



Banner Material

Single/Double-Sided 8450 and RG8450

Single-Sided 8451 and RG8451

Single/Double-Sided 8452 and RG8452

Single-Sided Mesh 8453

For Electrostatic and Piezo Ink Jet Printing

Description

These banner materials are available in four configurations to meet the needs of multiple banner constructions used both indoors and outdoors. Some materials can be printed on both sides. See Characteristics and Warranty Information for details. Edges can be finished with hems and grommets.

Recommended Types of Graphics and End Uses

These end uses are recommended for this film and may be covered by the 3M™ MCS™ Warranty and/or the 3M Performance Guarantee. Certain restrictions may apply; please read the entire bulletin for details.

- Indoor and outdoor hanging banners.

Limitations of End Uses

These conditions are not covered by the warranty.

- Seamed multi-panel banners
- Tearing
- Wind slits in banners
- Electrostatically imaged banners without overlamine
- Banners with an overlamine are not for use in applications that require conformance to NFPA 701, Test 2. See details on page 2.

Compatible Products

Refer to the durability tables for 3M MCS warranty and the 3M Performance Guarantee for the proper combination of printers, inks, films and graphic protection.

Refer to the warranty tables on page 3 for approved construction options.

Electrostatic Imaging

- Scotchprint® Toner Series 8700
- 3M™ Trident Transfer Paper
- 3M™ Printer 2000

Piezo Ink Jet Printing

- 3M™ Piezo Ink Jet Ink Series 2200UV
 - VUTEk PressVu® UV 200/600 printer
- 3M™ Piezo Ink Jet Ink Series 2600UV
 - 3M™ Printer 2500UV
- 3M™ Piezo Ink Jet Ink Series 2700UV
 - Durst Rho 160R Printer
- 3M™ Piezo Ink Jet Ink Series 1500
 - VUTEk UltraVu™ 150 Printer
 - VUTEk UltraVu™ 2360/3360 Printers
 - VUTEk UltraVu™ 3300/5300 Printers
 - VUTEk UltraVu™ 3000/5000 Printers
- 3M™ Piezo Ink Jet Ink Series 6000
 - Océ Arizona 30s Printer
- 3M™ Piezo Ink Jet Ink Series 6800*
 - Océ Arizona 180 Printer
 - Océ Arizona 90 Printer

*May use Océ Piezo Ink Jet Ink Series 1700 for non-warranted finished graphics.

- 3M™ Piezo Ink Jet Ink Series 5500
 - Océ Arizona 600 Printer*

*Banner material FN8451 is forward wound on a 3-inch, 4-notch core.

Graphic Protection Options

- 3M™ Scotchcal™ Gloss Overlamine 8518
Warranted only for use in the 3M Performance Guarantee Program
- 3M™ Scotchcal™ Luster Overlamine 8519
- 3M™ Scotchcal™ Matte Overlamine 8520
- 3M™ Screen Print Gloss Clear 1920DR
- 3M™ Screen Print Gloss Clear 9720UV
- 3M™ Piezo Ink Jet Protective Clear 8530

Characteristics

All values given are typical for unprocessed film unless noted otherwise and are not for use in specifications. Processing film may change certain values. If you have questions about your construction, contact the Technical Service helpline at 1-800-328-3908.

Banner Material	8450, RG8450	8451, FN8451, RG8451	8452, RG8452	8453
Characteristic	Value			
Material	Scrim-reinforced PVC, with blackout	Scrim-reinforced PVC,	Scrim-reinforced PVC, with blackout	PVC-coated mesh
Weight	13 ounces/square yard (433 gr/meter ²)	12 ounces/ square yard (420 gr/m ²)	15 ounces/square yard (500 gr/meter ²)	7 ounces/square yard (245 gr/meter ²)
Tensile strength				
Warp	100 lbs/in (18 kg/cm)	90 lbs/in (16 kg/cm)	90 lbs/in (16 kg/cm)	181 lbs/in (32 kg/cm)
Fill	100 lbs/in (18 kg/cm)	82 lbs/in (14 kg/cm)	82 lbs/in (14 kg/cm)	153 lbs/in (27 kg/cm)
Tear strength				
Warp	22 lbs/in (4 kg/cm)	29 lbs/in (5 kg/cm)	6 lbs/in (1.1 kg/cm)	74 lbs/in (13 kg/cm)
Fill	22 lbs/in (4 kg/cm)	20 lbs/in (3.5 kg/cm)	9 lbs/in (1.6 kg/cm)	69 lbs/in (12 kg/cm)
Flammability	Banner material with no overlamine passes NFPA 701, Test 2, "Standard Method of Fire Test for Flame-Resistant Textiles and Films." Check your local fire code for flammability requirements before using these banners. Laminated banners do not meet NFPA 701, Test 2, and are to be used exclusively for exterior applications or applications that do not require NFPA 701, Test 2, compliance.			

3M Flexible Banner Material

The user is responsible for determining and complying with all applicable building codes that affect the use of banner materials in interior and exterior applications, including flammability standards. For information on flammability requirements, contact your local building code officials. For information on the results of flammability testing of 3M banner or other flexible substrates, including the product covered in this bulletin from 3M Commercial Graphics Division, call 1-800-328-3908.

Warranty Information

See the 3M Graphics Center Warranty Brochure for the complete warranty and remedy details. The warranty given in the Product Bulletin that is current at the time you purchased the film is the one that 3M will honor.

3M™ MCS™ Warranty for Finished Graphics

3M MCS Warranty Finished Graphic Constructions and Durability										
Indoor and Outdoor (except where noted) U.S. Vertical Exposure (in years)									Indoor	Outdoor
Ink/TonerSeries	1500	6000	2200UV	2600UV	2700UV	5500	6800	8700	8700	
Printing Sides		Both					Single		Single	
Banner Material		8450					N/A	RG8450	8450	
Graphic Protection	8519	1	1	1	1	1	—	1	3	1
	8520	1	1	1	1	1	—	1	3	1
	1920DR	1	1	—	1	—	—	1	—	—
	9720UV	—	—	1	1	1	—	—	—	—
	8530	1	1	—	—	—	—	1	—	—
	None	1	1	1	1	1	—	1	—	—
	8915	—	—	—	—	—	—	—	3	0
Banner Material		8451					FN8451	RG8451	8451	
Printing Sides		Single					Single		Single	
Graphic Protection	8519	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
	8520	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
	1920DR	0.5	0.5	—	0.5	—	0.5	0.5	—	—
	9720UV	—	0.5	0.5	0.5	0.5	—	—	—	—
	8530	0.5	—	—	—	—	0.5	0.5	—	—
	None	0.5	0.5	0.5	0.5	0.5	0.5	0.5	—	—
Banner Material		8452					N/A	RG8452	8452	
Printing Sides		Both					Single		Single	
Graphic Protection	8519	0.5	0.5	0.5	0.5	0.5	—	0.5	0.5	0.5
	8520	0.5	0.5	0.5	0.5	0.5	—	0.5	0.5	0.5
	1920DR	0.5	0.5	—	0.5	—	—	0.5	—	—
	8530	0.5	—	—	—	—	—	0.5	—	—
	None	0.5	0.5	0.5	0.5	0.5	—	0.5	—	—
Banner Material 8453		8453								
Printing Sides		Single								
None		0.5								

- 1 Film 8450, 8451, 8452, 8453 are forward wound on a 3-inch, 4-notch core.
- 2 Films RG8450, RG8451, RG8452 are reverse wound on a 3-inch, 4-notch core.
- 3 Film FN8451 is forward wound on a 4-notch, 3-inch core.

3M Performance Guarantee for Product Performance Only

Graphics constructed as described in the table below are eligible for the 3M Performance Guarantee warranty. This is not a finished graphics warranty; it covers product performance *only* for the 3M specified products when imaged with the printers and OEM inks listed in the most current version of **Product Bulletin PG Matrix**. That bulletin may also list certain restrictions for using this film.

3M Performance Guarantee Graphic Constructions and Durability			
U.S. Vertical Exposure (in years)			
Film	Graphic Protection	Indoor Outdoor	Inks and Printers
8451	8518 8519 8520	0.5	See Product Bulletin: PG Matrix

Warranty Notes

Definitions



face of graphic

Vertical Exposure

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

Graphic Performance Life

The actual performance life of a graphic depends on the:

- Use of 3M recommended compatible products
- Printing and drying techniques
- Angle and direction of exposure
- Environmental conditions
- Cleaning methods

Application Outside the U.S.

Contact the 3M organization for that country.

Graphics Made with Components Not Sold or Recommended by 3M

The 3M MCS warranty does not cover finished graphics made with other manufacturers' inks, film, graphic protection and/or application tapes. The user is solely responsible for the graphic appearance, performance and durability of graphic constructions that include non-3M graphic products.

The 3M Performance Guarantee covers selected 3M graphic products when used with qualified printers and OEM inks. See page 3.

Warranty and Limited Liability

The following is made in lieu of all other express or implied warranties, including any implied warranty of **merchantability** or fitness for a particular purpose or implied warranty arising out of a course of dealing, custom or usage of trade: all 3M products are warranted to be free of defects in materials and manufacture at the time of shipment and to meet the specifications stated in this Product Bulletin. 3M will replace or refund the price of any 3M materials that do not meet this warranty within the specified time periods. These remedies are exclusive. **In no case shall 3M be liable for any direct, indirect, or consequential damages, including any labor or non-3M materials charges.**

See the Graphics Market Center Warranty Brochure, which gives the terms, additional limitations of the warranty, if any, and limitations of liability.

Piezo Ink Jet Printer Support Information

Ink

Always read and follow the ink manufacturer's written instructions on usage.

Total Ink Coverage for 3M MCS Warranty Constructions

Do not exceed the recommended total ink coverage for the ink series used on this film. Too high a total physical ink amount on the film results in media characteristic changes, inadequate drying, overlamine lifting, and/or poor graphic performance. Refer to the Instruction Bulletin for the ink system being used for additional details about total ink coverage.

Ink Series	Banner Material				Maximum Total Ink Coverage
	8450 RG8450	8451 FN8451 RG8451	8452 RG8452	8453	
1500	•	•	•	•	300%
5500		•			300%
6000	•	•	•		380%
6800	•	•	•		270%
2200UV	•	•	•		300%
2600UV	•	•	•		300%
2700UV	•	•	•		300%

Note: Banner material is susceptible to blocking or embossing when rolled, especially if the graphic is not totally dried.

Note: When printing on double sided material (not an option for all inks/printers/material), print on the rougher side first and allow dry thoroughly. Then print on the smoother side. This reduces the potential problem of the material sticking on the post-heat printer surface. Inadequately dried material will stick to the printer during the second side printing.

Total Ink Coverage for 3M Performance Guarantee Constructions

We recommend a maximum total ink coverage of 270%. Make sure that the ink lay down is within the limits of what the drier can handle to prevent ink smearing.

Color Profiles

Many color profiles are available on our website at www.scotchprint.com.

Drying



Caution

Always build enough time into your process to ensure adequate drying of the graphic. Poorly dried film may become soft and stretchy, and the adhesive may become too aggressive. This can cause difficulty when applying an overlamine, rolling the graphic, and applying the film. See the ink's Instruction Bulletin for more details.

Electrostatic Printing

Toner

Always read and follow the toner Instruction Bulletin on usage.

Imaging

Print images on Trident transfer paper and transfer to banner material under heat and pressure. Perform a test transfer to determine the optimum speed. Refer to the most current version of Instruction Bulletin 4.15, *Making Digitally Imaged, Single and Double-sided Promotional Banners*, for details.

Use 3M authorized laminators and processes. See the laminator operator's manual for additional details.

Fabrication

Refer to the **3M Related Literature** section for a list of the Product and Instruction Bulletins that may be needed to make a graphic.

Refer to the ink and toner Product and Instruction Bulletins, and the printer manufacturer's printer instructions.

Graphic Protection

Apply graphic protection, if required to obtain a warranty or to enhance the graphic.

- Overlaminates must be cold roll applied.
- Clears 1920DR and 9720UV should be applied by screen printing.

Wind Slits

DO NOT make wind slits in the banner. Wind slits have unfinished edges that create weak spots in the banner and void the warranty.

Seams

Although banner material may be seamed, 3M does not warrant seamed banners as the image may be damaged during stitching.

Finishing the Edges of the Banner

For better exterior durability, we recommend hemming the edges of the banner material and securing them with stitching or another mechanical fastening system. Grommets may also be used in the corners for added strength.

Refer to Instruction Bulletin 4.15, and particularly the sections on *Design Considerations and Finishing the Edges of the Banner*.

Maintenance and Cleaning

Use a cleaner such as the kind used for high-quality painted surfaces. The cleaner must be wet, non-abrasive, without strong solvents or alcohol, and have a pH value between 3.0 and 11.0 (neither strongly acidic nor strongly alkaline).

Shelf Life, Storage and Shipping

Activity	Recommendation
Shelf life	Total shelf life: 1 year Up to 6 months unprocessed and up to another 6 months before use
Storage conditions	<ul style="list-style-type: none">• 86°F (30°C) maximum• Out of sunlight• Clean dry area• Original container• Bring the banner material to print room temperature before using
Shipping finished graphics	Flat , or Rolled: printed side out on 6 inch (15 cm) or larger core, place a brown kraft paper slip sheet over the banner and roll the banner with the image side out.

Health and Safety

Caution

When handling any chemical products, read the manufacturers' container labels and the Material Safety Data Sheets (MSDS) for important health, safety and environmental information.

To obtain MSDS sheets for 3M products:

- By fax, call 1-800-364-0768 in the US and Canada or 1-650-556-8417 for all other locations.
- Electronically, visit us at www.3m.com/msds.
- By mail, or in case of an emergency, call 1-800-364-3577 or 1-651-737-6501.

When using any equipment, always follow the manufacturers' instructions for safe operation.

Attention:

Authorized Graphics Manufacturers

Visit our password-protected website for exclusive product information, profiles and services. Certain restrictions apply.

1. Go to www.scotchprint.com.
2. Select a country.
3. Click *Login* on upper left side of screen.
4. Click Register.
5. Enter authorization code: **CGD_SGN**.
6. Complete the information and submit.
An e-mail will be sent when your authorization is completed.

3M Related Literature

Before starting any job, be sure you have the most current Product and Instruction Bulletins.

The information in 3M Product and Instruction Bulletins is subject to change. Current Bulletins, as well as a list of all Bulletins updated within the last three months, are available at www.scotchprint.com or through our Fax-on-Demand system. Any warranty, if offered, is based on information in the appropriate Bulletin(s) that was current at the time you purchased the 3M products. The following Product and/or Instruction Bulletins provide the information and processes you need to properly make the graphics described in this Bulletin.

Fax-on-Demand phone numbers:
United States or Canada: 1-800-364-0768
International: 1-651-732-6506

Subject	Bulletin No.	FOD No.
Product Bulletins		
3M Performance Guarantee Printer Matrix	PG Matrix	4599
3M™ Piezo Ink Jet Ink Series 2200UV	2200UV	4597
3M™ Piezo Ink Jet Ink Series 2600UV	2600UV	4594
3M™ Piezo Ink Jet Ink Series 2700UV	2700UV	4598
3M™ Piezo Ink Jet Ink Series 1500	1500	4578
3M™ Piezo Ink Jet Ink Series 5500	5500	4592
3M™ Piezo Ink Jet Ink Series 6000	6000	4560
3M™ Piezo Ink Jet Ink Series 6800	6800	4574
3M™ Screen Printing Ink Series 1900	1900	2501
3M™ Screen Printing Ink Series 9700UV	9700	2507
Scotchprint® Toner Series 8700/8800	8700	3514
3M™ Trident Transfer Paper	Trident	3567
3M™ Scotchcal™ Overlaminates 8518	8518	4600
3M™ Scotchcal™ Overlaminates 8519 and 8520	8519/ 8520	4524
3M™ Piezo Ink Jet Protective Clear 8530	8530	4565
3M™ Scotchcal™ Ultra-Matte Overlaminates 8915 ES	8915	3522
Instruction Bulletins		
Printing with piezo ink jet ink series 1500	4.45	6545
Printing with piezo ink series 2200UV	4.52	6552
Printing with piezo ink jet series 2600UV	4.50	6550
Printing with piezo ink series 2700UV	4.53	6553
Printing with piezo ink series 5500	4.47	6547
Printing with piezo ink jet ink series 6000	4.39	6539
Printing with piezo ink series 6800	4.40	6540
Screen printing with ink series 1900	3.11	6011
Screen printing with ink series 9700UV	3.4	6004
Using toner series 8700/8800	4.12	6512
Transferring and laminating electrostatically printed images	4.7	6507
Cold roll lamination	4.22	6522
Making digitally imaged, single and double-sided promotional banners	4.15	6515
Application, wet method for translucent screen printed, thermal mass transfer and cut graphics	5.7	7007
Storage, handling, maintenance, removal	6.5	8505
Warranties		
3M Graphics Market Center Warranty Brochure		9503

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PressVu is a registered trademark and UltraVu is a trademark of VUTEK Inc.
All other trademarks are the property of their rightful owners.*

Bulletin Change Summary

New Products. Added ink series 2200UV and 2700UV.

Change to approved printer platforms. These banner materials are not approved for printers that require a 6 inch core.

Other changes: Combined all banner materials into one bulletin named B1. Updated warranty formatting. The requirement to apply clear 8530 only with 3M-approved laminators has been removed.



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Fax-on-Demand document: 3523 45524556 4572
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