

ACRYLIC EMULSION

**INTRODUCTION**

VANCRYL® 989 is a high Tg acrylic emulsion for the graphic arts industry. Excellent gloss and fast drying rates can be obtained by utilizing VANCRYL® 989 in inks and coatings. It is suitable for both flexographic and gravure printing on paper substrates.

VANCRYL® 989 has excellent compatibility with pigment dispersions and alcohols. Inks formulated with this product have good transfer, printability, and resolubility. Because it is a hard polymer, VANCRYL® 989 can also be formulated as a high gloss over print varnish with very good heat, water, oil, and scuff resistance.

**KEY PERFORMANCE PROPERTIES**

- High gloss and holdout on paper substrates
- Fast drying rate
- Good heat, water, oil, and scuff resistance
- Excellent compatibility with pigment dispersions and alcohols

**TYPICAL PROPERTIES**

|                                  |                 |
|----------------------------------|-----------------|
| Acid number, mg KOH/g            | 50              |
| Density, lbs/gal                 | 8.8             |
| Flashpoint                       | Non-combustible |
| Freeze-thaw stability (5 cycles) | Pass            |
| Grit rating, ppm                 | < 100           |
| Molecular weight, Mw             | > 200000        |
| Non-volatile matter, %           | 50              |
| pH                               | 8.6             |
| Tg, °C                           | 84              |
| Tmff, °C                         | > 70            |
| Viscosity, 25°C, mPa.s           | 1100            |
| VOC, wt. %                       | < 0.25          |

**STARTING POINT FORMULATIONS**

| High Gloss Overprint Varnish                    | %    |
|---|------|
| VANCRYL® 68 <sup>(1)</sup> vehicle (30% Solids) | 32.0 |
| Michem® Emulsion 32535 <sup>(2)</sup>           | 5.0  |
| VANCRYL® 989                                    | 58.0 |
| KNOCKDOWN® 155 defoamer                         | 0.2  |
| Water   | 4.8  |
| pH  | 8.3  |
| Viscosity (#2 Zahn), s                          | 28   |
| Solids, %                                       | 40.5 |

| G/S Cyan Blue Ink Base Grind           | %    |
|--|------|
| VANCRYL® 68-S                          | 29.0 |
| G/S Cyan blue pigment                  | 35.0 |
| KNOCKDOWN® 155 <sup>(1)</sup> defoamer | 0.5  |
| Water                                  | 35.5 |

| Finished Ink           | %    |
|------------------------|------|
| Base Grind             | 35.0 |
| VANCRYL® 68-S          | 12.0 |
| VANCRYL® 989           | 44.5 |
| Michem® Emulsion 32535 | 3.5  |
| Water                  | 5.0  |
| pH                     | 8.4  |
| Viscosity (#2 Zahn), s | 5    |
| Solids, %              | 42.5 |

<sup>(1)</sup> Product of allnex

<sup>(2)</sup> Product of Michelman Inc.