



Uwe Dessecker  
COO

Dear Customers and Partners,

In the course of globalization and global economic markets, we increasingly receive inquiries from companies about our environmental and social impact. Usually in the form of questionnaires, many issues are addressed which often have no relevance at all to our company. We at Wölco have been a pioneer in environmental matters for many decades, and we have always been aware of our social responsibility. In order to communicate this more extensively to the outside world and to avoid inquiries into matters which in Germany have been a standard for many years (e.g. no child labor, occupational safety, regulated working hours, etc.), we have decided to adopt the official Code of Conduct of our association, the „Verband der Hersteller selbstklebender Etiketten und Schmalbahnconverter e.V.“ (VskE), and its umbrella organization, the „Wirtschaftsverbände Papierverarbeitung e.V.“ (WPV), and to define it in more detail. The „Wölco Code of Conduct for Social Responsibility of the Wölco Group“ and the self-declaration on „Sustainability and Social Responsibility“ can now be found in full detail on our website [www.woelco.com](http://www.woelco.com).

Looking back on the most recent Federal election, we hope that the new government will proceed with prudence and foresight. In particular when it comes to the issue of sustainability, policy-makers should set the right course for the future.



Universally applicable: Decals for laser printers

## Simple & creative showcasing

We are constantly looking for new innovative products for our customers that save time and money and facilitate the daily work. Once more we have succeeded in developing a completely new label that not only convinces with strong advantages for professional uses, but that is also useful for everyone in their daily work.

With Wölco WINboard we have a clever solution which conveys information in a simple, clean and swift manner.

Gone are the days where magnets, pushpins or adhesive tape were needed for posting temporary announcements. With the new Wölco WINboard you can easily imprint a DIN A4/Letter template in your standard laser printer or copier. Available in white or transparent color, imprintable on one side or both sides and already equipped with an adhesive edge. All that remains for you to do is to simply post the template. The adhesive can be completely removed from virtually any smooth surfaces such as glass, plastics, metals, ceramics, etc., without leaving any residue. The film itself is

weather-resistant and dirt-repellent. The application possibilities for Wölco WINboard are extremely diverse. Whether as a decorative eye-catcher to creatively communicate news, as a signage system for events, or for temporary hazard notes – Wölco WINboard supports the flow of information in any company. If necessary, also behind glass to be viewed from either side.

To meet the high demands on modern labels such as weather, water and heat resistance without compromising the adhesive force, Wölco has combined these criteria into the WINboard. This also allows smaller businesses to present themselves professionally to communicate their information. ■



Decals for easy printing in laser printer or -copier

# 2 choices in application with 1 product

## Wölco WINboard®

As Decals

Say NO to amateurish looks

NO residue

Inside adhesion

Outside visibility

**1**

**Design A4 or Letter**  
observe min. 9mm [0.35"]  
peel edge margins

**2**

**Laser printer/copier**  
140 g/m² [40 lb]  
envelope / manual

**3**

**Multipurpose tray**  
print  
Side A

**4**

**Result printed**  
WINboard

**5**

**Remove peel edges**  
only remove outer margins  
on Side A

**6**

**Apply**  
behind glass

## Advantages

- Stick inside – read outside
- Protected against weathering
- Printable on both sides
- Removal without residue
- For laser printers and copiers

## Wölco WINboard®

As Announcements

NO magnets, pins or tape

NO painful removal

Clean look

Just use – nothing else needed

**1**

**Design**  
A4 or letter

**2**

**Laser printer/copier**  
140 g/m² [40 lb]  
envelope / manual

**3**

**Multipurpose tray**  
print  
Side B

**4**

**Result printed**  
WINboard

**5**

**Remove peel edges**  
only remove outer edges  
Side A

**6**

**Apply**  
to smooth  
surfaces

## Advantages

- Cost and time savings
- Weather resistant
- Flexible Uses
- Removal without residue
- For laser printers and copiers

Order the  
WINboard  
Starter-Kit!

## Technical Datasheet:

WINboard is also available in a paper version.



**INFOduo – Information in a small package**

# The label that speaks every language

For products that are to be globally marketed, legislature has defined detailed requirements concerning product information.



**Features at a glance:**

- Up to 3 pages of information (2-layer label)
- Up to 5 pages of information (3-layer label)
- Easy opening and resealing
- Machine-dispensable
- Size, color and shape freely selectable
- Ideal for application notes or warnings and for multilingual variants



Product information must often be attached to the product in many languages. In most cases, however, only a limited amount of space is available. The remedy here is to use multi-layer labels, which are little information miracles. They can be opened and resealed

again and again without readability suffering or adhesive strength decreasing. In this case, two or three labels that differ in their adhesive strengths are applied on top of another. The carrier label is bonded to the product by means of a permanent adhesive,

while the cover labels can be opened and resealed arbitrarily often thanks to the adhesive-free grip tab. The multi-layer labels are machine-dispensable from the roll and offer up to 5 pages of information area with freely selectable format and color. ■

**Features at a glance:**

- Tear-resistant labels ensure reliable attachment
- Adhesive area provides adequate adhesion
- DIN A5 format individually printable using common laser printers – including bar codes
- Renders aids such as pockets, glue dots and tape strips unnecessary

The combination label provides higher efficiency in the logistics process in the reliable, fully-automated collection of containers or crates even in harsh environments. The standardized DIN A5 label can be imprinted using standard laser printers. A special surface coating ensures that bar codes and text can be easily printed onto your slips according to the VDA guidelines using laser printers.

**Multi-functional combination laser label**

## Durable to the end

*Flawless container management and just-in-time delivery sequences are current requirements in the automotive industry. The combination laser label by Wölco is the innovative solution specifically designed for these needs.*

For the application itself, these combined labels offer two possibilities. An adequate adhesive area on the back allows to easily bond the label even to rough surfaces. If the adhesive area should not suffice, however, the label can be attached using cable ties or clips. To this purpose, the combined label comprises 4 punch holes with a diameter of 10 mm on each corner. The robust plastic film base ensures



extreme durability of the attached label, especially for long-term outdoor storage. ■



# Anniversary

Woelco Labeling Solutions celebrates its 15th !



1998

Small start with a UV-letterpress.



2002

Grand Opening of the new building and expansion of production with a 5-color UV-flexopress.



2013

WLS has emerged strengthened after the US financial crisis. Today, WLS is economically well positioned.

## Identification solutions for world's top fighter jet

### Flying labels

Woelco's expertise in providing "part marking" identification, was once again proven through a recent project for a military subcontractor.

Woelco's engineers and technicians developed a solution using materials to withstand Aerospace conditions such as intense altitude pressure, high speeds, and extreme temperatures. The "identification solution", now used on F-16 fighter jet parts, is but one solution that Woelco has developed for Military and Aerospace applications. Woelco has also successfully created "part marking" solutions for military helmets and protective vests.



## Battery labels for a reputable automotive supplier

### Colorful variety for safety

Since the beginning of 2013, WLS has been supplying multicolored warning and information labels to a well-known automotive supplier to identify the batteries of electric cars.



of the marking process, a blank label with individual data for further process control and reliable traceability is imprinted and applied.

## Responsibility for people and environment

### Code of conduct

As a conscious company, Wölco has documented its corporate and social responsibility towards its employees and business partners. The Code of Conduct of the WPV (Wirtschaftsverbände Papierverarbeitung e.V.) was adopted as the Wölco Code of Conduct. This encompasses, among other things, full respect



威科改进程序  
成功三要素  
适应未来

Not all labels are equal

## Material training provides new ideas

For wholistic customer consultation and identification of optimal solutions, Changzhou Woelco Technology Co Limited provides specialized training to existing and potential customers in its own showroom.

As part of this training, the importance and the possibilities of various labels for the customer are demonstrated. This includes the technical knowledge and long-term experience of Woelco in the field of self-adhesive labels. Participants learn the general structure of a label, the production steps such as printing, die-cutting, slitting, winding and packaging as well as interesting facts about various materials and their properties. The characteristics of various adhesives and the respective applications and test methods are also discussed. This inspires interested

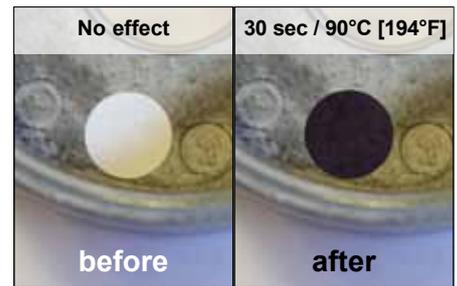
customers from various industries to identify potentials and new solutions in their supply chain. ■



### Labels for heat testing

## Hot effects

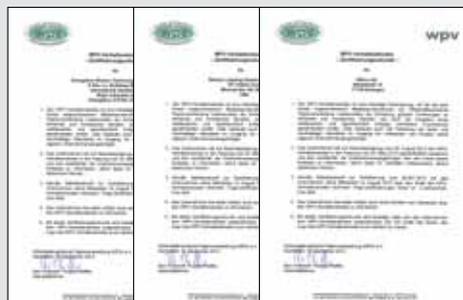
Thermochromic inks belong to the group of dyes for sensory effects. Here the effect of heat causes a change in the optical properties.



Labels with thermochromic inks allow easy control of certain processes. Components exposed to a certain temperature must indicate this exposure by a change in the color of the label. The color change of the label contributes to process reliability at a large technology company. The parts are provided with a dot-shaped label with a thermochromic dye. At +90°C [194°F], this dot will permanently change its color from clear to black. This proves that this process has taken place. There are basically two types of thermochromic inks: Reversible ones, which change from one color to another and back, and irreversible ones, which change color when a certain temperature is exceeded and retain the new color. For both types, various temperature ranges and colors are available. Thermochromic inks are also used for the temperature control of hot foods and drinks and for industrial process control. ■

## defined and certified

of human rights, rejection of child labor and commitment to fair dealings with business partners and employees. Recognition and implementation of these principles were confirmed by the certification of the WPV for all three locations. ■



### I M P R I N T

Publisher: Wölco AG – Innovative Labeling,  
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Phone: +49 7034 93 40-0, Fax: +49 7034 93 40-55  
Internet: www.woelco.com, E-Mail: info@woelco.com  
Editorial staff: Uwe Dessecker, Franz Schmiedecker  
Stand: December 2013 / 1.000



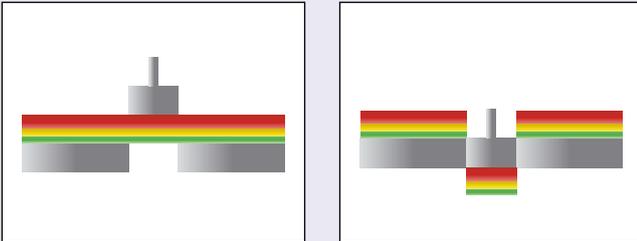
# Die-cutting technology

Producing labels by die-cutting sounds simple, but the devil is in the details. In addition to the printing process, the die-cutting process is of immense importance in manufacture. Die-cutting is performed as a severing operation according to DIN 8588, referring to many different „cutting“ uses. Here die-cutting conceptually means the separation or reduction of a workpiece using a tool.

Unlike slitting, where only straight lines can be severed, die-cutting allows removing virtually any desired shape (circle, oval, square or special shapes) from the material.

The die-cutting principle offers 2 different types:

## 1. Scissor cutting

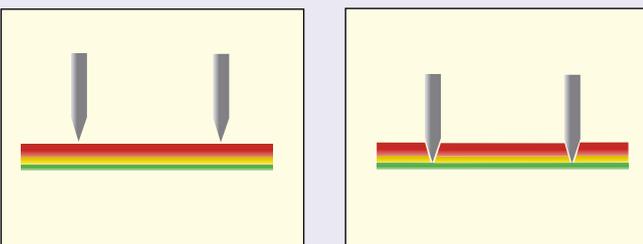


The cutting tools always consist of a tamp and a counter-cutting plate. A typical example is the die-cutting of holes into paper for pin-feed or filing applications.

## 2. Knife cutting

The knife cutting approach plays a more important role in label production. Here only die-cutting tools and a cutting surface are required. Handling demands utmost care, because the cutting blades and the surface must be perfectly matched to allow the cutting blade to enter exactly up to the cutting surface (liner material).

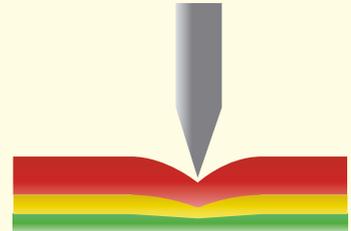
The severing / die-cutting of the material is done in two steps. In the



compression phase, the composite material is compressed. Then the cutting blade reaches the solid surface; the material is now severed.

### a.) Compression phase

Information layer  
Adhesive  
Liner material



The separation process is dependent on the material to be cut and on the cutting angle used. The soft material components are compressed.

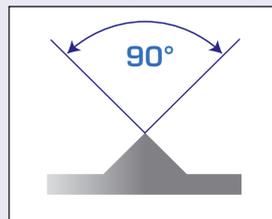
### b.) Separation process

Information layer  
Adhesive  
Liner material



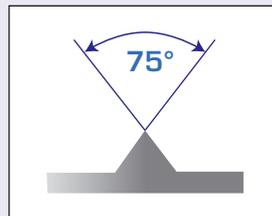
In the separation phase only the actual adhesive material (film and adhesive) tears or splits. The goal is always a clean cut, where the cutting surface (liner material) should remain intact.

## Differing cutting angles



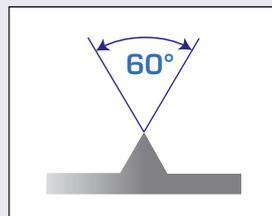
### 90° angle

- Uncoated paper
- Coated paper
- Recycling paper



### 75° angle

- Polyethylene
- PVC
- Other common plastic films
- Heavy or laminated paper



### 60° angle

- Multi layer plastics
- Polypropylene
- Polyester
- Difficult die-cutting materials



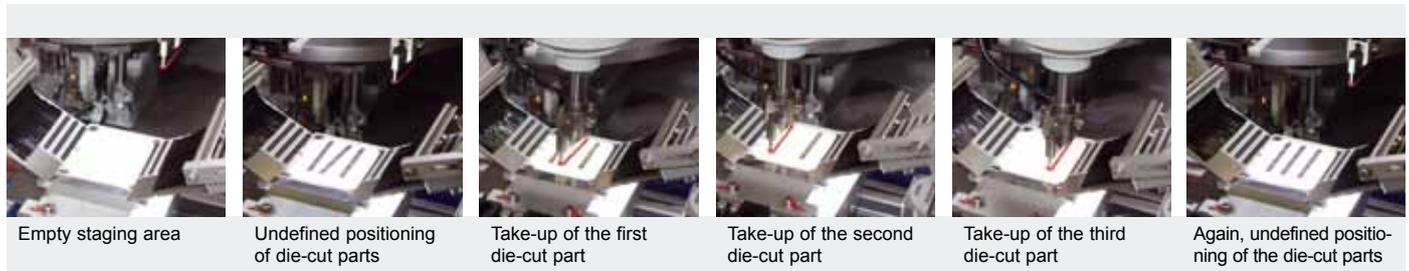
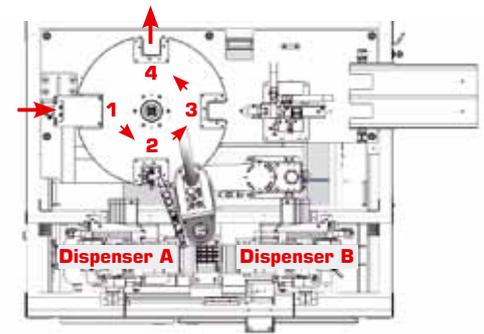
Applying three die-cut parts with one application system

# Precise application in tight area

The proprietary precision system is used for application of several self-adhesive function labels onto a single component.

The deviation in applying the parts must not exceed  $\pm 0.025$  mm. To achieve this task, an Epson Scara robot was selected and connected to an image processing system with two cameras. First, the component is manually inserted (1). The die-cut parts are deposited at a precisely defined position by two dispensing systems and detected by an image processing program. From this interim position, they are taken up by the robot and transferred to the defined position of the component (2).

The exact interim position is detected by a second image processing system. If the positioning or the special test of the component should yield a negative result, the component is removed in stage 3. If everything is OK, the component is passed to the production line (4) for the downstream processing steps. The system is therefore not dependent on high-precision mechanical transport of the parts for precise application of the die-cut parts. ■



Imprinting with variable data up to the edge of the label

# Processing of extremely thin labels

The Lupo VPAB-36 is the ideal device for continuous industrial operation where precise and variable label printing with accuracy is required.

In the example shown, the Lupo VPAB-36 is part of a fully automated production line in which a barcode must be printed on very small labels and close to the edge. For printing and attaching the label to the component, a labeling system is required that can be integrated into a complete system. For this, a

Sato HR224 printer was modified and fitted with a dispensing unit. A very thin label material is used, which can be dispensed only by a special liner diversion. A vacuum holds the label accurately on the tamp and positions it precisely by a movable dispensing edge. An additional camera system checks



the labels and removes any reject parts before they are applied to the tamp. The system controller is based on the WS4000 controller and customized to include the requested features. ■



Sato HR2xx – Industrial Precision Printer

# Keenest among the little ones



The HR2xx is a precision printer for imprinting very small labels down to a minimum label length of only 3 mm. So far, the HR2xx has succeeded mainly in the Japanese market. Thanks to our excellent international relations Wölco is pleased to launch this printer model in the European market.

As a top-range model for industrial precision printing, the HR2xx provides pinpoint accuracy with precise and crystal-clear printing. With a printing speed of up to 100 mm per second, the printer is ideal for fast and reliable printing of precision labels where the print is to be positioned exactly up to the edge. The resulting low tolerances allow extre-

mely precise positioning of the print in the printing area. In single dispensing mode, the labels can be imprinted with a resolution of up to 609 dpi and offer very high data volume for all commonly used bar code types. The HR2xx thus combines precision printing down to the most subtle detail with high performance and rugged reliability. ■

New legal requirement „Conflict Minerals“

# Sustainable environmental protection

Companies today must comply with strict requirements such as REACH and RoHS. Now companies around the world are facing the challenge of also having to disclose the origin of so-called conflict minerals in their products.

In the US, gold, tin, tungsten and tantalum are required by the Dodd-Frank Act, Section 1502, to be traceable along the entire supply chain. „Conflict Minerals“ are substances produced in the Democratic Republic of Congo (DRC) and adjoining areas, since they are partially linked to armed conflicts in these regions. From March 31st, 2014, on, affected companies will have to demonstrate the origin of the minerals used during the calendar year 2013

to the U.S. Securities and Exchange Commission (SEC) on the basis of a traceable supply chain. Wölco is aware of its social responsibility in terms of environment, safety, health and human rights and understands that its business conduct has an impact on society and the environment. To ensure peaceful, fair and sustainable use of our global resources, Wölco guarantees that: No products and components by Wölco and its subsidiaries and affili-



ates contain directly or indirectly any conflict minerals from mines that are funded or sponsored by armed groups in the Democratic Republic of Congo or its neighboring countries. ■

# Meet the new ones

Our new corporate brochures provide detailed information on the entire Wölco group, its locations, business philosophy and policy obligations.



Image brochure

The red booklet „3x3“ presents facts and figures on the three international locations, the three business divisions and the three targeted industries.



Environmental brochure

The green booklet „Sustainable Responsibility“ informs you about our commitment to environmental protection, occupational safety and social responsibility.

We will send you the brochures upon request!