English-US

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Technical Data Sheet

3M™ Void Polyester Durable Label Material FMV02

Product Details

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 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 remoist version has been remoisturized after silicone coating to restabilize the sheet and reduce side curl.

Technical Information Note

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

Typical Physical Properties

Attribute Name	Value
Adhesive Type	P1410 Perm. 18
Facestock	Silver Void Polyester TC
Conformability	Semi-rigid – Label is suitable for flat or slightly curved surfaces.
Adhesive Coat Weight	1.75 g/100 in² ± 10%

Attribute Name	Value
Facestock Thickness	0.05 mm (2 mil)
Liner	50# SC semi-bleached super calendered kraft sheet
Liner Thickness	0.079 mm (3.1 mil)

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 Performance Characteristics

Test Method: TLMI

Attribute Name	Temperature	Substrate	Value
180° Peel Adhesion	23 °C (73 °F)	Stainless Steel	5.28 N/cm (48 oz/in) [1]
Liner Release	23 °C (73 °F)		3 — 9.8 [2]
Shear Adhesion			1 h [3]
Loop Tack			3.16 N/cm (28.8 oz/in) [1]

[1] 300 mm/min (12 in/min)
[2] 180° removal, 300 in/min
[3] 0.25 in² x 500g

Attribute Name	Value
Application Temperature	5 — 49 °C (40 — 120 °F)
Long Term Temperature Resistance	115 °C (240 °F) [1]
Minimum Long Term Temperature Resistance	-29 °C (-20 °F) [1]

[1] Long Term (day, weeks)

Attribute Name	Value
Note	Calipers are nominal values

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 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
MHF30004 Flexo
Water Ink Technologies WFLO 42976 Flexo
Environmental Inks Aqua Polyscreen Plus Flexo
Aqua Poly Cup Flexo
Wykoff Inks SCF 6551 Flexo

Solvent Based
Siegwerk Ink FCTB65L2 Flexo
FCTD65L4 Flexo
FCTE65L3 Flexo
FCTH65L5 Gravure
Nazdar GV124 Screen

Thermal Transfer 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

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 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.

Handling/Application Information

Application Examples

• 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

Storage and Shelf Life

Store under normal conditions of 16° to 27°C (60° to 80°F) and 40 to 60% relative humidity in a sealed plastic bag, out of direct sunlight. For best performance, use this product within 24 months from date of manufacture.

Information

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ISO Statement

This product was manufactured under a 3M quality system registered to ISO 9001 standards.

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