There is a clear trend in packaging printing toward products with increasingly elaborate finishing. The demands relating to fineness and detail are particularly high for embossing techniques. Cellaxy for embossing meets these requirements, combining precise embossing forms with superlative cost-efficiency.

The optional embossing module gives Cellaxy all the features it needs to produce impressive embossing forms. A machine equipped for embossing performs fully automated multipass engraving with an engraving depth of up to 800 µm. Both 2D and 3D embossing forms are produced in the highest possible quality. The print results achieved with Cellaxy embossing processes are highly impressive thanks to long-lasting tactile qualities and optimum attention to detail. This applies equally to micro-embossing over large areas and background textures.

Cellaxy for embossing far outperforms all established milling and laser technologies in terms of quality, availability, and production speed.
Multipass engraving
The depth achieved by Cellaxy per engraving pass depends on the material. With copper, for example, it is 20 µm. The multipass process incorporates several engraving passes to achieve the engraving depths of 150 to 800 µm commonly encountered in embossing. The special feature of this process is the reversal of both the feed direction and the cylinder’s direction of rotation between the individual engraving passes. The position of the focal point is automatically adjusted to suit the relevant engraving depth.

3D engraving
Cellaxy is controlled by 8-bit grayscale TIFF data. The engraving depth tracks the gray scales in the image signal with exceptional precision, generating three-dimensional contours in each individual engraving pass.

Wet chamber
Cellaxy Embossing is equipped with a wet chamber that stops burn-off adhering to the cylinder surface by applying a release agent to this surface throughout the laser process.

Embossing Disk software
The Embossing Disk software that comes with Cellaxy Embossing configures the embossing job and calculates the data layers required for the individual engraving passes. It is normally installed on a separate computer and ensures efficient preparation of embossing engraving work.

Materials
Cellaxy is used to laser all kinds of materials, including copper, zinc, nickel, steel, aluminum, and brass.

Sample cylinder 0.7 m²

<table>
<thead>
<tr>
<th>Material</th>
<th>Depth per engraving pass</th>
<th>180 µm total depth</th>
<th>360 µm total depth</th>
<th>600 µm total depth</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1 x 600 W</td>
<td>2 x 600 W</td>
<td>1 x 600 W</td>
<td>2 x 600 W</td>
</tr>
<tr>
<td>Zinc</td>
<td>30 µm</td>
<td>186 min.</td>
<td>102 min.</td>
<td>372 min.</td>
</tr>
<tr>
<td>Copper</td>
<td>20 µm</td>
<td>333 min.</td>
<td>180 min.</td>
<td>666 min.</td>
</tr>
<tr>
<td>Steel</td>
<td>10 µm</td>
<td>810 min.</td>
<td>432 min.</td>
<td>1620 min.</td>
</tr>
</tbody>
</table>

Maximum performance with Cellaxy Embossing.

Subject to design modifications. Errors excepted.