



## Argotec™ High Gloss Surface Protection Film Application Guide



### SWM Produces Custom Engineered, Precision Extruded Urethane Films for Durable High-Gloss Surface Protection

Why do more adhesive coaters & design engineers specify SWM surface protection films? SWM offers high-performance, aliphatic polyurethane paint and metal protection films with the consistent optical clarity, lay-flat, UV resistance, durability and Class-A gloss finish they require for their products.

Recognized as the leading extruder of uncoated urethane paint protection films for the global automotive aftermarket, SWM utilizes proprietary polyurethane formulations that, for the last decade, have provided outstanding processability for the adhesive coater. Argotec™ paint and metal protection films are also highly printable, expanding the application of these long-lasting films to automotive graphics.

Argotec films are ideal for protecting vulnerable surfaces on:

- Cars, trucks, motorcycles, boats, recreational vehicles & toy haulers
- Wind mill & aircraft propeller blades
- Painted equipment & appliances
- Athletic gear & sports equipment such as helmets & boards
- Gloss and high touch surfaces on computers, cell phones, tablets, monitors and other electronic devices
- Any other surface needing protection from abrasion, scrapes, scouring or other types of erosive damage

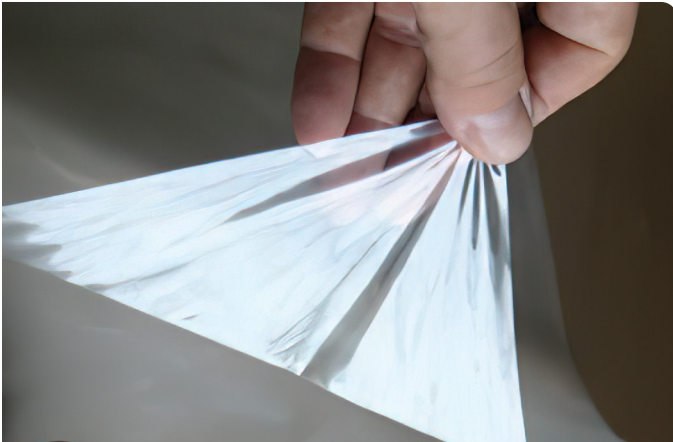
# Argotec Surface Protection Film

## Features & Benefits of Argotec Graphic Film

In 2011 SWM added a dual layer Paint Protection Film (PPF) product designated at that time as ArgoGuard 49510-60DV with a harder Shore 60D hard coat surface layer on top of a softer, conformable 90A base layer for even greater protection. Standard Argotec 49510-60DV is now available in thicknesses of 5.5 - 8.0 mils (138-200 microns) and widths up to 62 inches (1.57 meters).

Argotec films possess the following characteristics:

- Ultraviolet resistance, non-yellowing
- Proprietary extrusion techniques that produce the flattest films in the industry
- Paint-like gloss finish
- Virtually gel-free optical clarity
- Consistent processability in the adhesive coater's production operation
- A wide range of hardnesses
- Tough, durable, abrasion and chip resistant
- Resistant to bugs and road chemicals
- Longest splice-free rolls available anywhere



Argotec Films are manufactured exclusively with lubricant free, polyurethane resin for outstanding processability

Add these benefits to our ability to custom engineer just the right film to meet the specific needs of your application and the result is a product line that contributes to a consistency of value unequaled in the urethane film industry.

## Industry Leading Technical Support

Engineers at SWM stand ready to interact with process engineers at the customer's location to ensure that all Argotec films perform properly in their production processes. They are also available to test the newest resins, engineer distinct formulations, and to troubleshoot both new and existing applications.



Durable Argotec films are also used to protect the leading edges of aircraft propellers, wind turbine blades and marine vessels from damaging abrasion



Uncoated Argotec paint protection films are cast on paper, polyethylene or polyester carriers that can be removed during processing or left on until final installation



## Typical Argotec Surface Protection Film Properties

Product(s)	Resin Hardness	Gauge Range MIL (micron)	Width Ranges inches (mm)	Roll OD Ranges* inches (mm)	Applications
49510 49320	90A	"5.0-7.0 (125-175)	49-51" (1245-1295) 56-62" (1422-1575) 70-74" (1778-1880)	14-22" (357-559)	Aftermarket paint protection
49510 49320	90A	"8.0-12.0 (200-300)	49-51" (1245-1295) 56-62" (1422-1575) 70-74" (1778-1880)	14-22" (357-559)	OEM paint protection
49510-60DV	90A & 60D Top layer	"5.5-8.0 (138-200)	49-51" (1245-1295) 56-62" (1422-1575)	14-22" (357-559)	Paint protection with no top coating and improved stain resistance
46510	60D	"6.0-10.0 (150-250)	49-51" (1245-1295) 56-62" (1422-1575)	14-22" (357-559)	OEM paint protection with improved stain resistance

\* Depends on film gauge, packaging and plant location

Product	Gloss	Light Transmission	Haze	Tensile/ Elongation	Gel Quality	Stain Resistance
49510	+++	+++	+++	+++	++	+
49320	+++	+++	+++	+++	+++	+
49510-60DV	+++	+++	+++	++	+	++
46510	+++	+++	+++	++	++	++

## Why Use TPU Film instead of PVC for Graphics?

Thermoplastic Polyurethane (TPU) film has a proven record of superior outdoor performance compared to PolyVinyl Chloride (PVC) film. TPU films have long been used for paint protection in the automotive market. Millions of square yards of TPU film worldwide protect the exterior finish of cars, trucks, vans and recreational vehicles from UV radiation, abrasion, road chemicals and other damaging elements.



The inherent protective qualities that make TPU film so successful in the paint protection market are now available in white TPU printing films and clear, protective TPU overlaminates for the exterior graphics industry.

## TPU Graphic Film Outperforms PVC as it's:

- Ultraviolet resistant & non-yellowing
- Plasticizer free & will not embrittle due to plasticizer migration
- Tough, durable, abrasion and chip resistant for long lasting protection
- Resistant to bugs and road chemicals, doesn't degrade in automotive applications
- Halogen free, phthalate free, environmentally friendly and considered a "green" product
- Printable via solvent, ecosolvent and latex ink systems
- Virtually gel free, providing outstanding optical clarity
- Has excellent hot and cold temperature resistance, doesn't crack or degrade over time

## Additional Benefits of TPU versus PVC:

- Highly conformable
- Retains printed colors when stretched around three dimensional surfaces
- Does not haze or lose its gloss on flat/horizontal surfaces
- Noted for its ease and speed of installation
- Easy to remove when changing graphics

**Ask Your Graphic Film Material Provider like SWM for Polyurethane Film Options!**

# Argotec Film Innovation Center



## SWM Film Innovation Center

SWM is the clear choice for custom engineered, high performance, polyurethane film and sheet for a wide variety of critical “can’t fail” applications. The company has extensive experience in flat die, cast-on-carrier, and blown film extrusion technologies, as well as extrusion coating and multilayer constructions.



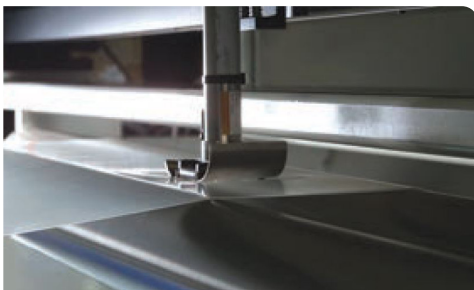
SWM offers precision film and sheet products made from the full range of extrudable polyurethane resins, as well as co-polyesters and other difficult to extrude specialty thermoplastic elastomers. A technical force in the specialty films industry, SWM continues to set the standard for innovation, capability, and commitment to excellence in film extrusion and customer satisfaction.

This is evidenced by the SWM Innovation Center, the industry’s first of its kind research and development facility devoted solely to advancing the state of polyurethane film and sheet. The Innovation Center features:

- Class-7 soft walled clean rooms inside a 8,000 square-foot hard-walled white room (top photo)
- Flat-die and blown-film lab lines (2nd photo)
- Digital in-line gauge control (3rd photo from top)
- Photographic inspection systems help ensure the best possible film quality (bottom photo)



With the facility and equipment listed above, as well as production level extrusion lines and a fully dedicated research staff, this resource allows SWM to continue to provide its customers with unequalled technical service for decades to come.



At every step of the design and production process, SWM adds value. SWM is the clear choice in TPU film!

**For more information on Argotec Films email us at [ams@swmintl.com](mailto:ams@swmintl.com) or visit [www.swmintl.com](http://www.swmintl.com).**

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