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 40ºC. 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 90ºC (200ºF).

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**

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