3M™ Controltac™ *Plus*

Graphic Film Series ij162-10 White/IJ162-114 Clear For Piezo Ink Jet Printing

Product Description

3M™ Controltac™ *Plus* Graphic Film ij162-10 is a durable, opaque, calendered vinyl film and IJ162-114 is a durable , clear film. When these films are over-laminated with 3M™ Scotchcal™ Lustre Over-laminate 3645, they make 3M Graphic for floors.

Key Features

- Positionable
- Outstanding resistance to dirt and other environmental factors.
- Removable without accessories or chemical strippers
- Versatile printing capabilities
  - VUTEk UltraVu™ 3000/3300 and 5000/5300, 2360/3360 Printers
  - -Scitex Pressjet-W™
  - Digital Press
  - Excellent hiding power (ij162-10 white)

  Wide application temperature range

New Features

The film surface has been specially adapted for improved printing performance of 3M™ Piezo inks.

Applications and Uses

3M™ Controltac™ *Plus* Graphic Film IJ162-10 and IJ162-114 are designed for making durable, removable graphics for floors when these films are over-laminated with 3M™ Scotchcal™ Lustre Over-laminate 3645. These types of graphics are warranted Scotchprint® Graphics

When IJ162-10 and IJ162-114 are digitally imaged using 3M inks and protected with clear over-laminate. These graphics are warranted by the 3M™ MCS™ Warranty and the Scotchprint® Graphics brand

Limitations of End Uses

3M 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:

- Graphics that are not over-laminated – See "When to use an overprint clear or over-laminate"
- Graphics applied to substrates other than those recommended
- Graphics made of individually laminated cut numbers, letters and characters.

Product Line

Please contact the 3M Sales Office for stock available and lead times.

Product Number	Colour
IJ162 – 10	White
IJ162-114	Transparent

Compatible Products

Piezo Ink Jet Inks

- 3M™ Piezo Ink Jet Ink Series 4600
- Scitex PressJet-W™ Digital Press
- 3M™ Piezo Ink Jet Ink Series 1500
- VUTEk UltraVu™ 2360/3360 Printers
- VUTEk UltraVu™ 3000/3300 and 5000/5300 Printers

  Protective Clears

- 3M™ Scotchcal™ Lustre Overlaminate 3645 for graphics for floors

Main Characteristics

Characteristic	Description
Film only	ij162-10 white, opaque (0.1mm)
	ij162-114 transparent (0.1mm)
Thickness (film plus adhesive)	0.1 to 0.13 mm
Adhesive	Removable, Positionable, pressure activated
Adhesive colour	ij162-10 white: grey pigmented adhesive ij162-114 transparent: clear adhesive
Liner	150 gsm premium performance
Application temperature*	4°C to 38°C
Removability	1 years
Removal temperature	10° to 38°C (50° to 100°F)

For applications nearing the minimum temperature range, please contact your local technical service representative to confirm suitability of application

Chemical and Physical Properties

Values given are typical and are not for use in specifications. If a custom specification is desired, a request should be submitted through your sales representative. The data given below is for unprinted film

Physical Properties

Property	Metric Units English Units
Tensile strength (minimum)	22 N at 23°C
Dimensional Stability	0.8mm

Warranty

Only a Scotchprint® Graphics Authorised Manufacturer or 3M™ MCS™ Qualified Manufacturer can produce 3M™ MCS™ Warranted Graphics. The warranty period is based on field experience and exposure tests. When the graphics are processed and used according to the 3M recommendations, they should have the performance life shown in the table below. The actual performance depends on the:

- Correct combination of film and ink
- Ink formulation
- Drying methods
- Selection and preparation of the substrate
- Application methods
- Exposure conditions
- Cleaning methods

Warranted Durability

Film Series	Ink series	Protection	Fleet			Exterior sign 1st surface			Exterior sign 2nd surface			Interior		
Zone			1	2	3	1	2	3	1	2	3	1	2	3
Graphics for Floors, ij162-10 Ij162-114	4600, 1500	3645	-		-	-	-	-	-	-	-	1	1	1

Zone 1: Northern/Central Europe
Zone 2: Mediterranean Europe
Zone 3: Middle East/North Africa

Fabrication

This bulletin does not contain detailed printing, processing or application procedures for the subject products. The appropriate Instruction Bulletin(s) may be obtained by contacting your 3M sales representative or 3M Technical Service.

Premasking/Prespacing

Premasking of 3M™ Graphics for Floors is not required but may be desirable to protect the film during shipment and application. In which case, use: 3M™ Premasking Tape SCPM-19.

Application

Refer to the Instruction Bulletin 5.4 for application details.

Application Temperature

4° to 38°C

Cutting

3M recommend cutting radii on any sharp corners after lamination. This helps to prevent premature lifting – see Instruction Bulletin 4.1 for details.

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)
.

Removal

Can be removed up to 1 years without use of accessories or chemical strippers.

Removal Temperature
10°C to 38°C

Shelf Life

The shelf life of the film is 2 years and should be applied within 2 years of the receipt of film if unprocessed. Processed film should be applied within 1 year of processing and within 2 years of receipt of the film
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Printing with Solvent-Based Piezo Ink Jet Inks

3M™ Controltac™ *Plus* Graphic Film ij162-10 and ij162-114 can be printed with the piezo ink jet inks listed on page 1. The ink Instruction Bulletin provides detailed information for successful printing and graphic application. You must follow these instructions to get the durability given in the Effective Performance Life.

The operator who has an excellent understanding of pre-press operations, including colour management and using software profiles, and who understands 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 work with the graphic designer and/or colour conversion operator so there is a common understanding of print and media parameters.

The operator should also work with the film applicator so you are both aware of any special handling or application techniques that may be needed for the selected film construction.

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

Total Ink Coverage

Do not exceed the recommended total ink coverage for film series 162. Too high a total physical ink amount on the film results in media characteristic changes, inadequate drying, over-laminate lifting, and/or poor graphic performance.

Total Ink Coverage	Printer
270%	UltraVu 150, 2360/3360 Printers
300%	UltraVu 3000/3300 and 5000/5300 Printers
300%	Pressjet-W Digital Press

Related 3M Literature

Listed below is related 3M Technical Literature which may be of interest:

Subject	Bulletin No.
3M™ Piezo Ink Jet Ink Series 1600	4600
3M™ Piezo Ink Jet Ink Series 2300	1500
3M™ Scotchcal™ Lustre Overlaminate 3645	3645
Design of graphics	2.1
Printing with piezo ink series 4600	4.43
Printing with piezo ink series 1500	5.45
Laminating graphics for floors	5.19
Applying/maintaining graphics for floors	5.26
Maintenance and Removal	6.5

Glossary of Terms

Matched Component System™ or MCS™
The system pursuant to which Finished Graphics are produced by a Graphic Manufacturer using only 3M Products and components and manufactured in accordance with 3M's Product or Instruction Bulletins, 3M Specification Document and using 3M Approved Technologies.

3M™ Controltac™ Plus

A film with 3M™ Controltac™ Plus positionable adhesive system has millions of precision-placed microscopic glass spheres embedded within its adhesive layer. These spheres help to prevent the adhesive from fully contacting the application surface until pressure is applied. This enables the graphic to be positioned, then re-positioned as many times as necessary, until it is in exactly the right place before final application.

Removable Adhesive
Films with removable adhesive can be lifted easily from most suitable substrates and may require the application of heat to add the process.

Health & Safety

Refer to the package label and the Material Safety Data Sheet for health, safety, and handling information on the products referenced in this bulletin. For 3M products, if necessary, you may contact our Toxicology/Product Responsibility Department on 01344 858000.

Important Notice to Purchaser

The 3M products described in this publication are covered by a 3M warranty and limitation of liability.

3M's warranty provides that if 3M finds that goods are defective in material or workmanship they will be replaced or the price refunded at 3M's option but note that 3M does not accept liability for other direct losses (except for personal injury or death) or consequential losses relating to defective products or from information supplied by 3M.

Purchasers and users of 3M products, and not 3M supplying companies, are always solely responsible for deciding on the suitability of the 3M product for their required or intended use.

Technical Assistance

For help on specific questions relating to 3M Commercial Graphics Division Products, contact your local Technical Service Representative.

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