Covinax 295-01 DEV
Cold-Temp Permanent PSA

Covinax 295-01 DEV is a surfactant stabilized acrylic copolymer emulsion specifically designed for use in cold temperature label applications. Covinax 295-01 DEV adheres well to PET face stocks and will bond to a variety of substrates. This adhesive is unique and will allow converted labels to stick to cold surfaces even when exposed to a thin layer of frost and/or condensation.

PHYSICAL PROPERTIES

Polymer Type: All Acrylic
Protective System: Anionic Surfactants
Color: White
Viscosity (cps): 250 - 575 (RVF, Spindle #3/50 RPM/77°F)
Percent Solids (%): 56.0 - 62.0
pH: 4.0 - 6.0
Weight Per Gallon: 8.6
Shelf Life: 6 months
Freeze/Thaw Stability: Unstable
Borax Compatible: Yes
Glass Transition Temperature ($T_g$): (DSC): -49.1°C

PERFORMANCE PROPERTIES

A 1 mil (28 g/m²) dry film of Covinax 295-01 DEV cast directly onto 1 mil thickness polyester film will exhibit the following average performance properties when tested on #304 stainless steel, which has a #3 surface finish.

<table>
<thead>
<tr>
<th>Test</th>
<th>Typical Values</th>
<th>Target Ranges</th>
</tr>
</thead>
<tbody>
<tr>
<td>180° Peel Adhesion$^1$ (lb)</td>
<td>3.8</td>
<td>2.4 minimum</td>
</tr>
<tr>
<td>Loop Tack$^2$ (lb)</td>
<td>2.8</td>
<td>1.9 minimum</td>
</tr>
<tr>
<td>178° Shear Adhesion$^3$ (minutes)</td>
<td>20</td>
<td>15 - 60</td>
</tr>
</tbody>
</table>

Minimum Application Temperature: -10°F to 0°F  N/A
Service (Use) Temperature: -30°F to 250°F  N/A

NOTE: Minimum application and service temperatures are dependent upon many factors including face stock, adhesive coat weight, adhesion, and intended application. We can only offer an estimate based on the $T_g$ and typical performance properties of the adhesive.

FDA Compliance: 21 CFR 175.105

$^1$Franklin International 03QC5002, 30 minute dwell.
$^2$Franklin International 03QC5003, 0.25 square inch, 500 gram load, 10 minute dwell.
$^3$Franklin International 03QC5004, 1 square inch contact, 1 second dwell.
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Technical Information Sheet 81507

Pressure Sensitive Adhesives
Determining Developmental Products’ Specification Ranges

This Technical Information Sheet reviews how specification ranges are created for new developmental adhesives and polymers (labeled as “DEV”) from initial production through commercialization (removal from DEV status).

Franklin utilizes the Stage Gate Process for developing new polymers and adhesive formulations. Customer requirements are entered into the initial stage of the process. During the developmental process, lab and pilot samples are normally created and tested by Franklin technical personnel as well as by the customer for approval. These samples are labeled as experimental (EXP) batches.

In order for the EXP product to move to Franklin production, at least three replicated lab and/or pilot batches are made. From these batches, target ranges are calculated using 3 sigma limits and are incorporated into Franklin’s QC and Production System, creating a DEV product.

Once at least eight consecutive production batches are made without changes to the formulation or process, the product specifications are set based on these batches, the product is no longer developmental and the DEV designation is removed.

In most cases, target ranges will change from initial production batches through the commercialization process. Often this results in a shift, and possibly a broadening, of the specification ranges. The customer is notified of these changes.

DGP 11/12/2018