



# Covinax 416-00

## PRODUCT DESCRIPTION

**Covinax 416** is a surfactant stabilized vinyl acrylic copolymer emulsion developed for low temperature pressure sensitive adhesive applications requiring a service temperature range of room temperature to  $-10^{\circ}$  F. Covinax 416 has shown a wide range of adhesion to synthetic films, wax coated paper and board, metal, and ink coated surfaces at temperatures as low as  $-10^{\circ}$  F. It has also found use as a smooth peel ultra removable, when crosslinked with an external crosslinker. Covinax 416 has a very soft polymer backbone, which allows it to peel smoothly without zippering even when crosslinked.

Covinax 416-00 is FDA compliant under 21CFR 175.105 and 21CFR 176.180.

## PHYSICAL PROPERTIES

<b>Polymer Type:</b>	Vinyl acrylic	<b>Freeze/Thaw Stability:</b>	Unstable
<b>Protective System:</b>	Anionic	<b>Weight Per Gallon:</b>	8.24
<b>Viscosity (cps):</b>	400 Max. (LVF, Spindle #2/30RPM/77° F)	<b>Color:</b>	White
<b>Percent Solids:</b>	58.5 – 60.5	<b>Shelf Life:</b>	8 months
<b>pH:</b>	6.00 – 8.00		
<b>Glass Transition Temperature (T<sub>g</sub>): (DSC):</b>	-57.6° C		
	(DMA): -45.5° C		

## PERFORMANCE PROPERTIES

A 1 mil (28g/M<sup>2</sup>) dry film of Covinax 416-00 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.

Test	Typical Values	Specification Range
180° Peel Adhesion <sup>1</sup> (lbs)	1.15	0.85 minimum
178° Shear Adhesion <sup>2</sup> (minutes)	25	10 minimum
Loop Tack <sup>3</sup> (lbs)	2.00	1.00 minimum

**FDA Compliance:** 21CFR 175.105  
21CFR 176.180

<sup>1</sup>Franklin International 03QC5002, 30 minute dwell.

<sup>2</sup>Franklin International 03QC5003, 0.25 square inch, 500 gram load, 10 minute dwell.

<sup>3</sup>Franklin International 03QC5004, 1 square inch contact, 1 second dwell.

**Covinax 416****AVERAGE APPLICATION PROPERTIES**

TEST/SUBSTRATE	Facestock: Paper				Facestock: BOPP Film			
	LDPE	HDPE	Vinyl	Corrugate	LDPE	HDPE	Vinyl	Corrugate
180° peel (lb/lineal inch width) 30 minute dwell	0.960A	1.190A	PT	0.710A	0.480A	0.520A	1.730A	0.720A
90° peel (lb/lineal inch width) 30 minute dwell	0.630A	PT	PT	0.530A	0.690A	0.920A	1.670L	0.530FP
Loop Tack (lb)	1.46	1.83	2.17	0.95	1.34	1.41	1.78	0.84

	Facestock: Paper	Facestock: BOPP Film	Facestock: Mylar
178° Shear (500 g, 0.25 in <sup>2</sup> ) (minutes)	107C	18C	25C
SAFT Testing (min/temp °C)	114.0/134.4 °C	51.0/52.2 °C	60.1/60.3 °C
Substrate: Stainless Steel		Coat weight: 1.0 mil (+/-0.1 mil)	

C = Cohesive    A = Adhesive    PT = Paper Tear    L = LEGGY    FP = Fiber pick

**ADDITIONAL INFORMATION****Yellowing** (Colorimeter "b" value)

UV Exposure (1 week) Mylar		Heat Exposure (1 week @ 140° F) Paper	
Before	After	Before	After
4.71	6.99	3.43	4.12

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