



Destructible Vinyl Label Material

7613

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Technical Data

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Construction	Facestock	Adhesive	Liner
	2.0 mil (51 micron) gloss white cast vinyl, nontopcoated*	0.8 mil (20 micron) #350 high-holding Acrylic adhesive*	3.2 mil (81 micron) 55# white densified kraft paper, silicone coated

(*Facestock and adhesive are manufactured to a target coat weight. Caliper listed is nominal).

Features

- Immediate destructibility on many surfaces.
- Low shrinkage vinyl produces dimensionally stable labels without adhesive ooze or dirty edges.
- Consistent, smooth film provides excellent press processing and printability.
- Aggressive acrylic adhesive provides high bond and excellent destructibility on most substrates, including metals, powder coated surfaces, and plastics, including many low surface energy materials.
- Silicone-coated densified kraft liner for consistent rotary die cutting.

Typical Physical Properties and Performance Characteristics

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

Adhesion: ASTM D-3330 (modified): 90° peel, 12 inches/minute (305 mm/min).

	15 min. dwell		72 hr. dwell		72 hr. dwell	
	Room Temperature	Room Temperature	Room Temperature	158°F (70°C)	Room Temperature	158°F (70°C)
	oz/in	N/100 mm	oz/in	N/100 mm	oz/in	N/100 mm
Stainless steel	•		•		•	
Glass	•		•		•	
ABS (acrylonitrile butadiene styrene)	•		•		•	
Polycarbonate	•		•		•	
Polypropylene	•		•		•	
HDPE (high density polyethylene)	•		•		•	

* Not applicable. Label stock breaks when peeled.

Liner Release

180° angle, 90 in/min (229 cm/min): 21 gm/in: 0.8 N/100mm

Environmental Properties

Note: The following tests are intended as a guide to product performance. Application testing is recommended using actual substrates, expected dwell times, and actual conditioning for best determination of product suitability.

Labels were applied to stainless steel and dwelled 24 hours at room temperature before conditioning. Results were considered acceptable if no significant loss of adhesion occurred and label stock destructed when peeled from the surface.

Chemical Resistance:* Bond is secure when exposed to the following:

- Automotive oil: 72 hours at 120°F (49°C)
- Weak base: 4 hours at room temperature
- Weak acid: 4 hours at room temperature
- Sodium chloride solution (5%): 72 hours at room temperature

* Not recommended for use with MEK (methyl ethyl ketone) or prolonged immersion in gasoline. Whenever exposure to specific solvents is an important consideration, testing is recommended to assure adequate performance.

Water Resistance: Withstands exposure to water at room temperature for 100 hours.

Humidity Resistance: Withstands exposure to 90°F (32°C) and 90% relative humidity for 168 hours.

Temperature Resistance: Withstands short-term exposure (days, minutes) from -40°F (-40°C) to 300°F (149°C). Slight shrinkage and discoloration may occur at elevated temperatures.

Application Ideas

- Safety warning labels
- Warrantly seals
- Package seals
- Licensing labels and tags
- Calibration seals
- Asset labels

Application

- Assume all surfaces to which these label materials will be applied are contaminated — metals may be oily or dusty, plastics may be coated with mold release agents, dirt, etc. Any surface contaminant will adversely affect adhesion and the ability to destruct; therefore, contaminants must be removed prior to application by wiping with a solvent such as isopropyl alcohol. Consult the manufacturer’s Material Safety Data Sheet for proper handling and storage of solvents.
- Application temperature, pressure, and dwell time are all important variables to produce adequate adhesion and assure the label fractures when removal or tampering is attempted. For best results, the label should be applied when all materials are over 50°F (10°C). Higher initial bonds can be achieved through increased application pressure (firm hand or squeegee pressure should be sufficient). The bond will increase in time, depending on the substrate. Metals and high surface energy materials will develop bonds faster than low surface energy materials. For best results, wait 24 hours (at room temperature) before subjecting to harsh environments.

Processing

- **Press Printing:** The controlled print surface makes this product ideal for high quality graphics. See the ITSD Technical Bulletin for a current listing of recommended inks (category: Vinyl Press Printable).
- **Die-cutting:** Due to the fragile nature of the facestock, special handling (wider label matrix and wider edge trim to aid matrix stripping) should be considered when designing and processing fragile labels. For specific tips, see the ITSD Technical Bulletin “Die-cutting Fragile Label Stocks.”
- **Dispensing:** The combination of the fragile facestock and aggressive adhesive may present some difficulties in automatic dispensing. Testing with the intended application equipment and actual product samples are recommended before use.
- **Electronic Imaging:** This product is compatible with a variety of wax, resin and hybrid ribbons. The following list of ribbons has been satisfactorily printed but is not intended to be all inclusive.
 - Armor* Ax R7+
 - ICS* CC-4099-1
 - Ilmak* SP 330, DC 330
 - Ricoh* B110A, B110C
 - Sony* 4051, 4070, 4072, 5070
 - Zebra* 5095, 5555

Not recommended for dot matrix / impact, ink jet, or laser printing.

Shelf Life

- Label material retains its performance properties for at least one year from date of manufacture if properly stored at 72°F (22°C) and 50% relative humidity. It is recommended that roll stock and converted labels be kept in plastic bags for best performance.

Product Suitability

- The destructibility of the label depends upon adequate adhesion of the label to the substrate. A sufficient bond may not develop on all surfaces due to low surface energy, contaminated, or textured surfaces (see Application section for some suggested techniques). It is important to determine the suitability of the product in the intended application by carefully pretesting with application surfaces and real life conditioning.
- The primary function of the product is to produce a tamper-indicating label or seal by causing the label to fracture when removal from the substrate is attempted. Since no tamper-indicating feature is 100% tamper-proof, careful consideration must be taken when designing labels and seals. When the consequences of tampering could be severe, such as loss of life or significant monetary loss, these products are not recommended to be 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

Technical Information and Data

The technical information and data, recommendations, and other statements provided are based on tests or experience which 3M believes to be reliable, but the accuracy or completeness of such information is not guaranteed.

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