Technical Data Sheet

Docufuildal® EF 1xx Ball Pen Inks

Ultra Low Viscosity Ball Pen Inks

General Information

The DOCUFuildal® EF 1xx inks show a minimized leaking and gooping potential especially for tips with high ink lay down despite of the low viscosity of these inks.

Without any compromises on other writing features the Docufuildal® EF 1xx series inks generate an intense, constant and almost „sliding“ writing performance if used in combination with specially adjusted tips.

Suitable Surfaces

All kind of papers

Applicable Standards & Regulations on Request

- ISO 12757: Ball point pens and refills - Part I: General use, Part II: Documentary use, TF: Transparent Flux (clear drain in suitable refills when used in combination with Dokumental® IF 4312 ink follower)

Physical Data

<table>
<thead>
<tr>
<th>Type</th>
<th>Colour</th>
<th>Lightfastness (ISO 12757)</th>
<th>TF</th>
<th>Viscosity at 20°C mPas ± 200</th>
<th>Surface tension mN/m</th>
<th>pH-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Docufuildal® EF 100</td>
<td>violet blue</td>
<td>Part I</td>
<td>yes</td>
<td>2,100</td>
<td>&gt; 35</td>
<td>4.0 - 6.0</td>
</tr>
<tr>
<td>Docufuildal® EF 101</td>
<td>dark blue</td>
<td>Part I</td>
<td>yes</td>
<td>2,100</td>
<td>&gt; 35</td>
<td>4.0 - 6.0</td>
</tr>
<tr>
<td>Docufuildal® EF 102</td>
<td>violet blue</td>
<td>Part II</td>
<td>no</td>
<td>2,100</td>
<td>&gt; 35</td>
<td>4.3 - 6.3</td>
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<tr>
<td>Docufuildal® EF 110</td>
<td>black</td>
<td>Part II</td>
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<td>&gt; 35</td>
<td>5.5 - 7.5</td>
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<td>Docufuildal® EF 120</td>
<td>red</td>
<td>Part I</td>
<td>yes</td>
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<td>&gt; 35</td>
<td>7.5 - 8.5</td>
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<tr>
<td>Docufuildal® EF 121</td>
<td>red</td>
<td>Part I</td>
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<td>4.3 - 6.3</td>
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<tr>
<td>Docufuildal® EF 122</td>
<td>ruby red</td>
<td>Part I</td>
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<td>4.0 - 6.0</td>
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<td>Docufuildal® EF 130</td>
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<td>Part II</td>
<td>no</td>
<td>2,100</td>
<td>&gt; 35</td>
<td>4.3 - 6.3</td>
</tr>
</tbody>
</table>

ISO 12757: Ball point pens and refills - Part I: General use, Part II: Documentary use, TF: Transparent Flux (clear drain in suitable refills when used in combination with Dokumental® IF 4312 ink follower)

Technical Advice

Suitable Components:

All ball pen inks are suitable for plastic and metal refills.

Important: The combination of Docufuildal® EF 1xx with not suitable tips will lead to undesirable results. So called OGB tips are essential to obtain the optimum writing performance.

For capillary refills, the use of ink follower Dokumental® IF 4312 colourless will increase the shelf life and will improve clear drain property. For jumbo refills, the use of ink follower Dokumental® IF 4310 white or IF 4311 white is mandatory in order to prevent back-leakage. For further information about our ink followers see the Dokumental® IF 43xx technical data sheet

It is mandatory to approve the compatibility of the ink and the components as well as the performance of the writing system.

Store our product frost protected and avoid direct sunlight. The recommended storage temperature is between 10°C and 30°C. Storage temperatures of above 30°C for several days bear the risk of a reduced shelf life of the ink.

After usage the drums have to be closed again tightly. Horizontal storage of the refills is recommended in order to get the maximum shelf life.

The shelf life of the inks in original sealed containers is 2 years.

Packaging

- 20kg plastic canister
- 200kg plastic drum
- 1,000kg IBC

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