



Data sheet K82000/K86000 Series

Clear Polyurethane - Aliphatic

Product Description

These premium quality extruded aliphatic polyurethane films have been specially developed for use in the automotive and other industries which require a self adhesive material to reduce corrosion, stone chipping and scratching. Polyurethane may also be used for anti-squeak applications. The films are clear and have a specially developed Hi Tack aggressive adhesive system, which makes them suitable for use under or over painted surfaces.

The materials have performed successfully when printed by rotogravure screen and digital methods using solvent based inks, as well as thermal transfer imaging. However it is advisable to test the process prior to any production run.

Products available

K82300 300µm with 60g/m² of adhesive
 K82250 250µm with 60g/m² of adhesive
 K82200 200µm with 60g/m² of adhesive
 K82137 137µm with 50g/m² of adhesive

K86300 300µm with 60g/m² of adhesive
 K86250 250µm with 60g/m² of adhesive
 K86200 200µm with 60g/m² of adhesive
 K86137 137µm with 50g/m² of adhesive

Physical Characteristics

| | TEST METHOD | TYPICAL VALUE |
|--|-----------------|-----------------------------------|
| Film Thickness | ISO 4591:1992 | 75µm, 137µm, 200µm, 250µm & 300µm |
| Elongation | ISO 527:1996 | >250% |
| Dimensional Stability (150 x 150mm/48 hours/70°C) | FTM14/Aluminium | 1.0mm |

Adhesive

Hi Tack Self Cross Linking Acrylic

Adhesive properties

Adhesion to stainless steel 20 Mins/180° >430 N/Metre

Adhesion to stainless steel 24 Hrs/180° >710 N/Metre



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Release Liner

140gsm Stayflat Kraft or 75µ antistatic matt backed polyester

Widths

- 75 Micron – 1245mm
- 137 Micron – 1245mm
- 200 Micron – 1245mm & 1397mm
- 250 Micron – 1245mm
- 300 Micron – 1245mm

Durability

Flammability Self-Extinguishing

Weathering Vertical Europe Exposure/Mid 6-8 Years

Durability is based on middle European exposure conditions.

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.

Fuel Resistance No blistering visible shrinkage or edge lifting

Abrasion resistance 1000 Cycles, 500g load, CS-17 Wheel - No blistering visible shrinkage or edge lifting

Gravel Resistance (K82200) 48 Hrs at 23°C - Shall not exceed approved sample
 SAE J400 2.4L of Gravel 48 Hrs at 23°C & 4 Hrs at -30°C – shall not exceed approved sample
 4 Hrs at -30°C two cycles GM 950SP-F – shall not exceed approved sample

Environmental resistance 2500 KJ WOM 1.5 ΔE Maximum
 168 Hrs @ 70°C 2.5 ΔE Maximum
 168 Hrs @ 120°C 18.0 ΔE Maximum



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168 Hrs Humidity 2.0 ΔE Maximum

Product Usage guide

Typical application for outdoor durability, for graphics on original equipment identification, building signage and vehicle graphics to include trucks, recreational vehicles and automobiles. They are also widely used for train liveries, boats and as temporary livery on aircraft.

The materials are very conformable, being able to be used on smooth, textured and contoured surfaces, and are available in a wide range of colours including metallic.

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.

Application temperature onto clean, dry surface min +10°C

Storage

Shelf life (before application) Two years, out of direct sunlight between 15°C and 23°C and 30 to 70 % relative humidity

Where the film is supplied without either protective film attached, the shelf life under the same conditions above is reduced to 10 months for roll lengths <50 Im this covers both release liners noted above.

Product Warranty

Kay Premium Marking Films 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

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performance and reliability are not compromised by determining the suitability of each product prior to its intended use.

Kay Premium Marking Films 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 liability to the purchaser shall in no circumstances exceed the cost of the amount of the defective material supplied. This product has been warranted to provide clean removability, under controlled conditions, up to a period of three years from a range of substrates. Clean removability is deemed with less than 30% adhesive residue when using heat and chemical removal methods. Exceptions to the removal warranty are those applied to the following: pre-existing graphics, paint which is not properly bonded to the substrate and custom paint applications. 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 paint finishes, it is advisable to fully evaluate small areas particularly after printing prior to complete applications.

The data included on the Data sheet shows typical properties and should not be taken as a guarantee for performance.



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