PVC Films

PVC (Vinyl) Films

PVC films are known for their high durability. They offer good resistance against harmful sunlight and chemicals like acids, bases, gasoline and oils. PVC films generally are flame retardant.
The main component of PVC films are polyvinylchloride (PVC) monomers. To give the PVC film the desired color pigments are added. Monomeric or polymeric plasticizers make the films flexible; UV absorbers and heat stabilisers are added when needed.

Besides the selection of the ingredients the properties of the PVC films are to a great extend influenced by the production process. PVC films can be produced by calendering or casting.

Calendered PVC Films

In the calendering process, the PVC polymers are melted and compounded with heat and pressure in a mixer. An extruder forces the compound into a set of temperature controlled rolls in which the film is formed. Typical callipers of calendered PVC films are 80 – 100 µm.

Calendered PVC films are divided into two groups: Monomeric and polymeric films. These terms refer to the plasticiser system added during the manufacturing process of soft and flexible vinyl films.

Monomeric PVC Films

Monomeric plasticisers are oily substances with a low molecular weight. Due to their small size they can slowly migrate onto the surface of the film; this causes the film to shrink and become brittle. The typical durability of these films is up to 2 years*.

Avery Dennison offers a full range of monomeric PVC films: different colors, finishes and adhesives are available. Please contact your customer service representative to find out more.

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Polymeric PVC Films

Polymeric plasticisers are complex molecules with high long chains which are less mobile in the PVC film than the monomeric plasticisers. This results in a better printability, prolonged durability of the film, better UV resistance and higher temperature resistance.
Due to the high flexibility and durability of the film these materials are used in cable label applications.

The product range

Code	Product Description	UL recognised
AA648	FASSON PVC Outdoor White – AL170 – BG42 Wh	Yes
AA948	FASSON PVC Outdoor Matt White – AL170 – BG42 Wh	Yes
AS880	FASSON PVC Outdoor Clear – AL170 – BG42 Wh	Yes
AW627	FASSON PVC Outdoor Matt Clear – AL170 – BG42 Wh	Yes
AE492	FASSON PVC Outdoor Yellow – AL170 – BG42 Wh	

PVC Outdoor films are 73 to 80 µm thick and available in white, matt white, yellow and clear.
The adhesive AL170 is a solvent adhesive, distinguished by its resistance against harsh chemicals, UV light and heat.

Features

The PVC outdoor films are used on flat or curved substrates with a high surface energy, like metals or plastics such as ABS, Polyamide or Polycarbonate.
They are thermal transfer printable and self extinguishing according to FMVSS302.

The outdoor durability is significantly higher than for the monomeric films (white: up to 7 years, yellow: up to 5 years, clear: up to 7 years)*.

Cast PVC Films

For the production of cast PVC films the ingredients are blended with a solvent. The liquid mixture is then poured onto a casting sheet which moves the blend through a set of ovens in which the solvent is evaporated. The film which is remaining on the casting sheet gets rolled. This process allows the production of thin films; typically the calliper is 50 µm. The internal tension of cast PVC films is very low resulting in a very high flexibility and very little shrinkage of labels, even at elevated temperatures.
Typical applications include the labelling of garden furniture, garden tools and equipment and outdoor sporting goods. In cable label applications Cast PVC films are chosen for small diameter cables and high temperature environments (up to +120°C).

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The product range

Code	Product Description	UL recognised
AE357	FASSON Transfer PVC 50 Cast White - S8065 - BG50 Wh	Yes
AE416	FASSON Transfer PVC 50 Cast Silver - S8065 - BG50 Wh	Yes
AI995	FASSON Transfer PVC 50 Cast Clear - S8065 - BG50 Wh	Yes
AE359	FASSON Transfer PVC 50 Cast Yellow - S8065 - BG50 Wh	Yes

Transfer PVC 50 Cast Films are 50µm films, available in white, silver, yellow and transparent. The adhesive S8065 is a high tack, apolar solvent adhesive, with a coat weight of 40 g/sqm, providing very high peel adhesion values on a wide variety of substrates, including low surface energy plastics.

Features

The combination of the highly flexible face stocks and the high coat weight tacky adhesive make these materials ideal for labeling uneven, curved and apolar surfaces.
Transfer PVC 50 Cast films are thermal transfer printable. For best scratch resistance the use of resin ribbons is recommended.
These label materials are self extinguishing according to FMVSS302. They offer excellent outdoor durability (white: up to 12 years, yellow: up to 10 years, transparent: up to 8 years, silver: up to 6 years)*.
They are UL and c-UL recognized for indoor and outdoor use.

All products comply with Regulation 1907/2006/EC on the Registration, Evaluation and Authorization of Chemicals (REACH).

For further information please contact your **customer service representative.**

* Outdoor durability is currently based on middle European exposure conditions. The durability of a label depends on substrate preparation and exposure conditions. Durability performance may decrease if the label is exposed to direct sunlight, used in areas with frequent high temperatures, high altitudes or industrially polluted areas. All Avery Dennison statements, technical information and recommendations are based on tests believed to be reliable but do not constitute a guarantee or warranty. All Avery Dennison products are sold subject to Avery Dennison's general terms and conditions of sale, see http://terms.europe.averydennison.com and with the understanding that purchaser has independently determined the suitability of such products for its purposes.

NOTE:

It is the responsibility of the customer to evaluate the performance and suitability of this product prior use.

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