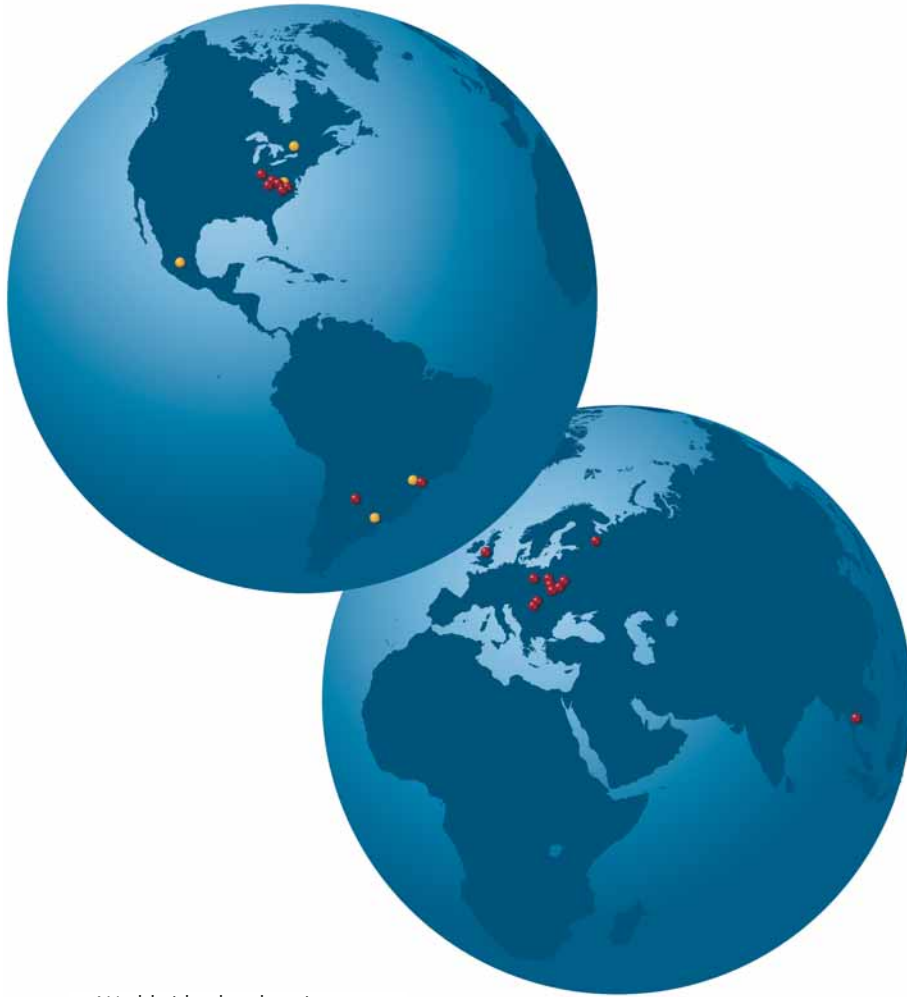
No matter which printing method you use, Pentaprint® films are the perfect solution. Pentaprint® films have superior process and performance properties, yet are versatile enough to accommodate a range of printing, lamination, and metalization methods.

- Flexo
 - Offset
 - Gravure
 - Screen
 - Digital
 - Hot stamped
 - Heat or adhesive lamination
 - Metalization





One Source Around the World



- Worldwide plant locations
- Worldwide sales offices

SALES OFFICES

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Klöckner Pentaplast do Brasil Ltda. Av Franz Liszt, 80 Pq Novo Mundo
São Paulo, Brasil CEP 02151-900 • 55.11.6951.3646 • 55.11.6951.5931 (Fax)

Klöckner Pentaplast de Mexico S.R.L.

Klöckner Pentaplast Films. The Options Are Yours.

Pentaform®

A full range of films for vacuum or pressure thermoforming. Excellent forming & sealing characteristics, impact strength, clarity, easy cutting & denesting.

Pentapharm®

Quality-certified films for pharmaceutical packaging manufactured to cGMP standards & FDA & HPB requirements. Drug Master File #3764 & Canadian Drug Master File #8933.

Pentafood®

Film meeting or exceeding all FDA & HPB requirements. Can be used "as is" for food packaging or as a high-barrier substrate for CAP/MAP applications.

Pentamed®

Medical device packaging films manufactured to cGMP standards. Gamma, EtO & E-beam sterilizable. Medical Device Master File #240.

Pentaprint®

Film for printing, graphics arts & shrink applications. Clear tints, transparent & opaque colors. Can be printed using silk screen, offset litho, flexographic, or gravure processes.

Pentastat®

Gloss films with excellent clarity & static dissipative properties for thermoformed clamshells, circuit board packaging & other ESD-sensitive components.

Pentadur®

Film for the stationery industry. May be glued, coated, laminated, lacquered, or metalized. Excellent printing characteristics. Can be scored, stapled, sewn, or welded.

Pentaclear®

Films for transparent lids, boxes, cylinders & sleeves. Excellent optical characteristics, high transparency & brilliant surface.

Pentacard®/Genotherm® Card

Consistently high-quality films for secure & nonsecure cards. Can be used for split core, solid core, overlay, heat-stable & extreme-environment applications.

Pentalan®/Genotherm®/Furnidur®

Printed & nonprinted films with excellent color consistency for furniture film applications. Can be used for 3-D membrane press, flat board lamination, profile wrap & drawer wrap.

Pentalan®

Films for technical applications including print blankets & artificial Christmas trees. Certified films for cooling tower & waste water systems.