



# Choosing the right Self-Adhesive Vinyl for your HP Latex printer

Self-Adhesive Vinyl (henceforth, “SAV”) is the most widely-used type of substrate for general signage applications and for vehicle graphics. When a customer is looking for a SAV for a project, a frequently asked question is: “Which SAV is the best for my application?”

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Firstly, we would like clarify that there are no “good” or “bad” SAVs. We could say, rather, that there is a more appropriate type of SAV for each application type.

To determine which SAV will work best for your application, it is helpful to understand the differences between the various types of SAV (cast and calendared, polymeric and monomeric).

	Cast “premium” “high performance”	Polymeric Calendared “medium-term”	Monomeric Calendared economy “short-term”
Ingredients	polyvinyl chloride (PVC) plus additives for flexibility (plasticizers), color (pigments), UV absorbers,...		
Process	dissolved in solvent, formed on moving web, dried	melted, extruded, and passed through calendaring rolls	
Thickness	thin: 2 mils	thicker: >3 mils	
Flexibility	highly conformal, suited for vehicular signage	best suited for displays without stretching and conforming	
Durability	up to 10 years outdoors	less durable than cast vinyl (5 to 7 years)	Less durable than polymeric calendared vinyl (2 to 3 years)
Production flexibility	High. Small production runs.	Low. Bulk production	

**Cast film** is produced by dissolving the following: PVC plus additives for flexibility (plasticizers), color (pigments), UV absorbers etc., with a solvent. This mixture is then poured on top of a casting web, creating a fluid paste. Afterwards, this film is dried in an oven, the solvents are evaporated and a thin and flexible PVC film is created. During this process, the film does not suffer any mechanical stress and this results in a film that can withstand considerable elongation (without becoming distorted), high temperatures (such as that used in thermoforming a sign), and extended exposure to sunlight without losing flexibility, cracking, fading or pulling away from curves or tight corners such as those that are commonly found on vehicle wraps.

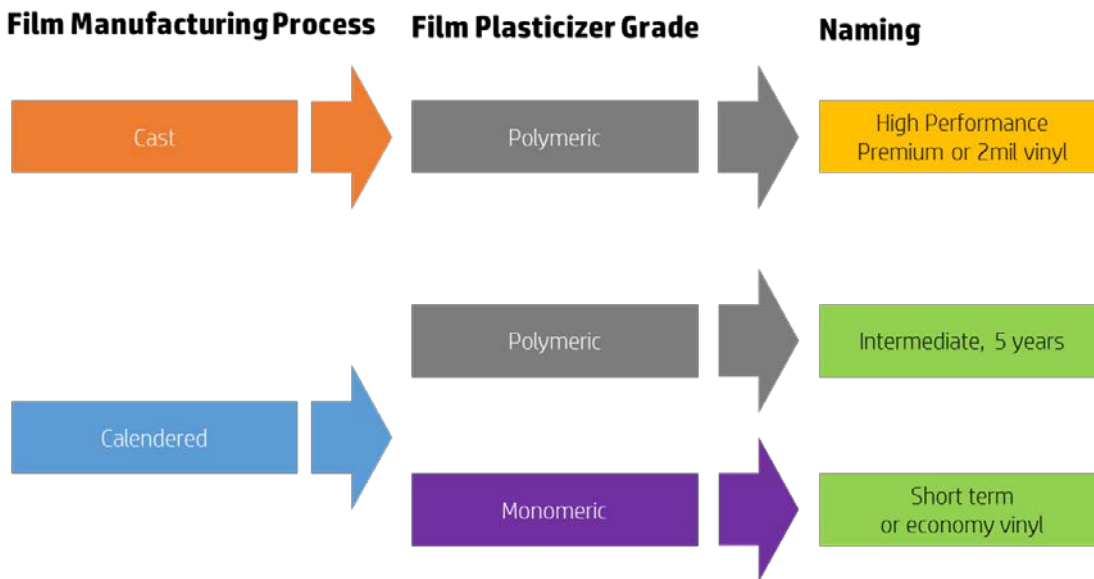
**Calendared film** is made using similar components as a cast vinyl but it is made using a different process. To create calendared films, a PVC paste passes through calendaring rolls that apply heat and pressure to the paste until a thin film is created. The calendaring process determines the thickness and surface finish of the film. In this case, the film suffers internal mechanical stress when manufactured, and that’s why, when heated, calendared PVC films tend to shrink and return to their initial form.

Calendared films can be classified into two main sub-types: Monomeric and Polymeric, depending on the grade of plasticizer used.

**Monomeric** SAVs use plasticizers with a lower molecular weight, so they are less stable when it comes to aging than polymeric SAVs. Monomeric SAVs can be used on applications requiring an outdoor durability of up to 3 years.

**Polymeric** SAVs have longer and higher molecular weight chains, allowing for less transformation of the film and more chemical stability. In general, Polymeric SAVs are suitable for applications requiring an outdoor durability of up to 5-7 years.







Let's look at how SAV films are generally classified:



When selecting a SAV to use for your application, the following questions below may help you to select the right substrate:

- What type of surface is the print going to be applied to?
- What is the required level of outdoor durability?

The following table provides a summary of which types of SAV film are best-suited for a given application:

	Monomeric	Polymeric
Cast		<ul style="list-style-type: none"> <li>• Applications over <b>3D curves</b>.</li> <li>• <b>High dimensional stability signs</b>.</li> <li>• Signs requiring an outdoor durability of <b>greater than 5 years</b>.</li> </ul> 
Calendered	<ul style="list-style-type: none"> <li>• Application over <b>flat surfaces</b></li> <li>• Economical solution.</li> <li>• Maximal durability up to <b>3 years</b></li> </ul>  	<ul style="list-style-type: none"> <li>• Application over <b>flat surfaces</b></li> <li>• <b>Mid cost solution</b>.</li> <li>• Durability up to <b>5-7 years</b></li> </ul>  

HP always recommends using certified media that is compatible with your HP Latex printer and inks. Certified media testing is based on key areas such as print quality, printer-media interaction, and outdoor durability.

The [HP Media Locator](#) is a searchable database of certified media, where one can filter by printer, media type, manufacturer and application to find the right SAV for your application.

The media presets can also be installed through the front panels of the printers or IPS (the printer's PC) on the Search substrate online from the drop-down list.

Now that you know the perfect match (SAV film and print job) and where to find it, it is time to think big and generate new business opportunities. Here is a table of different self-adhesive vinyl applications that you can print with your HP Latex printer:

Fleet Graphics	Watercraft Graphics	Car wrapping	Floor Graphics	Stickers and labels	Window graphics	Exhibition panels	Outdoor advertising	Furniture decoration	Wallcovering
Cast	Cast	Cast	Cast	Cast	Cast	Cast	Cast	Cast	Cast
Polymeric	Polymeric	Polymeric	Polymeric	Polymeric	Polymeric	Polymeric	Polymeric	Polymeric	Polymeric
Monomeric	Monomeric	Monomeric	Monomeric	Monomeric	Monomeric	Monomeric	Monomeric	Monomeric	Monomeric
Perforated	Perforated	Perforated	Perforated	Perforated	Perforated	Perforated	Perforated	Perforated	Perforated

■ Optimal Choice  
 ■ Possible Choice  
 ■ Not Recommended

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