



# Controltac™ Plus Graphic Film Series IJ162

For Piezo Ink Jet Printing Only

## Description

3M™ Controltac™ Plus Graphic Film Series IJ162 is a 4-mil positionable film that is designed for producing premium removable floor graphics. This NFPA test film has excellent hiding power and is designed for piezo ink jet printing.

## Application and End Uses

Film IJ162 is designed only for making durable, removable floor graphics when manufactured with 3M recommended Compatible Products and applied to 3M recommended application surfaces and substrates (see Characteristics) as specified in 3M Instruction Bulletins. These applications may be warranted by the 3M™ MCS™ Warranty. See **Warranted Durability** for details.

## Limitations of End Uses

We do not normally warrant other applications, but please contact us to discuss your needs or let us suggest other 3M products.

Specifically, we do not warrant this film for the following:

- Application to playing surfaces such as gymnasium floors.
- Graphics that are not overlaminated
- Graphics used for purposes other than for interior floors
- Graphics applied to substrates other than those recommended
- Graphics made of individually laminated cut numbers, letters and characters.
- Loose or broken flooring material

## Caution

Any floor surface, including the 3M piezo ink jet system for floor graphics, that is wet due to rain, snow, or other contaminants may become slippery. To avoid personal injury due to slipping:

- Place the floor graphic far enough away from entryways that they stay dry.
- Use doormats to reduce moisture at entryways.
- Clean up water, spills, or other contaminants immediately.

## Compatible Products for Warranted Graphics

### 3M Inks and 3M Printer Platforms

- 3M™ Piezo Ink Jet Ink Series 2500UV
  - 3M™ Printer 2500UV

### 3M Inks and Other Printer Platforms

- 3M™ Piezo Ink Jet Ink Series 1600
  - Scitex PressJet-W™ Digital Press
- 3M™ Piezo Ink Jet Ink Series 2300
  - VUTEk UltraVu™ 2360/3360 Printers
- 3M™ Piezo Ink Jet Ink Series 4000
  - VUTEk UltraVu™ 3000/3300 and 5000/5300 Printers
- 3M™ Piezo Ink Jet Ink Series 6000
  - Océ Arizona 30 Printer

### Overlaminates

- 3M™ Scotchcal™ Luster Overlaminates 3645

## Warning

The safety and performance of film/overlaminates IJ162/3645 when used as a floor graphic is warranted or assured only on the application surfaces listed in **Characteristics**. Any other surface must be approved in writing by 3M Commercial Graphics Technical Service prior to application.

FLOOR GRAPHICS FOR INDOOR USE ONLY.

Note: For the full product names of the 3M products listed on this page, please see page 1.

## Characteristics

This information is subject to change. Be sure this is the most current Product Bulletin. See 3M Related Literature at the end of this bulletin.

Characteristic	Description
Film	Calendered vinyl
Film colors	<b>162-10</b> white, opaque <b>162-114</b> clear
Thickness	Nominal 4 mils (0.10 mm) <i>without adhesive</i> 4.5-5 mil (0.11-0.13 mm) <i>with adhesive</i>
Gloss	Matte
Adhesive	Positionable, pressure activated
Adhesive color	<b>162-10</b> gray pigmented adhesive <b>162-114</b> clear adhesive
Adhesive	Positionable, pressure activated, gray pigmented
Liner	Polyethylene coated layflat paper
Removal	Removable without heat or chemicals
Application surfaces and substrates	Most interior floors, including sealed concrete, marble, terrazzo, ceramic, finished wood
Application temperature range	40° to 100°F (4° to 38°C) (air and substrate)
Roll sizes	24" x 50/100 yards (57 cm x 45/90 m) 48" x 50/100 yards (122 cm x 45/90 m)

## Effective Performance Life

Only a Scotchprint® Graphics Authorized Manufacturer or 3M Piezo Ink Jet Registered Fabricator can produce 3M™ MCS™ Warranted Graphics. When film series IJ162 is printed and laminated with overlaminate 3645 in accordance with 3M recommended procedures to make a graphic for floors, the following performance may be expected. The performance statements are based upon foot traffic experience in the field. Graphics may be damaged by pallets or heavy equipment such as fork-lifts; minor edge chipping is unavoidable. This type of damage is not covered by 3M's warranty. Performance depends upon preparation of the floor before application, the exposure conditions, the maintenance of the graphics, and the condition of the floor.

**Warranted Durability:** 1 year, interior

## Support Information for the 3M Printer 2500UV Only

Contact 3M Technical Support (1-800-328-3908) for questions about using 3M inks, printing media, color profiles, color calibration, temperature and machine settings or for machine service information. New ICC profiles for the 2500UV printer are available on the [www.scotchprint.com](http://www.scotchprint.com) website at extranet level.

### Managing the Total Physical Amount of Ink on Media

Please refer to Instruction Bulletin 4.41 for details.

## Support Information for All Other Piezo Ink Jet Systems

To get the durability given in the Effective Performance Life, follow the guidelines and procedures in 3M Instruction Bulletin for the ink series you are using.

Be sure the operator reads and follows "Understanding Printing with Solvent-Based Piezo Ink Jet Inks," also in ink's Instruction Bulletin. An operator who understands pre-press operations and the relationship between film characteristics, printer setup, total ink coverage and drying time can produce graphics that achieve the performance expectations of the film and the customer. The operator should also work with the graphic designer and/or color conversion operator so there is a common understanding of print and media parameters.

### Total Ink Coverage

Do not exceed a total ink coverage of 300% for film series IJ162. Too high a total physical ink amount on the film results in media characteristic changes, inadequate drying, overlamine lifting, and/or poor graphic performance.

### 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 overlaminate, rolling the graphic, and applying the film. See the ink's Instruction Bulletin for more details.

## Overlaminating

For general overlaminating, refer to Instruction Bulletin 4.22. For additional overlaminating information for floor graphics, refer to Instruction Bulletin 5.19. See **3M Related Literature** for information on ordering this bulletin.

Note: For the full product names of the 3M products listed on this page, please see page 1.

## Cutting

We recommend cutting radiuses on any sharp corners after lamination. This helps prevent premature lifting of the graphic after application.

The following are common cutting methods for film series IJ162. See Instruction Bulletin 4.1 for details.

- Bandsawing
- Hot kiss cutting
- Drum-type electronic cutting
- Flat-bed electronic cutting
- Guillotine
- Hand cut
- Cold and hot steel-rule die cutting

## Application

Refer to the Instruction Bulletin 5.26 for complete information. See **3M Related Literature** for information on ordering this bulletin.

Application tapes (premasking and prespacing) are not needed with floor graphics.

## Maintenance and Cleaning

Refer to Instruction Bulletin 6.5 for general maintenance and cleaning information. For additional information for floor graphics, refer to the Instruction Bulletin 5.26. See **3M Related Literature** for information on ordering this bulletin.

## Removal

Film series IJ162 is removable for up to one year without heat or chemicals, and with little or no adhesive residue.

For removal from floors, see Instruction Bulletin 5.26.

## Shelf Life, Shipping, and Storage

- Unprocessed film has a shelf life of two years after receipt from 3M. Processed film has a shelf life of one year. However, the total shelf life of a graphic before and after processing cannot exceed two years.
- Store the film in a clean, dry area in the original container.
- Store the film out of direct sunlight and at less than 100°F (38°C).
- Ship the finished graphic lying flat or in a roll. To roll the graphic, roll it film side out onto a core that is 5 inches (13 cm) or larger in diameter. These methods help prevent the film from wrinkling or popping off the liner.
- See Instruction Bulletin 6.5 for details.

## Product Data

Values given are typical for unprocessed film series IJ162 and are not for use in specifications. For a custom specification, submit a request to your 3M sales representative.

### Physical Properties

Property	Value
Tensile strength (minimum)	13 pound/inch at 73°F (2.3 kg/cm at 23°C)
Applied shrinkage	0.032 inch (0.8 mm)
Temperature range after application	-10°F to +200°F (-34°C to +93°C)

### Chemical Resistance Characteristics

- Resists mild alkalis, mild acids, and salt.
- Excellent resistance to water.

## Flammability

### Building Interior Wall/Ceiling Applications


Film IJ162 with overlamine 3645 meet the requirements of the National Fire Protection Association Class AI as defined in NFPA 101 "Life Safety Code" Test Method.

Test Method	Results	
ASTM E84	Flame Spread Index = 20	Smoke Developed Index = 85

### Building Interior Floors/Walkways

Film IJ162 with overlamine 3645 meet the requirements of Class A1 Interior Floor Finish, as defined in NFPA 101, Life Safety Code, tested to E648. Overlamine 3645 meets the specified requirements of UL410 - Standard for Slip Resistance of Floor Surface Materials.

## Health and Safety

 <b>Caution</b>
<p>When handling any chemical products, read the manufacturers' container labels and the Material Safety Data Sheets (MSDS) for important health, safety and environmental information.</p> <p>To obtain MSDS sheets for 3M products:</p> <ul style="list-style-type: none"><li>• By fax, call 1-800-364-0768 in the US and Canada or 1-650-556-8417 for all other locations.</li><li>• Electronically, visit us at <a href="http://www.3m.com/msds">http://www.3m.com/msds</a>.</li><li>• By mail, or in case of an emergency, call 1-800-364-3577 or 1-651-737-6501.</li></ul> <p>When using any equipment, always follow the manufacturers' instructions for safe operation.</p>

## Warranty and Limited Remedy

This warranty is made in lieu of any and all other express or implied warranties, including any implied warranty of *merchantability*: 3M warrants that 3M Piezo Ink Jet Systems for Floor Graphics that are constructed using only the recommended 3M overlamine, graphic film and 3M piezo ink jet ink series, and produced and installed in accordance with 3M's written instructions, will for a period of one year after application have the following expected performance: maintain original brightness, color, and image quality, excepting ordinary and expected wear and tear, and adhere to 3M-recommended floor surfaces and be removable without damage to the surface. 3M will replace or refund the price of such quantity of the floor graphics found not to meet this warranty.

**This warranty is exclusive. In no case shall 3M be liable for any other direct or indirect damages or loss, including without limitation any incidental, special, or consequential damages, or any labor charges incident to the removal or replacement of graphics for floors.**

### Attention:

#### Scotchprint® Graphics Authorized Manufacturers

There's a whole other world behind the Scotchprint® Graphics Internet site ([www.scotchprint.com](http://www.scotchprint.com)) and you can travel there with the Scotchprint® Graphics Network. This password-protected Web site opens the door to exclusive Scotchprint® Graphics product information, services and product promotions for 3M's Scotchprint® Graphics Authorized Manufacturers.

There's no charge and you can sign up today. Just ask your Commercial Graphics Division sales representative.

## 3M Related Literature

**Before starting any job, be sure you have the most recent product and instruction bulletins.**

Listed below is related 3M technical literature that may be of interest. You may view and print these Bulletins from our Web site at [www.scotchprint.com](http://www.scotchprint.com), or order them via our Fax-on-Demand (FOD) system. Call one of these phone numbers to order the desired bulletins, and specify the FOD document number provided in the chart.

United States or Canada: 1-800-364-0768  
International: 1-651-732-6506



#### Commercial Graphics Division

3M Center, Building 220-6W-06  
PO Box 33220  
St. Paul, MN 55133-3220 USA  
General Info. 1-800-374-6772  
Technical Info. 1-800-328-3908  
Fax 1-651-736-4233

Fax-on-Demand 1-800-364-0768 US/Canada or 1-651-732-6506 International  
Fax-on-Demand document: 4561  
[www.scotchprint.com](http://www.scotchprint.com)

#### 3M Canada

P.O. Box 5757  
London, Ontario  
Canada N6A 4T1  
1-800-265-1840  
Fax 519-452-6245

#### 3M México, S.A. de C.V.

Av. Santa Fe No. 55  
Col. Santa Fe, Del. Alvaro Obregón  
México, D.F. 01210  
52-55-52-70-04-00  
Fax 52-55-52-70-22-77

#### 3M Puerto Rico, Inc.

Puerto Rico Industrial Park  
P.O. Box 100  
Carolina, PR 00986-0100  
787-620-3000  
Fax 787-750-3035

Subject	Bulletin No.	FOD No.
<b>Product Bulletins</b>		
3M™ Piezo Ink Jet Ink Series 1600	1600	4526
3M™ Piezo Ink Jet Ink Series 2300	2300	4538
3M™ Piezo Ink Jet Ink Series 2500UV	2500UV	4575
3M™ Piezo Ink Jet Ink Series 4000	4000	4515
3M™ Piezo Ink Jet Ink Series 6000	6000	4560
3M™ Scotchcal™ Luster Overlamine 3645	3645	1508
<b>Instruction Bulletins</b>		
Design of graphic	2.1	5501
Printing with piezo ink jet ink series 1600	4.30	6530
Printing with piezo ink jet ink series 2300	4.35	6535
Printing with piezo ink series 2500UV	4.41	6541
Printing with piezo ink jet ink series 4000	4.27	6527
Printing with piezo ink jet ink series 6000	4.39	6539
Cold roll lamination	4.22	6522
Laminating graphics for floors	5.19	7019
Scoring and cutting	4.1	6501
Applying/maintaining graphics for floors	5.26	7026
Storage, handling, maintenance, removal	6.5	8505

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Pressjet-W is a trademark of Scitex.

### Bulletin Change Summary

Added Printer 2500UV and piezo ink jet ink series 2500UV to Compatible Products, unique support information for printing with this system, and warranted durability conditions. Added printer Arizona 30-s and ink series 6000. Added limitations against applying to playing surfaces and using for cut characters; added the need to radius the corners of graphics after laminating. Reduced total ink coverage from 380% to 300%. Improved text as indicated by the black bars in the margins.