Covinax 320-10 DEV
Transfer Coatable Surface Protection Adhesive

Covinax 320-10 DEV is an APE-free, formaldehyde-free high performance copolymer, specifically designed for optically clear solvent and moisture resistant removable pressure sensitive applications. This product has been formulated to adhere to multiple substrates. It provides smooth and clean removability with no adhesive transfer or ghosting after extended heat aging on high energy surfaces specifically glass and stainless steel. It is best suited for a variety of markets, from labels and window graphics to specialty tapes. Covinax 320-10 DEV has a good balance of peel and tack adhesion and offers excellent cohesive strength. This product will remain optically clear when exposed to UV. Covinax 320-10 DEV can be repositioned multiple times without losing adhesion and is suitable for re-seal applications where FDA compliance is NOT required.

PHYSICAL PROPERTIES
Polymer Type: Styrene-acrylic Copolymer
Protective System: Blended Anionic/Nonionic Surfactants
Color: White
Viscosity (cps): 800 - 1200 (RVF, Spindle #4/100 RPM/77°F)
Percent Solids (%): 47.0 - 53.0
pH: 6.0 - 7.2
Weight per Gallon: 8.4 lb
Freeze/Thaw Stability: No
Shelf Life: 3 months
Glass Transition Temperature (Tg): (DSC): -37.3°C

PERFORMANCE PROPERTIES
A 1.0 mil (28g/m²) dry film of Covinax 320-10 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 Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>180° Peel Adhesion¹</td>
<td>0.8 lb (363 g)</td>
<td>0.4 lb minimum</td>
</tr>
<tr>
<td>Loop Tack²</td>
<td>0.8 lb (363 g)</td>
<td>0.6 lb minimum</td>
</tr>
<tr>
<td>178° Shear Adhesion²</td>
<td>290 minutes</td>
<td>85 minutes minimum</td>
</tr>
</tbody>
</table>

Minimum Application Temperature: >32°F
Service (Use) Temperature: 20°F to 250°F

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 Tg and typical performance properties of the adhesive.
FDA Compliance: None

1 Franklin International 03QC5002, 30 minute dwell.
2 Franklin International 03QC5003, 0.25 square inch, 1000 g load, 10 minute dwell.
3 Franklin International 03QC5004, 1 square inch contact, 1 second dwell.

IMPORTANT NOTICE TO CUSTOMER:
The recommendations and data contained in this Product Data Sheet for use of this product are based on information Franklin believes to be reliable. They are offered in good faith without guarantee, as conditions and methods of use of our product by Customer are beyond Franklin’s control. Customer must determine the suitability of the product for a particular application before adopting it on a commercial scale.

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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