



"If you can imagine it, Nadco will make it Stick."®

4802 PE Tamper

Technical Data

Product Description White Tamper Evident Polyethylene Label offers consistent, high quality film that fractures when attempting label removal from many surfaces. This label product utilizes Adhesive P1410, which is a general purpose permanent tackified acrylic that offers excellent adhesion to a wide variety of substrates, including polyolefins.

Construction	Facestock	Adhesive	Liner
	.004 in. White Tamper Evident Polyethylene	P1410 Perm. 18	50# SC 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 mil of adhesive on a polished stainless steel panel.

Peel Adhesion	3.0 lbs./in. (528 N/m)	TLMI Method, 180° Peel, 12"/min., 1" wide sample
Loop Tack	1.8 lbs./in. (316 N/m)	TLMI Method, 12"/min., 1" wide sample
Shear	1 hour	TLMI Method, 0.25 in ² x 500g
Adhesive Coat Weight	1.75 g/100 in ² ± 10%	3M Method E10MFP01
Release Range	15 to 50 g/2 in.	TLMI Method, 180° removal, 300 in./min.
Service Temperature	-20°F to 140°F (-29°C to 60°C)	
Application Temperature	40°F to 120°F (5°C to 49°C)	

- Features**
- 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.
 - Meets CONEG requirements.
 - Liner is designed for high-speed die cutting and matrix stripping. Not recommended for sheet on press applications.

Processing

- **Press Printing:** Printable by all standard roll processing methods including flexographic, hot stamp, letterpress, thermal transfer, dot matrix, and screen printing.
- **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 fragile facestock may present some difficulties in automatic dispensing. Testing with the intended application equipment and actual product samples are recommended before use.

- **Application:**

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 labels fracture 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 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.

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.

Environmental Performance

Not intended for outdoor applications or for use in areas of constant exposure to water or strong chemicals. It is recommended that polyester identification material or laminating films be used for these applications.

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Application Ideas

- Packaging seals, calibration seals, asset labels.

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.

Shelf Life

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

Product Use

All statements, technical information and recommendations contained in this document are based upon tests or experience that NADCO® believes are reliable. However, many factors beyond NADCO® control can affect the use and performance of a NADCO® 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 NADCO® product to determine whether it is fit for a particular purpose and suitable for the user's method of application.

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