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# Screen

## Product Data Sheet

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### MTG Form UV Formable Varnish

MTG Form series varnishes (Matt, Textured & Gloss) are clear overprint varnishes specifically designed for printing onto polycarbonate and top-coated polyester used in membrane switch overlays, nameplates and automotive applications.

MTG Form series is fast curing, formable and scratch resistant without the need for nitrogen curing equipment. They are an NVP free single-package UV varnish system and may be used as an alternative to waterbased products such as WBHC or Rayvex UV Linde curing overprint varnishes.

#### CHARACTERISTICS

After curing MTG Form series varnishes are tough, scratch resistant & formable. They exhibit rapid cure facilitating wide ranging adhesion to polycarbonate, top coated polyester, UV & solvent ink systems. These varnishes have optimised rheology to minimise dribble back. MTG Form series varnishes are supplied press ready and exhibit minimal yellowing.

#### FORMING AND FINISH

MTG Form series varnishes are formable and suitable for embossing applications depending on the degree of draw. Formability of finished print depends on a number of factors, including film weight, adhesion, number of ink layers, depth and geometry of draw. A test print run is recommended.

When the matt ink MTG-FORMM is printed a gloss of less than 10 units (at 60 degrees angle) can be expected depending on processing conditions. When MTG-FORMG gloss clear is printed a gloss reading of over 70 units can be expected.

#### PRODUCT RANGE

MTG Form varnishes are available in gloss, matt & textured versions. The varnishes are fully intermixable to give numerous different effects.

- MTG-FORMM (SAP code 90066768) Matt UV – can be printed unaltered to give a low gloss 'hardcoat' for overprinting inks or substrates.
- MTG-FORMG (SAP code 90066769) Gloss clear UV – can be printed unaltered to give a high gloss 'hardcoat' for overprinting inks or substrates.
- MTG-FORMT (SAP code 90066770) Texture Clear UV – can be printed unaltered to give a textured 'hardcoat' for overprinting inks or substrates.

#### SUBSTRATES AND APPLICATIONS

MTG Form series varnishes are specifically formulated for a wide range of substrates such as polycarbonate and top coated polyester. They are designed to have good elongation characteristics when formed by common forming techniques into 3D shapes. Due to the variation in print processes and substrate adhesion testing is recommended before commencement of a print run.

#### OVERPRINTING

MTG Form series varnishes are suitable for overprinting of solvent and UV curing inks. Adhesion should be checked before commencement of print run.

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## CURING

It is recommended MTG Form series varnishes are cured between 350-550 mJ/cm<sup>2</sup> (as measured on IL390 Light Bug radiometer) using standard medium pressure mercury vapour lamps.

## COVERAGE

Tests show that when using a 120:34 mesh, coverage of up to 55 square meters per kg can be expected.

## VISCOSITY REDUCTION

MTG Form series varnishes are supplied press ready. If deemed necessary, the ink can be reduced by the addition of 5 to 10% TS23 Solvent Thinner. The addition of this thinner improves on-press printability, however it is recommended that hot air or IR drying should be used prior to UV curing to ensure this solvent is removed from the printed film prior to the UV cure stage.

Should a 'reactive' thinner be required, then up to 10% TU04 can be used.

Always check cure and adhesion after any addition of thinner. Excessive additions of thinner will affect the cure, adhesion and final properties of the cured ink.

## PRINTING MATERIALS

High quality stencil materials such as those in the SunCoat range are recommended for best results. Polyester mesh with a mesh count of 120-150 threads/cm are recommended. A medium/hard sharp polyurethane squeegee should be used. Product Data Sheets and detailed specialist advice on choice of emulsions, films and all related stencil products can be obtained from your local Sun Chemical Screen branch.

## WASH UP

Commercial screen cleaners, such as those in the SunCoat range are recommended for best results. Product Data Sheets and advice on the SunCoat range of screenwashes is available from your local Sun Chemical Screen branch.

## STORAGE & SHELF LIFE

UV curing varnishes should be stored in sealed light safe containers at temperatures between 5-30 degrees C. They have a minimum shelf life of 12 months, but can remain usable for longer periods depending on storage conditions.

## PACK SIZE & PRODUCT RANGE

<b>MTG Form series overprint varnishes – 1 US Gallon containers</b>	
Matt clear	MTG-FORMM (SAP code 90066768)
Gloss clear	MTG-FORMG (SAP code 90066769)
Texture clear	MTG-FORMT (SAP code 90066770)
<b>Thinner – 5 litre container</b>	
Solvent Thinner	TS23 (SAP code 90113727)
Reactive Thinner	TU04 (SAP code 90113772)

## HANDLING

The raw materials in MTG Form series varnishes are strictly assessed by independent laboratories for skin irritation and toxicity effects. As a result the varnishes are described as mild to moderate skin irritants. In practice this means that irritation is of a low order and the varnishes are well within recognised safety limits. As a sensible precaution we recommend that any ink transferred to the skin is removed immediately by washing with soap and copious amounts of water. For further details on the handling of UV materials please refer to the Printing Ink Advisory Committee book entitled 'The Printers Guide to Health and Safety', chapter four deals with this issue in detail. Concise health and safety data sheets will be provided by your local Sun Chemical Screen branch.

MTG Form series varnishes have also been formulated to the latest raw material guidelines and do not contain N-Vinyl Pyrrolidone (NVP).

*This information has been carefully compiled from experience gained in the laboratory and under commercial conditions. However, the product's performance and its suitability for the customer's purpose depend on the particular conditions of use and the material being printed. We recommend that customers satisfy themselves that each product meets their requirements in all respects before commencing a print run. Since we cannot anticipate or control the conditions under which our products are used it is not possible to guarantee their performance. All sales are subject to our standard terms and conditions of sale.*

*We would point out that the information contained in this leaflet is only a recommendation and may need to be altered to suit the conditions and efficiency of the equipment employed. SunChemical Screen products are not designed for use in conjunction with those of any other ink maker or similar supplier unless agreed in writing.*

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