

## February, 2007

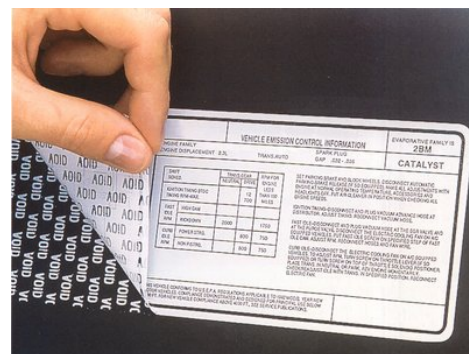
## 3M™ Void Polyester Durable Label Material FMV02

## Product Description

3M™ Void Polyester Durable Label Materials are tamper-indicating stocks designed to provide a “void” message in the facestock when removal is attempted. These void polyester labels utilize 3M™ Adhesive P1410 which is an aggressive tackified emulsion acrylic adhesive that offers excellent adhesion to a wide variety of substrates, including polyolefins.

## Product Features

- The polyester film is top coated to accept most film ink systems and thermal transfer printing.
- Meets CONEG requirements.
- Liner is designed for high-speed die-cutting and matrix stripping. Not recommended for sheet on press applications. The C2S version has a light coating of silicone on the backside to reduce label pick and is effective when used in conjunction with soft adhesives and heavy adhesive coating weights. The remount version has been remounted after silicone coating to restabilize the sheet and reduce side curl.



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### Technical Information Note

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

### Construction Tested

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

### Typical Physical Properties

Property	Values	
Facestock	Silver Void Polyester TC	
Facestock Thickness	0.05 mm	2 mil
Adhesive	P1410 Perm. 18	
Liner	50# SC semi-bleached super calendered kraft sheet	
Liner Thickness	0.079 mm	3.1 mil
Conformability	Semi-rigid – Label is suitable for flat or slightly curved surfaces.	
Adhesive Coat Weight	1.75 g/100 in <sup>2</sup> ± 10%	

### Note

Calipers are nominal values

### Typical Performance Characteristics

Property	Values		Method	Notes
Service Temperature Range	-29 to 115 °C	-20 to 240 °F		
Application Temperature	5 to 49 °C	40 to 120 °F		
180° Peel Strength	5.28 N/cm	48 oz/in	TLMI	12 in/min, 1 in wide sample
Loop Tack	3.16 N/cm	28.8 oz/in	TLMI	12 in/min, 1 in wide sample
Shear	1 hr		TLMI	0.25 in <sup>2</sup> x 500g
Liner Release Range	15 to 50 g/2 in		TLMI	180° removal, 300 in/min



## Handling/Application Information

### Application Ideas

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

### Application Techniques

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.

### Dispensing Equipment

As care should be taken not to disturb the tamper-indicating feature by pre-destructing the “void” message 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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### 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
Water Based XSYS Print Solutions	HMF80071	Flexo
	HMF90100	Flexo
	HMF30004	Flexo
Water Ink Technologies	WFLO 42976	Flexo
	Environmental Inks Aqua Polyscreen Plus	Flexo
	Aqua Poly Cup	Flexo
Wykoff Inks Solvent Based	SCF 6551	Flexo
	Siegwerk Ink FCTB65L2	Flexo
	FCTD65L4	Flexo
Nazdar	FCTE65L3	Flexo
	FCTH65L5	Gravure
	GV124	Screen
Thermal Transfer Ribbon Supplier Armor DNP	Ribbon Series Ribbon	Type
	AXR7 +	Resin
	W137-C	Wax
iimak	M-250	Wax/Resin
	R510-W	Resin
	SP330, DC400	Resin
Ricoh	Prime Mark, PM350	Wax/Resin
	B110A	Wax/Resin
	BC110C	Resin
Sony	3022, 4085 Plus	Wax
	4070	Resin (UV+)
	4075	Resin

### Converting

Die-Cutting:

The compact “void” message permits manufacture of labels as small as 1/2 in. x 11/4 in. (13 mm x 32 mm).

It is recommended that the user test for the presence of the “void” message 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 “void” message on both the facstock 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.

### Storage and Shelf Life

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.

To obtain best performance, use this product within 24 months from the date of manufacture.

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## Information

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## Trademarks

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## References

### Safety Data Sheet (SDS)

[https://www.3m.com/3M/en\\_US/company-us/SDS-search/results/?gsaAction=msdsSRA&msdsLocale=en\\_US&co=ptn&q=FMV02](https://www.3m.com/3M/en_US/company-us/SDS-search/results/?gsaAction=msdsSRA&msdsLocale=en_US&co=ptn&q=FMV02)

## Family Group

	FMV02	FMV12	FMV22	FMV32	FMVOE
Facestock	Silver Void Polyester TC	White Void Polyester EDP	White Void Polyester TC	Silver Void Polyester Translucent EDP	Silver Void Polyester TC
Facestock Thickness (mm)	0.05	0.05	0.05	0.05	0.05
Adhesive	P1410 Perm. 18	P1410 Perm. 18	P1410 Perm. 18	P1410 Perm. 18	P1410 Perm. 18
Liner	50# SC semi-bleached super calendered kraft sheet	50# SC Remoist semi-bleached super calendered kraft sheet	50# SC semi-bleached super calendered kraft sheet	50# SC Remoist semi-bleached super calendered kraft sheet	50# SC C2S semi-bleached super calendered kraft sheet
Liner Thickness (mm)	0.079	0.079	0.079	0.079	0.079



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### ISO Statement

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



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