

# FLEXIBLE PACKAGING

News for Flexible Packaging · Canada & U.S. Edition



## Systematic Introduction of New Raw Materials

Siegwerk is familiar with the legal foundations and with the requirements of brand owners as far as the introduction of new raw materials for packaging inks is concerned.

Please get in touch if you have any questions: [info.us@siegwerk.com](mailto:info.us@siegwerk.com)

Any company that manufactures premium products or produces premium foods attaches importance to appealing and above all safe packaging, because product safety has become a priority during the last few years. Siegwerk knows the global legal and regulatory foundations on the one hand and the specific requirements of customers and brand owners on the other. This know-how is based on close global cooperation with companies, such as Nestlé, on all relevant product safety issues.

This raw material introduction process excludes the adoption of unwanted substances from the outset, which are e.g. carcinogenic, mutagenic, reprotoxic or toxic. Criteria for the approval of raw materials are among others compliance with defined purity standards, comprehensive knowledge of the raw material's chemical composition, and possible impurities as well as adherence to national chemical registers.

Siegwerk's raw material introduction process warrants a careful selection of all raw materials used. The stringent criteria applied in our raw material introduction process therefore guarantee the safety of our products. Siegwerk's raw material introduction process is implemented globally, although raw material approvals are issued centrally by our Global HSE + Sustainability product safety department.

It is formulation chemists working in R&D that benefit above all from this work. Based on a traffic-light system – the 'Global Formulation Guideline' – Siegwerk makes recommendations about certain raw materials to colleagues around the world, who are ultimately responsible for developing printing inks. This ensures that our packaging inks only include raw materials that have been thoroughly checked before hand.



These processes guarantee the safety of our printing inks and enable the customer to manufacture a finished product that meets the legal requirements.

### Raw Materials Introduction Process



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## Two Component (2K) Primer, Ink, & Coating Solutions for Today's Packaging Needs

2K ink technology is an alternative to more traditional ink chemistry. Siegwirk defines 2K as the combination of a polyol component and a hardener which crosslinks to create a highly resistant ink or coating solution. These components are combined at a fixed ratio shortly before applied to the print web. Once the drying process occurs inline on the press, a chemical curing follows generating a three-dimensional polymeric network.

After being mixed together, the two components begin an irreversible chemical reaction. This reaction creates an ink or lacquer film on the printed structure exhibiting outstanding characteristics including:

- Heat resistance
- Chemical resistance
- Rub resistance
- Mechanical resistance
- Adhesion

In addition, a 2K ink or lacquer can serve as a functional barrier against aggressive filling goods (essential oils, preservatives, spices, etc.). Without this barrier layer, the filling goods could migrate into the adhesive or ink layer causing delamination or discoloring. An example in which the end-use customer desired a package with excellent barrier to the filling goods while maintaining a high gloss appearance, Siegwirk provided a 2K primer solution which allowed for the elimination of a substrate layer and allowing for the package to be printed surface rather than lamination as it had previously.

While there are special handling and printing specifications for using 2K primers, inks, or coatings there are many potential benefits to using this type of ink solution. Besides providing outstanding resistance properties and functional barrier properties, 2K systems can also provide excellent visual effects through high gloss or matte appearance versus other conventional ink systems.

2K systems are available in rotogravure or flexographic unpigmented (primer, lacquer) and pigmented (white, colors) systems.

### Benefits of a 2K Solution



**Process:** Gravure, surface print

**Filling goods :** Ketchup, mustard, lemon juice, etc.

**Key functionality:** Achieve high chemical resistance and realize superior optical effects

#### Functionality Achieved

- High quality print solution comparable with lamination in gloss and abrasion resistance
- Great optics, e.g., matte-gloss and opacity
- Excellent chemical resistance
- Very good heat sealing stability at high temperatures

#### Efficiency Improvements

- Process simplification by take-out of lamination step
- Adhesive and substrate cost savings

### Like to know more ...visit us at:

- FPA Annual Meeting – March 1-3
- FTA / Info\*Flex – March 6-9
- PAC National Conference – September 28-29
- FTA Fall Conference – November 10-12
- FPA Fall Executive Conference – November 14