

Technical Bulletin

3M[®] Scotchlite[®] Reflective Material

Topic

Recommendations for screen printing inks to be used on 3M[®] Scotchlite[®] Reflective Material Transfer Films 5807, 8710, 8711, 8725, 8725LL, 8726, 8726LL, 8730, 8765, 8786, 8787, 9720; Pressure Sensitive Adhesive Films 8830, 8850, 8886, 8887; Fabrics 8906, 8910, 8925, 8935, 8940, 8965, 8986, 8986NFPA, 8987, 8987NFPA, 9910, 9920; and Trims 9187, 9586, 9587.

Background

In the past, various screen printing inks have been recommended for use on the products listed above. This is an update to that information.

Ink adhesion was evaluated using ASTM D3359-02, Method B. *Standard Test Methods Measuring Adhesion by Tape Snap Test* followed by five wash and dry cycles in a Maytag home washer at 40°C. While the recommended inks performed as described during recent evaluations on the products listed under the criteria of this test, there is no guarantee of performance. It is up to the printer and end user to determine the level of performance required for each application and the suitability of these inks for those applications.

This technical bulletin does not cover screen printing on 3M[®] Scotchlite[®] Reflective Material High Gloss products or 3M[®] Scotchlite[®] Reflective Material SOLAS products. Please see the respective technical data sheets for screen printing recommendations on these products.

Screen Printing Ink Recommendations

- 1) For greater durability (based on ASTM D3359-02 and subsequent wash performance):

Perfectos Mills
Normanton Lane
Bottesford, Nottingham NG 13 OEL
England
+44-01949-845997 Kushu Passi

Inks:

- DE2-RM with 10% BC crosslinker.
- Aquaflec with 5% AQ crosslinker may also be used with lesser durability.

For maximum durability, both must be oven baked for 1 hour at 90°C (200°F).

- 2) While the following inks had good initial adhesion per ASTM D3359-02, they did not perform as well when washed, but may still be suitable for some applications. It is up to the printer and end user to confirm that the performance meets their requirements.

Nazdar
8501 Hedge Lane Terrace
Shawnee, KS 66227
800-767-9942 www.nazdar.com

Inks:

- 9600 Series with 10% NB-80 crosslinker
- DA Nylon and Flock

Printing on 3M[®] Scotchlite[®] Reflective Material 8886, 8887, 8986, 8987, 8986NFPA, and 8987NFPA:

It is more difficult for ink to adhere to Scotchlite reflective material 8886, 8887, 8986, 8987, 8986NFPA, and 8987NFPA, thus these inks will have less wash durability than the standard silver or white colored products. As for all printing, BEFORE production use, the user (which may be a product designer, specifier, converter, manufacturer or end user) must determine that the products are suitable for the intended use and are compatible with other component materials and processes.

Ink adhesion analysis per ASTM D-3359-02, along with typical laundering specific to the application can be used to determine the performance for each specific customer.

For all printing applications, please contact the ink supplier to insure you have the current recommended printing and curing information.

Screen Printing on Fire Resistant Products

When printing on 3M[®] Scotchlite[®] Reflective Material 8935, 8940, 8986NFPA, 8987NFPA, 9187, 9586, and 9587 for applications requiring certification to any flame resistant standard, applying ink may effect the product's capabilities to meet the requirements of those standards. It is strongly recommended that the printed products be tested under the requirements of the pertinent flame resistant standard to confirm performance.

Important Notice to User

WARRANTY, LIMITED REMEDY AND DISCLAIMER: 3M warrants that 3M[®] Scotchlite[®] Reflective Material that is stored, maintained and used in accordance with 3M's written instructions will meet the applicable 3M product specifications. 3M MAKES NO OTHER WARRANTIES OR CONDITIONS, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OR CONDITION OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR ANY IMPLIED WARRANTY OR CONDITION ARISING OUT OF A COURSE OF DEALING, CUSTOM OR USAGE OF TRADE. If any Scotchlite reflective material does not conform to this warranty, then the sole and exclusive remedy is, at 3M's option, replacement of the 3M product or refund of the purchase price.

LIMITATION OF LIABILITY: Except where prohibited by law, 3M will not be liable for any loss or damage arising from the 3M product, whether direct, indirect, special, incidental or consequential, regardless of the legal theory asserted, including warranty, contract, negligence or strict liability.

PRODUCT USE: Because of the variety of factors that can affect the use and performance of Scotchlite reflective material, user is solely responsible for evaluating the product and determining whether it is fit for a particular purpose and suitable for user's method of application. User is solely responsible for determining the proper amount and placement of the product. While reflective products enhance visibility, no reflective product can ensure visibility or safety under all possible conditions. 3M may change the product, specification and availability of the product as improvements are made; therefore, user should contact 3M for latest information before specifying the product.

3M distributor

 **Sitotehnika**

Jugoslovenska 2, 11250 Beograd
Tel: +381 11 6581274, 6581275
www.sitotehnika.net
office@sitotehnika.net

 **ST Graf**

Aerodromska 17, 71000 Sarajevo, tel: +387 66 002600, e-mail: aleksandar@sitotehnika.net
Pilanska bb, 78000 Banja Luka, tel: +387 51 305280, 66 002400, e-mail: stgrafbl@gmail.com
Lagja Kalabria pn, 10000 Priština, tel: +383 38 602080, 45 600641, e-mail: info@stgraf-ks.com
Bulevar Boris Trajkovski 112, 1000 Skoplje, tel: +389 78 290996, e-mail: ace@sitotehnika.net

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