PRIMER INTELLIGENCE

WHAT GRAVURE CYLINDER DO I USE?

Don’t over-apply. Don’t under-apply. How do we select the best cylinder for delivering the appropriate amount of primer? Before making a recommendation, let’s consider ranges.

- Too much primer…
  - High coat weights of an EAA primer, such as MICA A-251-A, MICA D-709, MICA G-680, MICA G-1092 and MICA M-1164, are not a problem. In fact, heavy laydown will result in higher bond strengths and enhanced chemical resistance.
  - More is not always better, though. There can be too much of a good thing. Over-application of MICA A-131-X will lead to cohesive failure and chemical resistance problems. Too much MICA A-291-C will result in discoloration and foil corrosion.

- Too little primer…
  - Starvation will result in adhesion problems!

What is the target range?

- For all of the primers listed above…
  - Dilute 1 part primer with 1 part water.
  - Apply 1 wet pound per ream (1.6 wet gram per square meter) of the primer mix to a web.
  - Generally speaking, acceptable ranges are –50% to + 100% of this weight. This translates to application of 0.5 – 2 wet pounds per ream (0.8 – 3.2 g/m²) of primer mix.
  - Solids may be adjusted by varying the dilution recipe.

What cylinder material works best?

- Chrome is the best material for a gravure cylinder that will be used with our primers. Ceramic rolls tend to clog. If you must use ceramic, ask the cylinder supplier to engrave it deeper (about 20 – 30% more volume), to allow for the inevitable filling. Frequent cleaning will be necessary.

Finally, what gravure cylinder specifications do we recommend?

- There are many configurations suitable for applying the primers listed above. As a starting point, here are a few chrome cylinder specifications we have found to work well with both open-pan applicators and enclosed doctor blade systems.

<table>
<thead>
<tr>
<th>Screen lines per inch</th>
<th>Cell shape</th>
<th>Volume billion cubic microns</th>
<th>Estimated Delivery wet lbs/ream (g/m²)</th>
</tr>
</thead>
<tbody>
<tr>
<td>400</td>
<td>Pyramidal</td>
<td>2.8</td>
<td>0.8 (1.3)</td>
</tr>
<tr>
<td>360</td>
<td>Quadrangular</td>
<td>3.7</td>
<td>1.0 (1.6)</td>
</tr>
<tr>
<td>300</td>
<td>Quadrangular</td>
<td>4.5</td>
<td>1.2 (1.9)</td>
</tr>
</tbody>
</table>

There are many ways to apply our primers. Do you use a different configuration? Call, fax or email us. We’d be pleased to review your applicator system with you.

Next issue: Tips for using smooth roll applicators.

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