



Panagraphics™ II

Flexible Sign Face Substrate

Description

3M™ Panagraphics™ II substrate is a flexible translucent dimensionally stable substrate consisting of a polyester scrim embedded in white pigmented vinyl specially formulated to accept selected 3M™ Scotchcal™ Opaque and Translucent Films.

Advantages

- Panagraphics™ II substrate may be decorated either prior to or following the installation.
- distinguishable from other brands of flexible materials by the identification printed on the backside and white pigmented front and back surfaces
- front surface of the material is smooth and exhibits a semi-gloss level similar to that of 3M™ Scotchcal™ Translucent Film Series 3630.

Limitations of End uses

- Decorate only the front surface of this substrate
- For the best looking signs and awnings, do not remove and then reuse Panaflex™ Awning & Sign Facing 945 GPS. Redecorating and reusing the substrate is not recommended or warranted by 3M.

Application and End Uses

Panagraphics™ II substrate is intended only for these applications.

- Create attractive day and night graphics
- Attach to a variety of frameworks to satisfy the appropriate sign needs.

Compatible Products

Selected compatible Scotchcal™ films for use on Panagraphics™ II substrate:

- 3M™ Scotchcal™ Translucent Film Series 3630, 3631 and 3632 GPS

- 3M™ Scotchcal™ Overlamine Film 3640-114 GPS or 3642-114 GPS
- 3M™ Scotchcal™ ElectroCut™ Film Series 50/100/7725 SE for front-lighted applications
- 3M™ Scotchcal™ Film Series 2330
- 3M™ Scotchcal™ Instant Dry Translucent Imaging Media 8544CP for thermal ink jet printing
- 3M™ Scotchcal™ Translucent Marking Film RG3630-20 for piezo ink jet printing
- 3M™ Scotchcal™ Electrostatic
 - Transparent Marking Film 8626
 - Translucent Marking Film 8628
 - Opaque Marking Film 8644 or 8646
 - Promotional Marking Film 8648
 - Transparent Marking Film 8647
 - Promotional Transparent Marking Film 8649
 - Opaque Changeable Marking Film 8650-10
 - Translucent Changeable Marking Film 8650-20

Selected compatible 3M screen print ink for use on Panagraphics™ II substrate:

- 3M Ink Series 1900

Selected compatible 3M Piezo ink jet inks for use on Panagraphics™ II substrate:

- 3M ink jet Series 2300
- 3M ink jet Series 4000

Note: Other decorating methods and techniques are subject to the converter's own testing and approval.

Product Line

Panagraphics™ II substrate is available in the following standard lengths and widths:

Widths	Lengths
101.6 - 122 - 137 - 152 - 165 - 183 - 203 - 223.5 cm	60 meter
(40 - 48 - 54 - 60 - 65 - 72 - 80 - 88 inches)	(200 feet)

Characteristics

Values given are typical and are not for use in specifications. If a custom specification is desired, a request should be submitted through your 3M sales representative. The data given below is for undecorated substrate.

Property	Metric Units
Exposure Temperature Stability	-30°C to 77°C
Light Transmission (Opacity)	26% ± 2%

Effective Performance Life

Since graphic durability is largely determined by climate, the performance of Panagraphics™ II will vary accordingly to the geographic location of the application.

Consequently the expected durabilities given in this document are grouped into zones and are for vertical exposure only or within 10° of vertical.

Zone 1: Northern & Central Europe

Zone 2: Mediterranean Europe

Zone 3: Northern Africa and Middle East.

Please contact 3M Technical Service for the list of the countries per zone.

Panagraphics™ II			
Zones	1	2	3
Warranted Durability Years	5	4	3
Warranted Durability Screen print	3	2	1
Warranted Durability Piezo ink jet print	3	2	1

Fabrication

Cleaning of the substrate prior to application of the graphic is recommended using the 3M™ Surface Preparation System. This bulletin does not contain detailed instructions on the application of selected Scotchcal™ films to 3M™ Panagraphics™ II substrate. Please refer to Instruction Bulletin 5.9 for details. To obtain this Bulletin contact your 3M sales representative.

Direct printing with Vutek X300 and Vutek 2360/3360

Panagraphics™ II can be directly printed with 3M Piezo Ink Jet Ink Series 4000 and 2300.

Screen Printing

Panagraphics™ II can be directly screen printed with 3M Screen Printing Ink Series 1900 and clearcoated with 3M Screen Print Protective Clear 1920DR.

Seaming

Seaming of Panagraphics™ II is possible using 3M™ Seaming Tape. Recommendation on seaming procedure can be obtained from your 3M sales representative. The blow-out warranty on the seam must be provided by the seam manufacturer and subject to its approval.

Application

When the temperature is below 8 °C do not install a Panagraphics™ II sign face (e.g. attach finished sign faces to cabinets, framing, etc.) where folding, crimping, creasing or forming the material to sharp corners is necessary. At low temperatures the material becomes less flexible and cracking may occur.

Maintenance and Cleaning

Annual cleaning is recommended to maximize the dirt resistant properties of Panagraphics™ II substrate. More frequent cleaning may be required where dictated by local conditions. Please refer to Instruction Bulletin 6.1 for cleaning recommendations.

On large sign applications re-tensioning may become necessary during warmer weather if the sign face is initially installed during colder weather (e.g. below 8 °C). To avoid the need for re-tensioning, do not install at temperatures below 8 °C.

Repair

If damaged by sharp objects or punctured Panagraphics™ II sign faces can be repaired utilizing a repair kit available from 3M. For more information see Instruction Bulletin 6.2. The size of the area damaged will dictate the utility of repair. Tears and punctures will not propagate due to the strength and integrity of Panagraphics™ II substrate.

Shelf Life, Shipping and Storage

Caution Statements

When shipping completed sign faces (e.g. when Scotchcal™ film graphics have been applied) in roll form, the material should be rolled onto a core at least 8 cm in diameter with the graphics to the outside. If the graphics are on the inside irreparable damage may occur.

Finished Panagraphics™ II sign faces should not be wrapped with masking tape to hold them in place. The adhesive system of the masking tape can, on some occasions, stain the substrate.

Shelf Life

Undecorated Panagraphics™ II substrate may be stored up to 6 months provided it is in a cool, dry environment, free from direct sunlight.

Important Notice

This bulletin provides technical information only.

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.

3M Related Literature

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

Subject	Bulletin No.
Instruction Bulletins	
Design of markings	2.2, 2.3
Application	4.5, 5.9
Storage, maintenance, removal	6.1, 6.2

Important Notice

Many state and local jurisdictions have adopted various building codes that require materials to meet flammability standards, including materials used for interior and exterior awning, banner and sign face applications. The user is responsible for determining and complying with all applicable standards. For information on flammability requirements contact your local building code officials. For information on the results of flammability testing contact your 3M sales representative or local technical service.

For Further Assistance

For help on specific questions relating to 3M Commercial Graphics products, please contact your local 3M Technical service person or contact:

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