



# UV LED Screen Ink for LDPE 3280

## Technical Data Sheet

Page 1/2

Smiley 3280 UV LED curable ink system is for the printing of blow moulded objects suitable for substrates made of Low-density polyethylene (LDPE) tubes. Substrates may differ in their chemical structure or method of manufacture. A test for suitability must always be carried out before printing. Antistatic, Mould Release Agents and Slip Additives may have negative effects on adhesion, and should be detected and removed prior to printing.

- Good opacity
- Excellent adhesion
- High color intensity

**Substrates:** - Low-density polyethylene (LDPE) tubes

### USER INFORMATION

**Mesh:** We recommend to use mesh sizes between 150-31 and 120-34 Mesh per cm.  
High ink layers may result in curing problems and therefore require more UV energy.  
Only after proper UV curing the inks achieve the desired characteristics with regard to adhesion and resistance.

**Stencil:** Emulsion Recommended:  
6060-216 Dual Cure Graphic Emulsion

**Squeegee:** 70-90 durometer hardness polyurethane squeegees.

**Pre-Production Test:** Always pretest adhesion and application before each production run, as there can often be significant differences between substrates from different manufacturers and even between different batches of substrates. Pretest to determine optimum printing performance for a particular set of ink, substrate, screen, press, and drying variables/conditions.

**Printing:** Maintain ink temperature at 65°- 90°F (18°- 32°C) for optimum print performance  
Lower temperatures increase the ink viscosity, impairing both flow and drying.  
Elevated temperatures lower the ink viscosity, reducing print definition and film thickness.

Overprintability:  
To achieve good intermediate adhesion, the inks are printed immediately one after the other in one machine run if possible.

**Curing:** 3280 Series cures when exposed to a UV LED curing unit

- 4 watts/cm<sup>2</sup> or higher cure unit
- 395 nanometers wavelength
- Less than 4mm distance from substrate to cure unit
- Belt speed at or less than 10-15m/min depending on color
- If the ink cure insufficiently, reactivity can be increased with addition of liquid photo initiator solution 3280-6049 (addition 3-5%). However, if the ink deposit is too high or UV energy clearly too low, an addition of photo initiator won't lead to a further curing improvement and inks will tend to build wrinkles and become tacky.

Note: UV curing resistance tests shouldn't start before a period of 24-72 hours.



# UV LED Screen Ink for Metal 3280

## Technical Data Sheet

Page 2/2

### Thinner & Wash-up:

- For fast running printing machines viscosity of the inks can be adjusted with UV thinner 3280-0564. Viscosity can be reduced (addition 5 – max. 10%).
- Wash-up: Use 4050-001 Screen Wash and Cleaner.

### GENERAL INFORMATION

#### Handling & Storage:

- **Smiley 3280** is formulated free of lead and other heavy metals
- It is recommended to wear suitable protective gear such as glasses and gloves. Take particular care to avoid splashes into the eyes and skin contact. . If the ink comes in contact with skin, wash with soap and plenty of water. If ink comes in contact with eyes, wash with plenty of water and consult with a doctor.
- Comprehensive information on the safety and handling of Smiley 3280 screen inks and thinners is given in the appropriate Smiley Material Safety Data Sheet (MSDS), which are available upon request.
- Store tightly covered at temperatures between (18° - 25°C). Can be stored for 1 year under these conditions.
- Tins should be kept tightly closed when not in use.

#### Environmental Information:

- Do not contain ozone depleting chemicals.
- UV LED Screen Ink for LDPE 3280 should be disposed properly (see MSDS) and in accordance to local regulations to avoid contamination.

#### Recommended Stencil

#### Making Products:

- Screen Preparation
  - Mesh Preparation 6050-300 – for abrasion
  - Mesh Degreaser 6050-200 – for degreasing
- Screen Emulsion
  - Dual Cure Graphic Emulsion 6060-216
- Screen Cleaning
  - Ghost Remover 6070-100
  - Stain Remover 6070-001
- Screen Reclaiming
  - Stripping Powder 6070-200

### PRODUCT OFFERING

#### Packaging:

**3280 is available in 1 Kilo, 5 Kilos and 20 Kilos containers.**

#### Standard Colours:

3280-001	Black
3280-010	Tinting Black
3280-021	White
3280-030	Tinting White
3280-064	Yellow (GS)
3280-066	Mid Chrome/Yellow (RS)
3280-114	Orange
3280-127	Violet
3280-164	Red (BS)
3280-191	Vermillion/Red (YS)
3280-230	Blue
3280-325	Green
3280-383	Extender Base

### ADDITIONAL INFORMATION

For additional product information, please visit our website at <http://www.smiley.co.th>.  
For further information, please contact SPS personnel at [medhi@smiley.co.th](mailto:medhi@smiley.co.th) or [joy@smiley.co.th](mailto:joy@smiley.co.th).

Thank you for choosing **SMILEY**.

Smiley Printing Solution Co., Ltd. (SPS), abides by the quality of this product. The information and recommendations that embody this Technical Data Sheet along with the technical advice are based solely on our knowledge and therefore confident to be precise. This product has been specifically formulated for screen printing. SPS cannot guarantee the precision for other possible application for the reason that manufacturing methods and other materials vary. Any liability amalgamated with the use and application of these products, users are the sole bearer of responsibility for choosing appropriate product for end-users' requirement. This Technical Data Sheet is provided for the technical purpose in the usage of this product and users are expected to follow current recommendation.

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