

The Adherent[®]

Technology Insights from Adhesives Research



Taking your products further.™

Release Liners: The Backbone to a Successful Pressure-Sensitive Component

Many pressure-sensitive adhesive (PSA) tapes are manufactured with release liners that facilitate the coating process and then protect the adhesive until further processing and final application. The release liner becomes a critical component to these products particularly in high-end applications that could experience costly failures due to silicone or particulate contamination or poor physical release properties. Adhesives Research (AR) assures PSA product integrity and stability by developing and manufacturing release liners tailored to specific adhesive, application and process needs.

The Release Liner's Function

Pressure-sensitive tape products are provided in roll formats that are later converted for final product assembly. The successful conversion of a PSA product is dependent upon the integrity of the release liner.

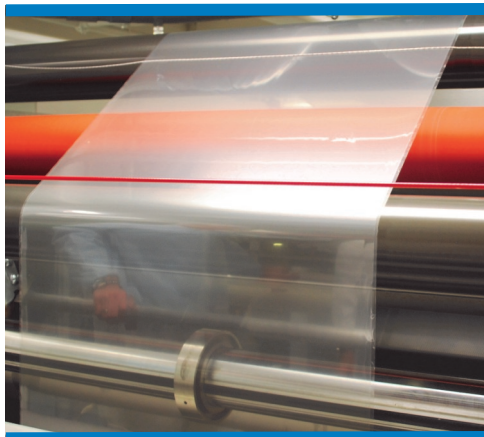
The release liner must:

- Have consistent contact with the product until it is deliberately removed
- Remove cleanly and smoothly from the adhesive
- Not change the chemical nature or contaminate the adhesive
- Resist the force of die cutting while withstanding the speed and rigor of processing

Depending upon the needs of the end application, the liner may remain intact with the rolled adhesive tape product until the point of application, or it may be removed during finishing and converting.

Release Liner Construction

The basic construction of a release liner is that of a base stock and release chemistry that is applied to one or both



sides of a substrate. AR selects a base material from a wide range of available specialty paper and film materials, such as polyester, based on the needs of the market and application. For example, the pharmaceutical industry requires materials that are inert to active pharmaceutical ingredients.

Release Coating Chemistries

Silicone is the most common release coating chemistry, however AR offers

non-silicone release (NSR) coatings as well. Silicones offer a number of desirable performance characteristics due to their distinct silicon oxygen bond properties, ultra-low surface energy and high gas permeability.

NSR agent coating options are available to prevent contamination in sensitive applications such as computer hard disk drives, flexible circuitry and medical dressings. For these cases, a fluoro release agent or other low-surface energy NSR coating may be used. Special care is taken during processing and handling of both adhesives and liners for these types of applications in order to eliminate silicone cross contamination.

New, Clean Room Capabilities

AR's state-of-the-art, class 10,000 clean room silicone coater offers unmatched versatility for producing high-end release coated films for applications demanding the highest quality, defect-free materials.

Our capabilities include:

- Infrared, ultraviolet and thermal curing
- On-line web inspection
- Tagging and defect mapping
- Air floatation ovens to prevent scratching
- Auto splicing at front and back ends
- Web cleaning apparatus throughout to prevent contamination



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