

ACRYLIC EMULSION

INTRODUCTION

VANCRYL® 965 emulsion is a very low Tg acrylic polymer designed for film printing applications in the graphic arts industry. Inks made from this polymer exhibit excellent gloss, adhesion to polyolefins, ice water crinkle resistance, and fine printing characteristics. VANCRYL® 965 also has the unusual combined properties of excellent resolubility and fast drying. These properties are needed when converting flexible packaging printing from solvent-based to water-based formulations.

VANCRYL® 965 emulsion is compatible with VANCRYL® 68 pigment dispersions as well as other commonly used pigment dispersions. It also exhibits excellent compatibility with additives such as surfactants, adhesion promoters, alcohols, and waxes.

This polymer can be used as the backbone of printing inks and overprint coatings where various COF or slide angle requirements are needed, from a range of 0.25 to 0.45.

KEY PERFORMANCE PROPERTIES

- Fast drying with excellent early water resistant and resolubility
- Excellent wetting of and adhesion to polyolefin films
- Very good gloss for packaging applications
- Excellent ice water crinkle resistance
- Excellent transfer and printability

TYPICAL PROPERTIES

Acid number, mg KOH/g	46
Density, lbs/gal	8.7
Flashpoint	Non-combustible
Freeze-thaw stability (5 cycles)	Pass
Grit rating, ppm	< 150
Molecular weight, Mw	> 200000
Non-volatile matter, %	50
pH	8.2
Tg, °C	-30
Tmff, °C	< 0
Viscosity, mPa.s	1200
VOC, wt. %	< 0.7

STARTING POINT FORMULATIONS

Colors	%
VANCRYL® 68 ⁽¹⁾ pigment dispersion	40.0
VANCRYL® 965	40.0
VANCRYL® 68-S ⁽¹⁾	10.0
Michem® Emulsion 32535 ⁽²⁾	5.0
Water	4.8
KNOCKDOWN® 155 defoamer	0.2

White Ink Formulation	%
VANCRYL® 68-S	14.0
Water	1.5
Surfynol® CT-131 ⁽³⁾	1.0
Titanium Dioxide (TiO ₂)	30.0

Grind then add:	
VANCRYL® 965	37.0
VANCRYL® 68-S	10.0
Dry wax	1.5
Silicone	1.0
Surfynol SEF ⁽³⁾	1.0
Water	2.3
KNOCKDOWN® 155 defoamer	0.7

⁽¹⁾ Product of allnex
⁽²⁾ Product of Michelman Inc.
⁽³⁾ Product of Air Products