

Screen Printing Vehicle

INTRODUCTION

ViaScreen 520 is designed as the pigment grind vehicle, for UV thermoformable ink applications, and should be used in conjunction with the letdown vehicle, ViaScreen 521. ViaScreen 520 exhibits good milling properties, and has very high elongation (550%). When used together with ViaScreen 521, non-blocking thermoformable inks can be developed. These thermoformable inks demonstrate scratch and temperature resistance, as well as excellent adhesion to a variety of plastic substrates without the necessity of corona discharge or flame pretreatment.

PERFORMANCE HIGHLIGHTS

ViaScreen 520 is characterized by:

- Excellent flexibility, 550% elongation at break
- Good milling properties
- High gloss
- Light color

UV cured thermoformable inks based on ViaScreen 520 and ViaScreen 521 are characterized by the following performance properties:

- Thermoformability (In external tests, 1 to 8 draw ratios have been achieved on polycarbonate sheets)
- Tack-free state after cure, non-blocking systems
- Good temperature resistance
- Good scratch resistance
- Low shrinkage (1.2%)
- Suitable for first and second surface applications
- Excellent intercoat adhesion
- Good adhesion to a variety of untreated plastic substrates including:
 - Polycarbonate
 - Polystyrene
 - PVC (polyvinylchloride)
 - Polyester
 - Acrylic
 - PET-G (glycol modified polyethyleneterephthalate)

The actual properties of the final cured products also depend on the selection of other formulation components such as reactive diluents, additives and photoinitiators.

SPECIFICATIONS

Appearance

SMT⁽¹⁾
002-A

Values
Light colored
opaque liquid

TYPICAL PHYSICAL PROPERTIES

	Values
Color, Gardner scale	≤2.0
Density, g/ml at 25°C	1.04
Flash point, °C (est.)	>100
Viscosity at 60°C, cP	35000

TYPICAL CURED PROPERTIES⁽²⁾

	Values
Elongation, %	550
Stress at max load, psi	2200
Modulus, psi	1300
Toughness, psi	3700

SUGGESTED APPLICATIONS

Formulated products containing ViaScreen 520 may be applied via flat bed screen methods and are recommended for use in screen inks in the following three-dimensional markets.

- Displays / Signage / POP
- Vending machine panels
- Packaging
- Sporting goods
- Architectural
- Electronics
- Appliance Nameplates
- Housing
- Toys
- Novelty items

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1. Standard Methods of Testing available upon request.
2. UV cured 125 µ thick films.

STORAGE AND HANDLING

Before using ViaScreen 520, consult the **Material Safety Data Sheet** for additional information on hazards, handling procedures, and recommended protective equipment.

The maximum recommended storage temperature for ViaScreen 520 is 38°C (100°F). High temperature and fire conditions can cause uncontrolled polymerization with rapid evolution of heat and pressure rise, which may result in violent rupture of the storage tanks or containers. Never store in direct sunlight or adjacent to heated compartments. Containers should be kept closed and away from oxidizing agents, acids, alkalies, peroxides, free radical initiators, photosensitizers, rust, and x-ray or ultraviolet radiation. Procedures that displace oxygen from the material, such as sparging with nitrogen, should be avoided.

PRECAUTIONS

Avoid contact with skin and eyes and breathing vapors. Contains materials that may cause injury to the eyes and skin. Sensitization may occur. Skin irritation may not occur immediately and contact may go unnoticed for up to 48 hours. Solvents should not be used to clean skin because of increased penetration potential. Contaminated clothing, shoes, belts and other leather goods should be removed immediately. Incinerate contaminated leather goods, including shoes. Wash contaminated clothing thoroughly before reuse.

Please refer to the Surface Specialties **Guide to Safety and Handling** for additional information on the safe handling of acrylates.

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ViaScreen 520