Woven sacks have long been a proven method of packaging rice, flour and other types of cereals and are used very frequently, particularly in Asia and Africa. Woven polypropylene-based (PP) bags are already in use as resilient carrier bags in supermarkets here in Europe. Essentially this type of packaging is based on a roughly 20μm thick Coex OPP film, which is usually coated either by extrusion or, more rarely, by adhesive lamination using a woven PP film. During extrusion, a melt deposit consisting of a PE/PP polymer mix provides the adhesion between the two films.

Advantages of the new ink system

In light of the above, Siegwerk has now developed a new ink system including colors, white and an extrusion-compatible lacquer to overcome the previous limitations of the woven PP sack printing process. The new toluene-free ink solution is based on NC 169-1, the typical nitrocellulose-based ink technology, which like white and lacquer complies fully with European food packaging regulations.

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The innovative ink system does not damage photopolymer plates and is ideal for HD flexo printing, as it also enables sophisticated designs to be printed. This user-friendly innovation offers printers clear benefits: no additives at the press, reusable return inks, unimpaired plates and good adhesion. The new colored ink system is also suitable for NC-based master-batch inks mixed using a dosing system. Finally, this new ink system opens up entirely new applications and branding opportunities, especially given the high quality of its print results and high adhesion values, which deliver outstanding packaging resilience.

**APPEALING BENEFITS OF THE NEW SOLUTION:**

- Packaging quality and appearance: significantly improved print quality and glossier laminated structures than prior applications.
- The specially developed XL1 lacquer ensures good adhesion between printing inks and PE/PP polymers. It remains stable over time and thus enables longer intervals between printing and extrusion without adversely affecting adhesion values.
- The extrusion process is now feasible both in-line and off-line.
- Outstanding resilience: protected by the film, the printed image/design is not damaged during transport.
- The newly developed White PA31 backs up the good adhesion values and provides high opacity.

**KNOW-HOW BROCHURE REISSUED**

Siegwerk has completely revised and updated the contents of its “Know-How Brochure”. The new edition now addresses the topic of product safety evaluations of migrating substances in a dedicated chapter too. Siegwerk provides insights into a range of different options for evaluating the safety of packaging printing ink ingredients.

Safety has top priority at Siegwerk – especially as far as the formulation and supply of printing inks for sensitive food packaging applications is concerned. Brand owners and consumers must be able to rely absolutely on one thing – substance migration from printing inks to food is basically not allowed to occur or only in legally regulated minimum quantities, although each substance must be considered on its own merits. Migrating substances can represent a potential health hazard for consumers, unless the ingredients are approved and harmless, i.e. migrating substance concentrations are below set limits. However, undesirable migrating substances can also have a severe impact on packaging and food companies. Product recalls generally entail considerable financial losses and immeasurable damage to a company’s reputation.

**Migration potential in packaging printing inks**

Low-molecular-weight substances of less than 1,000 Daltons can “migrate” by means of set-off, diffusion or gas phase (air) from a printed layer into packaged food. The new chapter in the “Know-How Brochure” addresses the following aspects: what are evaluated >>
and non-evaluated substances? What is meant by Intentionally Added Substances (IAS) and Non-Intentionally Added Substances (NIAS)? And how does Siegwerk handle them as part of any safety evaluation?

**Safety evaluation measures**

Furthermore, the chapter explains both methods that Siegwerk applies to evaluate the safety of migrating substances – the Exposure Assessment that takes a multitier approach, consisting of Worst Case Calculation, Migration Modelling and Migration Testing, and the Hazard Assessment. Both assessments form the basic prerequisite for the final Risk Assessment.

“**Our NIAS responsibility already starts at raw material level. That’s why we request explicitly comprehensive NIAS information from our raw material suppliers via our global raw material approval forms. Conversely we provide our customers with information about potentially migrating substances via our Statements of Composition (SoC).**”

Dr. Evert Delbarco, Director Food Safety and Toxicology at Siegwerk

**New contents and amended chapters**

The chapter about global food packaging regulatory requirements has been thoroughly revised in the new edition of the brochure, especially for Switzerland, Turkey (EMEA), USA (CUSA), China, Indonesia, Thailand and Vietnam (ASIA). The same applies to the chapter about Siegwerk’s “ink safety” responsibilities. New sub-chapters dealing with topics like raw material selection, migration-optimized ink formulation and related sources of information provided have been added here. The remaining chapters have also been meticulously revised and updated.

You can obtain further information about safety evaluations here: https://bit.ly/2zpnYgX

You can find all Ink Safety Portal offers at: https://ink-safety-portal.siegwerk.com/

**SIEGWERK SURVEYS CUSTOMERS**

How satisfied are customers with Siegwerk? What can still be enhanced? The company put these and other questions to its European flexible packaging business partners as part of a broad-based customer satisfaction analysis.

Satisfied customers are the prerequisite for successful, sustainable corporate performance and development. The survey makes motivations, interests and requirements transparent and the results help to enhance relationships in a targeted way. With that in mind, Siegwerk recently surveyed 500 of its customers throughout Europe. The results are gratifying – 80 percent of interviewees are “very satisfied” with the service and products provided by Siegwerk. Customer Service was rated as “very good”. Every suggestion for improving our service and product quality that was provided as part of the survey is currently being processed internally.

“We would like to thank all our customers, who participated in this survey. Improvements can only be actioned through your feedback,” says André Berk, Director Sales Flexible Packaging EMEA.

If you have any questions or suggestions, you are also welcome to contact us at any time at: flexible.packaging@siegwerk.com

The next Customer Survey is scheduled for Spring 2019.
Siegwerk has been successfully undergoing its own digital transformation process for two years now.

A dedicated digital business unit has since been concentrating on digital project development in collaboration with customers and other business units within the company. Siegwerk is now providing a digital platform for automated ink room management, MyInkRoom, that’s tailored to customers’ specific needs.

“The objective of the platform is to make the balancing act between low inventory and high production planning flexibility easier for our customers to manage. Real-time ink room inventory is especially helpful here,” Christoph Barniske, Head of Digital Business at Siegwerk, explains. “Helping our customers to action emerging trends and supporting them by providing innovative ink solutions geared to their specific needs is always our top priority.” To achieve this, the company has already launched various pioneering initiatives to become even more efficient, to achieve faster reaction times to future trends and to continue to help shape the print and packaging market. "We have already developed several digital products and services, including a new inventory management system called MyInkRoom," Christoph Barniske adds.

**What benefits does MyInkRoom offer?**
The MyInkRoom digital platform provides Siegwerk customers with a fast, simple real-time overview of their entire inventories and dosing ranges as well as all other important KPIs at any time (24/7). The requirement for utilizing the platform is a secure Internet connection plus use of a compatible ink mixing system with inventory function for all ink consumption.

The platform gives customers the opportunity to define product-specific reserve inventories themselves or have them automatically computed. Suggested purchase orders are generated based on this information, which makes administrative work considerably easier. Furthermore, the platform provides an insight into ordering history. You can’t get more user-friendly than that.

Various management reports as well as fast status updates can also be generated and downloaded with the aid of the MyInkRoom system. Various time intervals can also be applied to any analysis. MyInkRoom is currently available in English, German, Portuguese and Spanish.

**Your benefits at a glance:**
- greater transparency
- increased cost effectiveness
- fewer downtimes and
- lower inventory requirements

If you wish to find out more about MyInkRoom, please contact Kai Limbach at kai.limbach@siegwerk.com.
When REACH was implemented on June 1, 2017, all companies, which manufacture chemicals or import them into the EU in quantities of one tonne or more annually, committed to registering them in accordance with the REACH Regulation. In September 2016 our Global PSR + Sustainability and Purchasing Departments jointly started checking and monitoring the registration status of printing ink raw materials used and procured in Europe at hundreds of suppliers over a period of more than 20 months. This was intended to prevent the short-term discontinuation of key raw materials and ensure a high degree of delivery reliability for customers.

“Smaller suppliers were generally far more cooperative and willing to provide information than the big players,” Dr. Matthias Meel, Head of Chemical Compliance at Siegwerk, explains. The Department therefore partnered closely with Siegwerk’s EMEA (Europe, Middle East and Africa) purchasing organization during the final weeks before the deadline.

Ultimately all those involved can be more than satisfied – since June Siegwerk is no longer able to purchase just a small handful of raw materials, as they were not registered by the relevant manufacturer. As the necessary foresight was applied, all products have been easily switched over so far. Another positive is the revelation of unwanted substance properties. This applies in particular to UV-curing printing inks, where several key photoinitiators were classified as teratogenic. This ultimately resulted in the risk potential of the products concerned having to be reduced and them being adapted to meet market requirements.
EFFECT PIGMENTS – PART 2

The dynamic behavior of effect pigments in inks and lacquers gives product packaging a fascinating visual appearance. Products therefore attract attention at the point of sale, because consumers are better able to distinguish them from other products. This in turn creates greater brand awareness.

A distinction is made between metal effect pigments and special pearlescent, interference and hologram pigments. In contrast to conventional pigments, effect pigments come in flake form. While the impact that metal effect pigments have is based solely on directional reflection, pearlescent and interference pigments have different modes of action. However, the visual impression created by all effect pigments is always observation-angle-dependent.

1. PEARLESCENT PIGMENTS

EFFECT
- Translucent
- Same visual impression as pearls and mother-of-pearl
- Softer, profound sheen

TECHNICAL BACKGROUND:
- Pearl effect caused by light reflection and transmission in various layers
- Pearlescent pigments simulate the effect of natural pearls
- Base materials are flake-shaped minerals (mica), which have been coated with highly refractive material (titanium dioxide)

EXAMPLES:
- Sleeves and labels for cosmetic products
- Wine and champagne packaging
- Chocolate and ice-cream packaging
- Packaging for tobacco and luxury products

PEARLESCENT PIGMENTS – LIGHT REFLECTION AND TRANSMISSION IN VARIOUS LAYERS

Find out more about INTERFERENCE PIGMENTS on the next page >>
2. INTERFERENCE PIGMENTS

EFFECT:
• Coloring effect is based entirely or predominantly on interference.
• Color of transmitted light corresponds to complementary color of reflected light.

TECHNICAL BACKGROUND:
• Coated, not necessarily transparent flakes
• Important interference effects: flake-shaped, organic pigments, metal oxide-coated mica pigments, aluminum oxide, borosilicate, silicon dioxide flakes, metal oxide-coated metal flakes, liquid crystal pigments and structured effect pigments
• Multiple reflection:
  → Light partially reflects on the interface between pigment and substrate, and partially breaches the inside of the coating
  → Superimposition, obliteration or amplification of certain light rays, thus creating color
  → Coating thickness influences path lengths

EXAMPLES:
• Packaging for all types of premium beverages
• Packaging and labels for cosmetic products

Interference pigments – multiple reflection

2019
Happy New Year!

TO KICK OFF THE NEW YEAR WE WISH YOU AND YOUR FAMILY
HEALTH, WEALTH AND HAPPINESS.
WE LOOK FORWARD TO A GREAT WORKING RELATIONSHIP WITH YOU – IN 2019 TOO!