Technical Data Sheet

K50000/K51000 Series

Polymeric Calendered Vinyl

Product Description

A range of calendared films suitable for long-term marking applications in exterior and interior environments. These superior quality, soft polymeric vinyl films are formulated using the latest advances in PVC and pigment technology to offer improved dimensional stability, conformability and excellent long-term durability with a 5-7 year life.

The etched glass products included in this range were developed to offer a high-quality replacement for the more traditional methods of window etching. They present excellent cutting and weeding properties are suitable for use on interior and exterior glass and demonstrate a level of conformability that make them suitable for use on smooth and contoured surfaces.

Features

- Available in gloss, matt and etched glass finishes
- Excellent cutting and weeding properties
- Kraft liner provides excellent lay flat characteristics
- Permanent acrylic adhesive system gives superb adhesion to a variety of substances

Recommended Uses

- Vehicle graphics; signage; window graphics; equipment identification; general sign and decal applications

Face Film
75-100µm Polymeric Calendered

Widths
1220mm & 1524mm

Adhesive
25g/m² clear semi-permanent or 25g/m² white permanent solvent-based acrylic

Durability
Up to 7 years (vertical exposure, mid Europe)

Release Liner
Printed kraft

Shelf Life
2 years

Products Available

- Please refer to our website or swatches to see the full range.

Physical Characteristics

Properties	Test Method	Typical Value
Film Thickness	ISO 4591:1992	75-100µm
Elongation	ISO 527-3:2018	>50%
Dimensional Stability (48 hours/70°C)	FTM14/Aluminium	<0.5 mm
Gloss 60°	ASTM D523-14 (2018)	Gloss: >70 Matt: <20 Etched Glass: <30
20 minute 180° Peel	FTM1/Painted Steel	Clear adhesive: >650N/m White adhesive: >250N/m
24 hour 180° Peel	FTM1/Painted Steel	Clear adhesive: >850N/m White adhesive: >650N/m
Flammability	-	Self-extinguishing
Artificial Weathering	Xenon Arc	Gloss & Matt: >1000 hours Etched Glass: >2000hours
Outdoor Weathering		
Vertical Exposure, Mid Europe		
Black, White, Clear	-	7 years
Colours	-	5 years
Metallic, Etched Glass	-	3 years
Temperature Range		
Application Temperature	-	Minimum +10°C
Service Temperature	-	-40°C to +90°C
Resistance to various liquids after application and conditioned for 24 hours at 23°C. Results examined 1 hour after test		
Humidity	24 hours at 38°C and 100%	No effect
Water (Distilled)	24 hours at 32°C	No effect
Diesel Fuel	1 hour at 23°C	No effect
SAE Motor Oil	24 hours at 23°C	No effect
Antifreeze/Water (1:1)	24 hours at 23°C	No effect

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Product Usage Guide

- KPMF films should not be applied to unsound surfaces or to surfaces which may subsequently crack, peel, outgas or are of low surface energy. It is recommended that any application surface should have an energy level in excess of 40 dyne/cm. (Polyolefins should be in excess of 45 dyne/cm).
- Prolonged exposure to high and low temperatures in the presence of chemicals such as solvents, acids etc. may eventually cause deterioration. Actual performance will depend on substrate preparation, exposure conditions and application of marking.
- Although we have good control of the colour production of KPMF products at our multiple locations, as with all other manufacturer's products, customers should be aware that there may be subtle variances between samples, swatches and production materials, so therefore it is advisable to avoid using different batches of material for the same end application to avoid possible colour shifts between the batches.
- Products that have the metallic finish are considered to be special products in view of their pigmentation. In order to achieve the metallic effect, special pigments must be used. The pigmentation causes the surface sheen to be generally more uneven. The stability of these products on weathering tests and post cleaning also varies, depending on the pigmentation. It is recommended that no harsh solvents are used to clean the PVC and, should these be required, then a small section should be tested first. In general, results are much less stable than the other non-metallic products in same series. Depending on the type of application (i.e. horizontal or vertical base) the life expectation of the film is lower, particularly in the case of higher atmospheric temperatures. The reduction in stability during weathering tests becomes noticeable as it causes increasing discoloration and the loss of mechanical characteristics. Care should be taken when completing applications using metallic finished products. If the adhesive side of the vinyl is allowed to overlap and make contact with the face of the film, this could result in aluminium particles being lifted from the face of the film leading to a slight change to the perceived colour and finish being observed.
- Application should be onto a clean, dry surface at a minimum temperature of +10ºC.
- Shelf life is 2 years when stored out of direct sunlight, at a temperature of 15-23ºC and a relative humidity of 30-70%.

Product Warranty

Kay Premium Marking Films products are produced under stringent manufacturing conditions. The information and typical values shown are based upon research believed to be reliable and are provided without guarantee and do not constitute a warranty. The values are not for use in specifications. Ink and paint systems can affect the performance of film and also the adhesive properties, as can application techniques. Users are advised to ensure that performance and reliability are not compromised by determining the suitability of each product prior to its intended use.

Kay Premium Marking Films products are produced under careful quality control and are warranted to be fit for the purpose and free from defect in material and workmanship. Any material shown to be defective to our satisfaction at the point of sale shall be replaced free of charge. Kay Premium Marking Films Limited's liability to the purchaser shall in no circumstances exceed the cost of the amount of the defective material supplied.

There is no guarantee made for ease or speed of graphic removal, removal from improperly cured paint, removal from oxidized or chalked substrates, or from horizontally exposed outdoor applications. Due to the large variety of available substrate finishes, it is advisable to fully evaluate small areas particularly after printing prior to complete applications.

The data included on this datasheet shows typical properties and should not be taken as a guarantee for performance.

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