

5.2 Cases of unintentional and intentional direct food contact

5.2.1 Particular cases of unintentional but foreseeable direct food contact of the printed ink layer

There are cases where unintentional but foreseeable direct contact of the printed and dried or cured ink and/or varnish layer to the food is possible. This is associated with a higher risk for the consumer as there is no barrier function of the packaging material between ink and food.

Some examples:

- Lamination print job where the printed layer may be exposed to food at the cutting edges, or
- a packaging line where wrappers of food packages are partly folded so that a small area of the printed surface is turned inside (e.g. butter wrappers), or
- food that could be spilled onto a surface print upon opening of the package by the consumer (who may lick it off), or
- articles with transient food contact like napkins, placemats, tray liners, tea tags and others.

In accordance with Good Manufacturing Practice principles, Siegwirk recommends precautionary measures to the converter to minimize the risk of migration. Otherwise, colored

matter could end up in food (so-called "bleeding"), and/or non-visible migration could occur via solubilization of the printed layers. To prevent any risk of bleeding and solubilization, the resistances of the printed layers to the relevant foods are to be guaranteed as measured by the relevant fastness standards:

- ISO 2836 (Assessment of print resistance to various agents; in particular with regard to water, oils and fats, cheese and spices),
- ISO 11628 (Determination of print resistance to acids)
- EN 646 (Paper and board intended to come into contact with foodstuffs – determination of color fastness of dyed paper and board) for towels and napkins.

The printer is responsible for the selection of printing inks and varnishes which are resistant to the respective foodstuff. To the extent that the information is not already declared in Siegwirk's Technical Data Sheets and related documentation, the required typical fastness data is available on request. As a further measure, Siegwirk recommends the assessment of potential migration of the relevant migrants via a worst-case calculation or – preferably – via a practical migration test.