

# Screen Printing Systems for Plastic Cards

Proell's perfectly coordinated product line for the manufacture of plastic cards has resulted from long years of experience in developing flexible, ink systems and bonding agents for the automotive and telecommunications industries.

## Laminated Cards

Not only a variety of plastic materials, but a great number of printing processes and ink systems are utilized to manufacture plastic cards. Screen printing inks and bonding agents constitute important components in the production of plastic cards to be used, for example, as credit cards, customer cards or ID cards.

The various functions of plastic cards, such as safety related elements, require materials with a complex, multi-layered structure. They often consist of several plastic materials. To meet the tough requirements placed upon them by the ISO Norm, they must be optimally bonded. The necessary bonding of the layers can be achieved using bonding agents which are applied by screen printing or coating.

## Bonding Agents

AquaPress® CA, our bonding agent for use in screen printing, guarantees the adhesion of, for example, PVC to PC materials after the laminating process. Types for laminating temperatures of 100 °C to 160 °C (212 °F – 320 °F) are available in the AquaPress® CA line. AquaPress® CA bonding agents are water-based and nearly odorless.

## NoriCard Ink System for Lamination

The screen printing ink system, NoriCard, offers a wide selection of metallic colors. NoriCard metallic colors can be laminated directly with PVC overlay film, or offset printed by adding NoriCard Offset Primer 078. The ink system is distinguished through its high grade pigments and excellent printability. NoriCard contains no N-Methylpyrrolidone (NMP).

Special effect inks (chameleon and pearl gloss) are available on request. NoriCard is a flexible screen printing ink which can be adapted to your specific printing requirements. Our printing technicians would be delighted to demonstrate the superior properties of the NoriCard laminating ink system.



## Survey of Products

# Lamination Cards

Product Group	Properties				
Designation	Color Shade	Characteristics	Substrate	Printability	
<b>Bonding Agent</b>					
AquaPress® CA 093*	transparent/turbid	can be laminated at 100 °C (212 °F) and above	PVC, PC	with offset inks after preliminary testing	
AquaPress® CA 093/001*	transparent/turbid	can be laminated at 130 °C (266 °F) and above	PVC, PC		
* For sustained durability of laminates, AquaPress® CA 093 und AquaPress® CA 093/001 must be processed with AquaPress® hardener!					
AquaPress® CA 093/002	transparent/turbid	can be laminated at 130 °C (266 °F) and above; sustainable durability without addition of hardeners	PVC, PC		
<b>NoriCard</b>					
NoriCard 093	lacquer	<b>Ink System for Lamination</b>  transparent color shades for mixing	PVC	in offset	
NoriCard 771	silver, fine		PVC		
NoriCard 776	silver, medium coarse		PVC		
NoriCard 781	silver, coarse		PVC		
NoriCard 786	silver, coarse		PVC		
NoriCard 172	yellow transparent		transparent color shades for mixing		PVC
NoriCard 370	red transparent				PVC
NoriCard 948	black				PVC
NoriCard 078	transparent/turbid		offset primer for lamination; addition improves printability of NoriCard metallic inks in offset printing		PVC
NoriCard L52787	silver		silver color shade for lasering		PVC
<b>Safety Marking</b>					
NoriCard	effects	additional effects and safety markings are available on request	PVC		

## Survey of Products

### Monocards

Product Group	Properties				
Designation	Color Shade	Characteristics	Substrate	Printability	Signature
<b>Signature Field Inks</b>					
NoriCard SG 093/001	transparent/ turbid	quick drying of signature	PVC, PC		felt tip, ballpoint
NoriCard SG 093/002	transparent/ turbid	for cards printed with UV lacquer; requires preliminary testing	UV lacquer		felt tip, ballpoint
NoriCard SG 093/003	transparent/ turbid	more transparent than SG 093/001	PVC, PC		felt tip, ballpoint
NoriCard SG 945/001	white	very fast drying of signature	PVC		felt tip, ballpoint
NoriCard SG 945/002	white	for cards printed with UV lacquer; requires preliminary testing	UV lacquer		felt tip, ballpoint
NoriCard SG 944	white opaque	good reproduction of details, excellent hiding	PVC		felt tip, ballpoint
<b>Offset Primer</b>				<b>Screen Printing</b>	
NoriCard OP 093/001	transparent/ turbid	for overprinting with offset inks; can be lacquered in UV offset inline	PVC, PC	with UV lacquer, LM lacquer, water based lacquer	laser printing, inkjet printer
<b>UV Lacquer</b>		<b>Lacquer</b>			
NoriCure® UV-L 2	transparent	high-grade UV lacquer with very good leveling and high gloss	PVC offset ink	with signature- field ink NoriCard SG 945/002	





### **Monocards**

Customer and advertising cards are most often simple monocards of PVC or ABS. The decoration (offset printing) is on the surface of the card which is screen printed with an offset primer. For a finer finish, the cards can be lacquered in a screen printing process using NoriCure® UV-L 2.

### **Offset Primer OP**

The offset primer, NoriCard OP 093/001, guarantees the reliable printing of PVC films with offset inks. Inline lacquering can then be done with UV offset or screen printing lacquers without sacrificing glossiness. Personalization can be achieved by laser or inkjet printing.

### **Signature Field Inks**

For printing PVC and monocards or overlay films, the signature field ink, NoriCard SG, is available in a range from transparent/turbid to white opaque. NoriCard SG 093/002 and NoriCard SG 945/002 are suited to printing UV lacquered cards in special cases. The printed signature fields are smear proof and can be written on with felt tip or ballpoint pens.

### **UV Inks**

The high-grade UV lacquer, NoriCure® UV-L 2, is distinguished by its glossiness and broad spectrum of applications.

Additional products for card production can be seen on the enclosed table. Our R & D specialists are at your service and always prepared to assist you in finding the solution best suited to your particular needs.

For further information, just contact us. We would be pleased to provide you with samples and on-location support.

### **Contact**

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