



# Triangle Void Polyester Label Products

## FMV01202 • FMV01402

Technical Data

February, 2007

### Product Description

3M™ Triangle Void Polyester Label Products FMV01202 and FMV01402 are a tamper-indicating stock designed to provide a triangle pattern in the facestock when removal is attempted. These label products utilize 3M™ Adhesive P1410 which is an aggressive tackified emulsion acrylic adhesive that offers excellent adhesion to a wide variety of substrates, including polyolefins.

### Construction

Product Number	Facestock	Adhesive	Liner
<b>3M label product FMV01202</b>	.002 in. Silver Triangle Void Polyester TC	P1410 Perm. 18	50# SC Remoist 3.1 mil semi-bleached super calendered kraft sheet
<b>3M label product FMV01402</b>	.002 in. White Triangle Void Polyester TC	P1410 Perm. 18	50# SC Remoist 3.1 mil semi-bleached super calendered kraft sheet

(Calipers are nominal values)

### Typical Physical Properties

**Note: The following technical information and data should be considered representative or typical only and should not be used for specification purposes.**

Adhesion properties determined per TLMI Method using 1.0 mil polyester with 0.9 mils of adhesive on a stainless steel panel.

<b>Peel Adhesion</b>	3.0 lbs./in. (528 N/m)	TLMI Method, 180° Peel, 12"/min., 1" wide sample
<b>Loop Tack</b>	1.8 lbs./in. (316 N/m)	TLMI Method, 12"/min., 1" wide sample
<b>Shear</b>	1.0 hour	TLMI Method, 0.25 in. <sup>2</sup> x 500g
<b>Adhesive Coat Weight</b>	1.75 g/100 in. <sup>2</sup> ± 10%	3M Method E10MFP01
<b>Liner Release</b>	15 to 50 g/2 in.	TLMI Method, 180° removal, 300 in./min.
<b>Service Temperature</b>	-20°F to 240°F (-29°C to 115°C)	
<b>Application Temperature</b>	40°F to 120°F (5°C to 49°C)	

### Features

- Meets CONEG requirements.
- Adhesive dry ingredients are listed by FDA as indirect food contact additives when used in food packaging with minimum opportunity for exposure. See 21 CFR 175.105.
- Liner is designed for high-speed die cutting and matrix stripping. Not recommended for sheet on press applications. This liner has been remoisturized after silicone coating to restabilize the sheet and reduce side curl.

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## Printing

- Gloss topcoat is designed to be printable with a variety of film inks and thermal transfer ribbons. The following inks and thermal transfer ribbons have been evaluated and found to give excellent adhesion when tested with 3M™ Tape 610 and 3M™ Tape 810. However, press conditions vary and proper evaluation using your specific conditions is critical and highly recommended for successful ink and ribbon adhesion.

Supplier UV Inks	Ink Series	Printing Process
XSYS Print Solutions	UNV80071	Letterpress
	USC50022	Screen
	USC10031	Screen
Environmental Inks	Ultra Kote 1800 OPV	Flexo
Nazdar	PSST-3952	Screen
Norcote	02-022, 80049, 02304, 021019	Screen
<b>Water Based</b>		
XSYS Print Solutions	HMF80071	Flexo
	HMF90100	Flexo
	MHF30004	Flexo
Water Ink Technologies	WFLO 42976	Flexo
Environmental Inks	Aqua Polyscreen Plus	Flexo
	Aqua Poly Cup	Flexo
Wykoff Inks	SCF 6551	Flexo
<b>Solvent Based</b>		
Siegwerk Ink	FCTB65L2	Flexo
	FCTD65L4	Flexo
	FCTE65L3	Flexo
	FCTH65L5	Gravure
	GV124	Screen
Nazdar		
<b>Thermal Transfer</b>		
Ribbon Supplier	Ribbon Series	Ribbon Type
Armor	AXR7 +	Resin
DNP	W137-C	Wax
	M-250	Wax/Resin
	R510-W	Resin
iimak	SP330, DC400	Resin
	Prime Mark, PM350	Wax/Resin
Ricoh	B110A	Wax/Resin
	BC110C	Resin
Sony	3022, 4085 Plus	Wax
	4070	Resin (UV+)
	4075	Resin

## Application Ideas

- Tamper-indicating labels and seals for packaging applications.
- Non-transferable durable goods label.

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## Die-Cutting

It is recommended that the user test for the presence of the triangle pattern on every roll of label seals as they process them, to insure the product quality and consistency. Which can be done by laminating a label seal to an untreated polyester film test surface. The label seal should be wiped down with a squeegee, allowed to dwell 10 minutes, and then removed to observe the presence and functions of the triangle pattern on both the facestock and the substrate. It is also recommended that the user test each lot of label seals on the actual application surface to assure the function of the “void” message.

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## Dispensing

As care should be taken not to disturb the tamper-indicating feature by pre-destructing the triangle void pattern when manually removing the label from the liner, slowly remove the liner from the label at a 90° angle. It is recommended that the user test samples for each roll of label seals by laminating a representative label seal to the specific application surface to assure its function meets expectations. This test can be run after 10 minutes dwell; however, final judgement should be based on 72 hours dwell at room temperature prior to testing.

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## Application

The tamper-indicating mechanism (i.e. the “void” message both on the facestock and on the substrate) depends upon adequate adhesion of the label to the substrate. A sufficient bond may not develop on all surfaces due to low surface energy (e.g. PTFE), contaminated or textured surfaces. Therefore, it is important to determine the suitability of the product in the intended application by carefully pretesting. The primary function of the products is to effect a non-transferable (non-reusable) label seal by causing the “void” message to appear on the facestock when removal from the substrate is attempted. As a result of the primary function, a “void” message is also transferred to the substrate and can be removed by hand rubbing or by solvent wiping.

Our tamper-indicating product line is designed to indicate tampering by destructing when an attempt is made to remove the label. Since no tamper-indicating feature is 100% tamper proof, careful consideration must be taken when designing label seals. When the consequences of tampering could be severe, such as injury or loss of human life or significant monetary loss, these products are not recommended as the sole means of package or product tamper indication. In these instances, additional methods in combination with the labels should be considered so that the tamper-indicating features are commensurate with the requirements of the application.

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**Storage Conditions** Store under normal conditions of 70°F (21°C) and 50% relative humidity. To minimize the effects of humidity on the products, package the die-cut and printed stock in polyethylene bags. Low density polyethylene (2-4 mils) can help prevent humidity penetration.

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**Shelf Life** To obtain best performance, use this product within two years from the date of manufacture.

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**Product Use** All statements, technical information and recommendations contained in this document are based upon tests or experience that 3M believes are reliable. However, many factors beyond 3M's control can affect the use and performance of a 3M product in a particular application, including the conditions under which the product is used and the time and environmental conditions in which the product is expected to perform. Since these factors are uniquely within the user's knowledge and control, it is essential that the user evaluate the 3M product to determine whether it is fit for a particular purpose and suitable for the user's method of application.

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**ISO 9001:2000**

This Industrial Adhesives and Tapes Division product was manufactured under a 3M quality system registered to ISO 9001:2000 standards.



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