Novasens® P 650 SELECT
The low-migration and low-odor series

Special process inks for sheetfed offset

Product Features

- Novasens® P 650 SELECT is a low-odor and low-migration special process series which has been developed specially for sensitive food and semi-luxury food applications, where there is no direct contact between the printed image and the contents of the package.

- Further advantages of the series are very good printability and a high press stability.

- Due to its very high color strength Novasens® P 650 SELECT allows printing with a very thin ink film, resulting in fast setting and brilliant performance in terms of inline-coating.

- Novasens® P 650 SELECT is ideally suited for straight-line printing on all multi-color printing presses.

- Novasens® P 650 SELECT is particularly suited for the production of packaging that complies with the requirements of the EU-regulation 1935/2004 and 2023/2006 as well as with the Swiss Ordinance 817.023.21. Additionally, the series meets the requirements of the EuPIA Guideline “Printing Inks applied to the non-food contact surface of food packaging materials and articles”. Mineral oil is not used as an intentional formulation component of this series. The release of aldehydes on neutral substrates is below the detection limit.

Advantages of Novasens® P 650 SELECT

- Low-migration and low-odor.

- The series complies with the requirements for printing inks for food packaging (according to EuPIA Guideline).

- Very high color strength.

- Low swelling.

- Good performance in the stack.

- Suited for printing work corresponding to ISO 12647-2.

- Ideally suited for gloss coated papers and board.
# Novasens® P 650 SELECT

## Fastness properties

<table>
<thead>
<tr>
<th>Novasens® P 650 SELECT</th>
<th>Light fastness</th>
<th>Alcohol</th>
<th>Solvent mixture</th>
<th>Alkali</th>
<th>Dot gain</th>
<th>Gloss</th>
<th>Setting</th>
<th>Oxidative drying</th>
<th>Rub resistance</th>
<th>Rapid further processing</th>
<th>Suitable for glossy coated papers/board</th>
<th>Suitable for uncoated papers/board</th>
<th>Suitable for matt coated papers/board</th>
</tr>
</thead>
<tbody>
<tr>
<td>Novasens® 1 P 650 SELECT Yellow</td>
<td>5</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>6</td>
<td>4</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>6</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>Novasens® 2 P 650 SELECT Magenta</td>
<td>5</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>6</td>
<td>4</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>6</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>Novasens® 4 P 650 SELECT Cyan</td>
<td>8</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>6</td>
<td>4</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>6</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>Novasens® P 650 SELECT Black, fast</td>
<td>8</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>6</td>
<td>4</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>6</td>
<td>4</td>
<td>6</td>
</tr>
</tbody>
</table>

The assessment of the colour properties was made under standardised printing conditions. In individual cases, under special conditions, as in printing with very high ink densities, the classification of certain properties may be different.

## Drying Properties

- **Drying by absorption.**

## Substrates

- **Ideally suited for gloss and matt coated papers and board in combination with inline water based coating.**

## Remarks

- As a low-odour and low migration ink Novasens® P 650 SELECT dries only by absorption. For this reason an inline water based coating is always necessary (Novaset® 4211/40 gloss coating or Novaset® 4400/40 matt coating). The nip volume of the anilox roller should not be less than 13 cm³. Suited for printing work corresponding to ISO 12647-2.

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You are welcome to contact us for further information.

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As fountain solution we recommend Varn® AF 4000 for alcohol reduced respectively alcohol free printing.

Never add driers to the inks or fountain solution.

If there is a need for tack reduction, for example when printing on sensitive substrates, use only special Novasens® PREMIUMReducer or Novasens® PREMIUM Reduxpaste.

We recommend testing the suitability of the substrate for the printing of food packaging.

In case the printing press was previously running with conventional inks, it should be thoroughly cleaned and all ink residues have to be removed before printing with low-migration inks. For this purpose, only washes suitable for low-migration printing should be used, taking into account the manufacturers recommendations for use. Flint Group recommend Varn® Non-VOC Wash or Varn® V60 Plus for this purpose. Following the wash cycle, thorough rinsing with clean water is essential.

Heating of printed packaging in the oven has to be carefully considered due to the potential appearance of temperature peaks. In contrast, microwave heating of packaging without acceptor laminate is non-critical. Generally the heating of packaging to temperatures exceeding 200°C must be avoided.

Due to the drying characteristics of these inks the suitability for hot foil stamping should be tested before starting a print run.

Migration test
A migration test according to DIN EN 14338 is available.

Further information
For further information regarding sheetfed printing inks for food packaging please refer to our corresponding Technical Review.

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