

Technical Sheet

VizLite™ DT PSA Photo luminescent and Reflective Self-Adhesive Film

Product Information

VizLite™ DT PSA Photo luminescent and Reflective film is a dimensionally stable, durable, multi-layered film with a permanent pressure sensitive adhesive with a PET backing sheet

VizLite™ DT PSA is suitable for cutting by hand or can be machine cut, including profile cut. VizLite DT PSA is suitable for use in many items such as footwear, where it can be encapsulated into a design. It can also be used to produce stickers and decals for use on products such as helmets

Design Features

VizLite™ DT PSA consists of a patent pending formulation of Strontium Aluminate Photoluminescent pigment incorporated into an acrylic adhesive.

The Strontium Nitrate Photoluminescent material absorbs both natural and artificial UV light through electron excitation, which it then emits as an afterglow in low light or zero light. This afterglow will last up to 8 hours, with the first hour being the brightest. Each time the VizLite™ DT PSA material is exposed to UV light it will recharge.

UV light charging times vary depending on the type of light but typically a charge in overhead florescent light will take ten minutes. More information on the properties of VizLite™ DT PSA can be found on the technical leaflet.

It has a top layer of reflective clear beads which gives reflective levels of approximately 70 candelas.

Product Application

VizLite™ DT PSA Photo luminescent and reflective material is recommended for use in footwear, marking tapes, and can be incorporated into the design of badges, stickers and emblems for enhancing visibility in low light or dark conditions such as Mining, Tunnelling, Traffic Management and Emergency Services.

Product Performance and Certification

VizLite™ DT PSA Photo luminescent and reflective material is tested by RISE Research Institutes of Sweden to the following standard,

DIN 67510-1:2009 Measure of Photoluminescent Phosphorescent Pigments and Products - Part 1: Measurements and Marking at the producer.

Main Characteristics

Property	Description
Visual appearance:	Glossy, Pale yellow colour in daylight
Thickness: Without Liner: With Liner: Liner: Adhesive layer:	370 microns 470 microns 80 microns 20 microns
Adhesive colour:	White
Adhesive type:	Semi-permanent repositionable pressure sensitive Acrylic 63% ethylhexyl acrylate 23% methyl acrylate 14% methyl methacrylate
Liner:	Clear film 80 microns
Application temperature:	10°C - 38°C

Product Converting

Cutting

VizLite™ DT PSA is suitable for cutting using the following methods. Always follow the manufacturer's instructions for safe operation.

- Suitable for cutting by hand using very sharp cutting tools or by manual or automatic guillotine
- Recommended type of knife for plotter cutting is a drag knife

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- Recommended pressure settings for plotter cutting are 130 PSI or 8.96 Bar
- Can be converted to produce tapes on a reel to reel slitter
- Cuts should be made from the photo luminescent surface

Suitable Application Surfaces

VizLite™ DT PSA is suitable for application onto the following substrates;

Glass, Leather, Wood, Metal, Acrylic, painted surfaces, Polycarbonate, Fibreglass, Correx, Foamboard, Composite materials such as Dibond, PVC, PU and TPU

Materials should have a smooth surface.

Limitations of End Use

VizLite™ DT PSA is not suitable for application on the following,

Corrugated surfaces, riveted surfaces, surfaces that may become contaminated by oil, petrol, or grease. Surfaces that may be liable to outgassing such as Polyethylene, rough surfaces such as plasterboard, wallpaper, and flexible surfaces.

Application

VizLite™ DT PSA has a pressure-sensitive adhesive which adheres to the substrate upon contact even with only light pressure.

All surfaces should be clean, dry and smooth before application.

Printing

VizLite™ DT PSA is suitable for screen printing and printing on a large format digital printer with solvent inks. Tests should be carried out before printing to establish the correct colour required.

Storage and shipping

- Rolls should be stored in the packaging they are supplied in.
- Cut pieces should be stored flat
- Opened rolls should either be stored in their original packaging or suspended using a rod through the middle of the roll.
- VizLite™ DT PSA should be stored in an area that is cool, dry and with low humidity.
- Precautions should be taken to protect the material from coming into contact with perspiration, strong acids, or compounds containing high levels of sulphur or chlorine.
- Contamination by these substances may affect the aesthetic appearance of the VizLite™ DT PSA
- During Transportation and Shipping it is best to keep an ambient condition.

Handling

- VizLite™ DT PSA should be handled carefully in hot and humid conditions.
- The area in which the materials are handled may need the need of cooling or dehumidifying equipment to keep the area cool and dry.
- Avoid the contamination of the product with dirt, grease or solvents as this could produce staining

General Safety Information

Statement on Radio activity

VizLite™ DT PSA uses phosphorescent technology, the formulation comprises of Strontium Nitrate based pigments along with other components.

Phosphorescent materials store and re-emit light because of their unusual property of trapping electrons in a higher state of movement. As light comes in contact with the VizLite® DT material, light photons are transferred to the material and give some of their energy to the electrons within it, causing the electrons to move to a higher energy state around their nucleus. While most photo luminescent materials allow their excited electrons to quickly return to a

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ground state, phosphorescent materials trap their electrons in a higher energy state for minutes or even hours.

It is the chemical reactions within phosphorescent materials that allow the light to be stored and re-emitted as a glow. These long persistent phosphors are not radio-active and do not contain any radioactive elements.

Important notice to Purchaser / Converter

Because of the unlimited variety of potential applications for products, BEFORE product use the converter and/ or product manufacturer must determine that the products are suitable for the intended use and are compatible with other component materials. The Purchaser is solely responsible for determining the proper amount and placement of products.

Neither Viz Reflectives or any Viz Reflectives authorised converter shall be liable for any incidental, special or consequential damages relating to the use or inability to use the products regardless of legal theory used.