



Technical Data Sheet

K86135

PPF Aliphatic Polyurethane

REACH Compliant

Product Description

This premium quality extruded aliphatic polyurethane film has been specially developed as Paint Protection Film (PPF) to protect painted surfaces of the vehicle from minor scuffs, scratches, corrosion, stone chips and damage caused by environmental elements. The film is transparent and has a specially developed high-tack adhesive system which makes it suitable for use over painted surfaces. The film is suitable for use on specific exposed areas including car bonnets, bumpers or for full vehicle coverage. Following an extensive development program, KPMF are pleased to introduce an advanced flexible clear coating on the top surface of this polyurethane paint protection film. This flexible clear coating offers an outstanding and trouble-free application process, together with outstanding gloss and enhanced exterior durability. Due to the nature of the clear coat, it is unlikely that any printing inks will adhere to the surface. This product is supplied with a PET carrier, which protects the surface whilst the product is in roll form in order to provide the highest gloss level prior to installation.

Features

- High gloss finish
- High-tack permanent adhesive
- Excellent outdoor durability

Recommended Uses

- Protection against stone chips, scratches & environmental damage; full vehicle coverage; exposed areas such as car bonnets & bumpers

Face Film

152µm Clear-coated Aliphatic Polyurethane

Adhesive

30g/m² clear permanent solvent-based acrylic

Release Liner

75µm PET

Widths

1524mm

Durability

Up to 7 years (vertical exposure, Zone 1)

Shelf Life

2 years (if protective film is attached)

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	152µm
Elongation	ISO 527-3:2018	>270%
Dimensional Stability (48 hours/70°C)	FTM14/Aluminium	<1.0mm
Gloss 60°	ASTM D523-14 (2018)	>90
20 minute 180° Peel	FTM1/Stainless Steel	>400N/m
24 hour 180° Peel	FTM1/Stainless Steel	>900N/m
Ease of Release	T-Peel	21N/m
Flammability	-	Self-extinguishing
Artificial Weathering	Xenon Arc	2000 hours
Outdoor Weathering		
Zone 1 Vertical	-	7 years
Zone 1 Horizontal	-	3 years
Florida/Arizona	-	2 years
Emmaqua	-	1 year
Temperature Range		
Application Temperature	-	Minimum +10°C
Type of TPU to Shore D	-	Clear coat measures 85 Shore D
Resistance to various liquids and conditions		
Fuel	-	No blistering, visible shrinkage or edge lifting
Resistance to soap & water spotting	FLTM BI 113-01	No blistering, permanent stain, change of colour/gloss
Acid	FLTM BI 113-02	No blistering, permanent stain, change of colour/gloss
Water	240 hours, FLTM BI 104-01	No blistering, permanent stain, change of colour/gloss
Abrasion	1000 cycles, 500g load, CS-17 wheel	Does not exceed approved sample
Gravel 48 hours at 23°C	SAE J400 2.4I of gravel	Does not exceed approved sample
Gravel 48 hours at 23°C & 4 hours at -30°C	SAE J400 2.4I of gravel	Does not exceed approved sample
Gravel 4 hours at -30°C 2 cycles GM950SP-F	SAE J400 2.4I of gravel	Does not exceed approved sample
Environmental	10 cycles of 4 hours at 70°C, 4 hours at 38°C & 95-100% RH, 16 hours at -30°C	Shows no evidence of cracking, blistering, lifting or colour change in excess of 3.5 Delta E on a CMC 2:1 colourimeter compared with an exposed white panel and no gloss change greater than 15%

Product Usage Guide

- This premium quality extruded aliphatic polyurethane films has been specially developed as a Paint Protection Film (PPF) to reduce corrosion, stone chipping and scratching. The film protects the painted surfaces of the vehicle from minor scuffs, scratches, stone chips and damage caused by environmental elements. Suitable for use on specific exposed areas including car bonnets, bumpers and full vehicle coverage.
- 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.
- For best results, application should be performed in a clean, dry workshop at an ambient temperature >10°C.
- Shelf life is 2 years when stored out of direct sunlight, at a temperature of 15-23°C and a relative humidity of 30-70% (with protective film attached). Where the product is supplied without protective film attached, the shelf life under these same conditions is reduced to 3 months.

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 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's liability to the purchaser shall in no circumstances exceed the cost of the amount of the defective material supplied. 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 this datasheet shows typical properties and should not be taken as a guarantee for performance.

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