



NovaCryl™ PS-V 700 Permanent Pressure Sensitive Adhesive for Vinyl Films

Description

NovaCryl PS-V 700 water-based acrylic polymer is designed for vinyl (i.e., polyvinyl chloride) film applications. It delivers the following benefits in pressure sensitive adhesive applications:

- Excellent plasticizer resistance
- Good UV stability and good clarity
- Good balance of peel, tack and shear performance
- Free of Alkyl Phenol Ethoxylate (APE) type surfactants
- FDA CFR 21, Section 175.105 compliant

Typical Dispersion Properties

| Property | Typical Value |
|--|----------------|
| % Solids | 53 - 56 |
| pH | 6.5 - 7.5 |
| Viscosity (Brookfield, LTV #3 Spindle, 30 RPM) | 700 - 1200 cps |
| Average Particle Size | 200 - 500 nm |
| Ionic Character | Anionic |
| Surface Tension | 43 dynes/cm |
| Glass Transition Temperature (Tg) Calculated | -28°C |
| Mechanical Stability | Excellent |

Typical Adhesive Performance*

| Adhesion Test | Type | Failure Mode | Performance | | |
|-----------------------------------|--------------------|--------------|-------------|----------|-----------|
| | | | (oz/in) | (lb/in) | (N/25 mm) |
| 180° peel on Stainless Steel (SS) | 30 min. | A | 30.4 | 1.9 | 8.5 |
| | 24 hr. | A | 43.2 | 2.7 | 12.0 |
| 180° peel on HDPE | 30 min. | A | 11.2 | 0.7 | 3.1 |
| | 24 hr. | A | 14.4 | 0.9 | 4.0 |
| Loop Tack on SS | 1" x 1" | A | 24.0 | 1.5 | 6.7 |
| Loop Tack on HDPE | 1" x 1" | A | 41.6 | 1.2 | 5.3 |
| Shear (30 min. dwell) | 1/2" x 1/2" x 500g | C | > 20 hrs | > 20 hrs | > 20 hrs |

Failure Mode: A = Adhesive; C = Cohesive

*All adhesion properties were evaluated on direct-coated 2 mil polyester facestock at 0.9 mil dry coat weight. PSTC 101 for peel adhesion, PSTC 16 for loop tack, and PSTC 107 for shear testing.

Application Areas

- Self-adhesive vinyl graphics, labels, films and tapes
- Indoor/outdoor temporary advertisements
- Over laminates and protective clear vinyl films

NovaCryl™ PS-V 700

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Plasticizer Resistance Performance of NovaCryl PS-V 700

NovaCryl PS-V 700 can be used on a wide array of vinyl films. Actual performance depends on the composition of the vinyl film. Below is an example of plasticizer resistance performance of NovaCryl PS-V 700.

180° Peel (lb/in)

| Aged Conditions | RT | Failure | 70°C on SS | Failure | 70°C on RL | Failure |
|-----------------|-----|---------|------------|---------|------------|---------|
| 30 min. | 1.7 | A | | | | |
| 24 hrs. | 3.1 | A | 2.6 | A | 1.7 | A |
| 2 days | 3.5 | A | 3.0 | A | 1.3 | A |
| 7 days | 3.4 | A | 3.6 | A | 0.6 | A |

Coat Weight 1.50 g/100 in² (# 20 rod). Failure Mode: A = Adhesive

- Adhesive transfer coated onto monomeric vinyl and tested for plasticizer resistance on SS substrate
- Samples were heat aged at 70°C for 24 hr., 2 and 7 days either applied on SS or silicone release liner (RL)
- Samples aged on SS were tested for peel adhesion after 30 min. recovery at RT
- Samples aged on RL were applied to SS for the peel test after 30 min. conditioning time at RT, then tested for 20 min. peel adhesion

Formulation and Compatibility

NovaCryl PS-V 700 can be used alone or formulated for a specific application or coating line configuration. It is compatible with many wetting agents, defoamers, and rheology modifiers. To enhance adhesion performance, 5 – 35% (by wt.) tackifiers can be added. NovaCryl PS-V 700 is compatible with aromatic hydrocarbon, rosin ester hydrogenated rosin ester tackifiers, and their blends. Preliminary trials should be conducted to determine the effective range of each component.

Storage, Handling and Packaging

- Protect emulsion from freezing – ideal storage temperature is 70°F (22°C)
- Shelf life of one (1) year when properly stored
- Refer to MSDS for additional details
- Packaging options – Tank truck, 2200 lb. tote, 480 lb. fiber drum, 460 lb. plastic drum
- Coater-ready grades are available upon request

NOTE:

Although the data supplied above is believed to be accurate, each user is advised to make an independent determination as to whether the described product(s) is/are appropriate for a particular use or application, whether such use will comply with all applicable laws or regulations, or whether such use will infringe the intellectual property rights of third parties.



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