

See "Flexible Material Application Notes" and manufacturer's website for specific, detailed guidelines and instructions.

## GENERAL INFORMATION

### MATERIAL DESCRIPTION

3M™ Scotchlite™ Reflective Graphic Film 680-10 White is a 2-mil thick vinyl with light reflecting properties and adhesive backing.

### RECOMMENDED APPLICATIONS

- Fleet and vehicle graphics
- Indoor and outdoor graphics and signs, including point-of-purchase and displays
- Commercial vehicle and fleet graphics, emblems or striping
- Watercraft graphics (above the static water line only)
- Small format original equipment manufacturer's (OEM) decorative and identification graphics, caution-

## CAUTIONS

1. Be specific when ordering material as there are many similar materials and finishes, yet performance and results will vary significantly, even among like materials.
2. Be sure to measure dimensions of material prior to printing as they are not always consistent.
3. The following may cause adverse effects on ink adhesion and durability:
  - Failure to acclimate material to ambient conditions for at least 24 hours.
  - Failure to print under recommended ambient conditions.
  - Neglecting to properly clean the print surfaces. This will allow debris to be visible after printing.
4. DO NOT use liquid cleaners as they may stain and/or severely damage the printing surface.
5. DO NOT lean or store horizontally as flat spots and irregularities may occur which can negatively effect end results.
6. Ink adhesion increases at higher pass modes (8 Pass > 4 Pass > 2 Pass).
7. Never clean vinyl material with alcohol, only clean vinyl with distilled water.

**WARNING:** Be sure that material is completely flat. Curled edges may cause damage to printheads and/or other hardware. Tape down edges as necessary.

## PERFORMANCE TESTING RESULTS

See "Material Performance Testing Process" document for process explanation and test conditions.

### ADHESION TESTING

Tape Test: Level 5, Excellent  
Cross-Hatch Test: Level 2, Standard

### ABRASION RESISTANCE

Level 5, Excellent

### CHEMICAL RESISTANCE

Level 5, Excellent

### OUTDOOR DURABILITY

GerberCAT inks are outdoor durable for up to 3 years. Consult material manufacturer for durability of substrate. Testing of application in intended environment is advised.

## MATERIAL HANDLING RECOMMENDATIONS

### STORAGE

1. Stand upright (vertical) only, preferably on a dowel rack so as not to deform any print surfaces and/or edges of the material.
2. Cool, dry, clean area with stable temperature.

### SURFACE PREPARATION

1. Print surface should be free and clear of any surface contaminants (i.e. oils, dust, fingerprints, etc.) prior to printing. Wipe with a clean, dry, non-abrasive cloth. Use distilled water if necessary, but be sure to dry thoroughly prior to printing.

### POST-PRINT

Ink cures enough to be touched immediately without adverse effect. Full cure occurs between 15 minutes and 24 hours dependent upon material and ambient conditions. Cutting or any additional undertakings should run flawlessly. If any flaking or cracking occurs, allow to sit 24 hours for full cure. Slower cut speeds yield best results for smoother curves and rounded edges.

Refer to manufacturer's website for additional information.

## TESTED PRINT CONDITIONS

### AMBIENT TEMPERATURE

70°F (21°C)

### AMBIENT HUMIDITY

40%, non-condensing

### PRINTER RESOLUTION

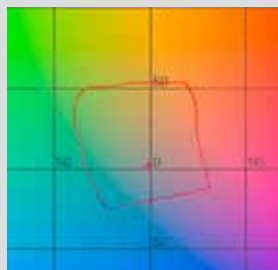
360 dpi

### PRINT MODE

4 Pass, Unidirectional

## COLOR GAMUT

### 2-DIMENSIONAL



### 3-DIMENSIONAL



## COLOR MANAGEMENT

### RECOMMENDED RENDERING INTENTS

CMYK Vector: Relative colorimetric  
CMYK Image: Perceptual  
RGB Vector: Relative colorimetric  
RGB Image: Perceptual

### MATERIAL PROFILES

The recommended profile can be downloaded from the corresponding materials page on the [gspinc.com/applications](http://gspinc.com/applications) webpage.

**CAUTION:** Failure to manage color settings consistently throughout the entire workflow, from image generation through final print, will result in guesswork and unpredictable and potentially unfavorable end results.