

Commercial Solutions Division

# 3M™ Scotchcal™ Graphic Film For Textured Surfaces

## IJ8624

### Product Description

3M™ Scotchcal™ Graphic Film For Textured Surfaces IJ8624 conforms to moderately textured surfaces like concrete block, brick, industrial stucco and tile similar to those commonly found in sports arena, stadiums, restaurants, retail and other public venues.

Product Line	Inkjet printing	IJ8624	white, opaque, glossy, removable adhesive.
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### Product Characteristics

These are indicative values for unprocessed products.  
Contact your 3M representative for a custom specification.

#### Physical & Application

Material	cast vinyl	
Surface finish	glossy	
Thickness (film)	50 µm (0.05 mm)	
Adhesive type	solvent acrylic, pressure-sensitive	
Adhesive appearance	grey	
Liner	double-sided Polyethylene coated paper	
Adhesion	see notice below	FTM 1: 180° peel, substrate: glass; cond: 24 h 23°C/50%RH
Application method	dry only!	
Applied shrinkage	< 0.4 mm	FTM 14
Application temperature (minimum air and substrate)	+4°C	for flat surfaces
	+10°C	for curved to corrugated surfaces with and without rivets

**Notice!** Adhesion depends on the substrate material, the texture of the wall and the adhesion technique. See test procedure described below in this document.

Surface type	flat to simple curved
Substrate type	concrete block, brick, industrial stucco and tile
Graphic removal	Removable without heat and/or chemicals from supported substrates. No liability is given for ease or speed of removal of any graphic. Pay attention to adequate air and substrate temperature.

**Notice!** Varies with type of substrate; using heat enhances removal of film; may leave adhesive residue; may remove some paint or finish; may damage mortar.

The values above are the results of illustrative lab test measurements and shall not be considered as a commitment from 3M.

Storage	Shelf life	Use within two years from the date of manufacture on the sealed original box. Use within one year after opening the box.
	Storage conditions	+4°C to +40°C, out of sunlight, original container in clean and dry area.

The shelf life as defined above remains an indicative and maximum data, subject to many external and non-controllable factors. It may never be interpreted as warranty.

**Flammability** Meets the requirements for flammability class B1 according to DIN 4102, part 1

## Durability

The durabilities mentioned in the table below are the results of illustrative lab tests. The values show the best performance expected from these products, provided that the film will be processed and applied professionally according to 3M's recommendations.

- the type of substrate and thorough preparation of the surface (with 3M™ Surface Preparation System)
- application procedures
- environmental factors
- the method and the frequency of cleaning

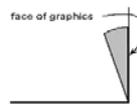
Unprocessed film The following durability data are given for unprocessed film only!

Climatic zones Graphic durability is largely determined by the climate and the angle of exposure. Find below a table showing the durability of a product according to the angle of exposure and the geographical location of the application.

- Zone 1 Northern Europe, Italy (north of Rome), Russia
- Zone 2 Mediterranean area without North Africa, South Africa
- Zone 3 Gulf area, Africa

Exposure types

Vertical:



The face of the graphic is  $\pm 10^\circ$  from vertical.

Interior: Interior means an application inside a building without direct exposure to sunlight.

<b>Vertical outdoor exposure</b>	<b>Zone 1</b>	<b>Zone 2</b>	<b>Zone 3</b>
white	6 months	6 months	6 months
<b>Interior application</b>	<b>Zone 1</b>	<b>Zone 2</b>	<b>Zone 3</b>
interior	5 years	5 years	5 years

For detailed graphic construction and application options along with specific Warranty periods, please see the Warranty matrices and Warranty information on [3M Graphic Solutions/Warranties](#).

## Limitations of End Uses

3M specifically does not recommend or warrant the following uses, but please contact us to discuss your needs to recommend other products.

Graphics applied to

- mortar joints deeper or higher than 3.1 mm and square-cut or undercut mortar joints.
- outdoor applications in hot, sunny locations.
- outdoor surfaces exposed to freeze and thaw temperatures.
- painted or unpainted rough wallboards, gypsum boards and wallpapers.
- smooth surfaces.
- smooth surfaces or windows.

Graphic removal from

- substrates that require clean removal without risk of damage.

Graphics subjected to

- gasoline vapors or spills.

Important Notice

- Non vertical applications will have a significant decrease in durability!
- Be aware that graphics installed outdoors can develop mold or mildew on top of or behind the graphic, which may be a health concern for some individuals, especially during graphic removal.

## Tips for successful textured wall applications

This film is designed to be effective on many of the most common moderate textures found in public stadiums, arenas and similar environments.

### Notice

- Due to the wide variation in substrate texture, we encourage you to verify that the film and 3M techniques described in this Bulletin and Instruction Bulletin 5.37 are suitable for each of your applications.

[> Instruction Bulletin 5.37 'Application, Maintenance and Removal of Textured Wall™ Films' <](#)

- Use an installer trained in 3M's techniques and with access to the required 3M tools.
- Test each different textured surface you are considering at each location. See the instructions below.
- Film is more susceptible to lifting from deep or undercut mortar joints than shallow ones (about 3 cm deep). Instruction Bulletin 5.37 discusses the various types of mortar joints.
- In most cases, minor lifting does not detract from the impact of your customer's message, nor from the overall durability of the graphic.  
Edge lifting, which is usually most noticeable at mortar joints, may be susceptible to picking and tearing if the graphic is at pedestrian level and within reach.
- Water may accumulate behind graphics applied to unsealed substrates, resulting in water bubbles that cause lifting.

### Test Application Instructions

3M testing shows that the following test, which uses a small piece of film, is adequate for judging good adhesion to and appearance on textured surfaces. One of the following applicator tools will be needed for this test.

#### Tools needed

3M™ Textured Surface Applicator TSA-1. Do not attempt this test using a standard squeegee. You will not be successful.  
Industrial heat gun with an electronic readout, capable of achieving and sustaining > 500°C.  
Approximately 0.5 m<sup>2</sup> of film.  
Heat and burn-resistant gloves.

#### Application

Perform the test in an inconspicuous place on each type of substrate you plan to use for each of the larger graphics.  
Set the gun to > 500°C.  
Work at a speed that allows the film to be heated enough to make it conformable.  
Overheating damages the film; under-heating does not permit conformability.  
Hold the heat gun about 1 inch above and immediately in front of the roller.  
Start at an outside top corner and work straight across to the other side using this technique: Heat the film in front of the roller for about 1 second and then begin following closely with the roller, pushing firmly. Move at a slow, steady pace.  
Roll all the way to the edge.  
Move the roller down about 5 cm and repeat Step 3 until the film is fully applied.  
If the film lifts immediately, the application technique may not have been satisfactory, or the texture is too severe for the film. Do not attempt to go over the sample again; try another one.

#### Test Time

If possible, leave the film in place for one week, then check for good adhesion and acceptable removal.

## Graphics Manufacturing

Graphic protection can improve the appearance, performance and durability of printed graphics. Any printed graphic exposed to abrasive conditions (including vehicles), harsh cleaners or chemicals must include graphic protection in order to be warranted.

### When to use an overprint clear or overlaminate

See instruction bulletin GPO 'graphic protection options' for further information about selection and use of protective overlaminates and printable clears.

[> Product Bulletin Graphic Protection Options <](#)

### Shipping finished graphics

Flat, or rolled film side out on 130 mm (5 inch) or larger core. These methods help to prevent the liner from wrinkling or application tape, if used, from popping off.

## Converting Information

### Inkjet Printing

#### Adequately Dry Graphics

A too high total physical ink amount on the film results in media characteristic changes, inadequate drying, overlamine lifting, and/or poor graphic performance. The maximum recommended total ink coverage for this film is 270%.

Inadequate drying can result in graphic failure including curling, increased shrinkage and adhesion failure, which are not covered under any 3M warranty.

Poorly dried film becomes soft and stretchy, and the adhesive becomes too aggressive.

Even if your printer has a dryer, it may not adequately dry latex and solvent inks in the short period of time it spends passing through the heater.

Recommendations to improve the drying of solvent inks

Dry the graphic unrolled or at least as a loose wound roll standing upright. To further increase air circulation place the spooled film roll on a grid, and place a fan beneath the grid.

If you only spool open the film, adequate drying could still take a week, depending on the environment.

Build enough time into your process to ensure adequate drying of the graphic. 3M recommends at least a minimum drying time of 24 hrs before further processing. Test: Fold a piece of film with maximum ink laydown of the graphic onto itself. Apply 140 g/cm<sup>2</sup> for 15 minutes, release and check for effects like sticking or dull spots. These are clear indications that further curing or drying is needed.

Notice: Latex inks are different

Unlike solvent inks, spooling and letting latex printed graphics sit does not help to cure the ink, but does allow the graphic manufacturer to see if any oily spots are generated which may interfere with proper adhesion of overlaminates.

To ensure proper latex ink drying, use the following recommendations:

Media Presets: HP media presets contain all the needed settings to print on a specific media.

Download and use media presets from the following page: [www.hp.com/go/mediasolutionslocator](http://www.hp.com/go/mediasolutionslocator).

Environmental Conditions: HP media presets have been specially designed and tested for each printer-media combination. Recommended environmental conditions: +20°C to +25°C, Humidity 40% - 60% RH

Important notice for HP 831/871 and HP 881/891

The amount of ink printed is the main key for proper overlamine adhesion. Select a media preset using 100% or less ink density.

Post-processing of latex printed graphics immediately after printing

Latex inks should emerge from the printer fully dried. Post-air drying of a wet print will not enable drying, since latex ink drying requires that the dried ink is heated above the film formation temperature of the latex inside the printer.

For immediately post-processing of latex printed graphics follow strictly the recommendations given above (Section: Latex inks are different) and test the proper drying with the following performance tests:

Visual Test: Check the image immediately after printing. The sample should not be wet or sticky to the touch, or have an 'oily' feel when it emerges from the printer.

Rubbing Test: After the visual inspection, wipe the printed sample with a white wet paper towel. Fully-dried ink should resist wiping and should not show any stains on the white cloth. If the ink is easily removed by wet rubbing, then it is not dried.

Stacking Test: In some cases, the top surface will appear dry after printing but within a few minutes ink may migrate to the surface leaving an oily aspect. To ensure proper drying, stack at least 12 sheets liner to printed side and let sit for one hour.

After 1 hour, remove the stack and check for "oily" stains, wet surfaces or glossiness changes on high ink laydown areas on each sheet. If any of these occur, then the ink is not properly dried.

If a sample is not properly dried on the printer, reprint the image under a condition that allows complete drying. Common improvement steps are:

- Increasing the drying temperature in 5 degree steps.
- Increasing the number of passes to slow down printing.
- Reducing the amount of ink printed (media preset with lower ink densities).

Allow the converted graphic to build sufficient bond prior to application/installation

Give laminated samples time before applying them. The adhesion bond between the laminate and the printed base film will increase with time. 24 hours minimum for room temperature laminated graphics.

8 hours minimum for graphics laminated with heated rolls (one or two). Lamination temperature: +40°C to +60°C. Lamination speed: maximum 2 meter/minute.

## Application

See product bulletin ATR 'application tape recommendations' for information about selection and use of suitable application tapes for this product, please.

[> Product Bulletin Application Tape Recommendations <](#)

Refer to Instruction Bulletin 5.1 'select and prepare substrates for graphic application', for general application information.

[> Instruction Bulletin 5.1 'select and prepare substrates for graphic application' <](#)

## Maintenance and Cleaning

Use a cleaner designed for high-quality painted surfaces. The cleaner must be wet, non-abrasive, without strong solvents, and have a pH value between 3 and 11 (neither strongly acidic nor strongly alkaline).

Refer to Instruction Bulletin 6.5 'storage, handling, maintenance and removal of films and sheetings', for general maintenance and cleaning information.

>[Instruction Bulletin 6.5 'Storage, Handling, Maintenance and Removal of Films and Sheetings'](#)<

## Remarks

- This bulletin provides technical information only.
- Important notice** All questions of warranty and liability relating to this product are governed by the terms and conditions of the sale, subject, where applicable, to the prevailing law.
- Before using, the user must determine the suitability of the product for its required or intended use, and the user assumes all risk and liability whatsoever in connection therewith.
- As outdoor graphics age, natural weathering occurs causing a gradual reduction in gloss, slight color changes, some lifting of the graphic at the edges or around rivets, and ultimately a minor amount of cracking.
- These changes are not evidence of product failure and are not covered by a 3M warranty.
- Additional information** Visit the web site of your local subsidiary at [www.3Mgraphics.com](http://www.3Mgraphics.com) for getting:
- more details about 3M™ MCS™ Warranty and 3M™ Performance Guarantee
  - additional instruction bulletins
  - a complete product overview about materials 3M is offering



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