# Functional Film
## 190 Micron & 320 Micron Textured Black

**Description**
These superior quality, calendered polymeric vinyl films have been specially developed for use in the automotive and other industries for blackout, kick tread and stoneguard applications.

They allow designers to reduce additional painting processes, apply film to areas that are vulnerable to stone chipping or scratching and use film to create unique product and model variations.

In particular, they can be used for A/B/C Pillars, Window Profiles, Wheel Arches and General Decoration. Automotive users include Ford, GM, Volkswagen, Toyota and Nissan.

**Available from stock in 1220 mm.**

## Technical Data

| Characteristic | Test Method | Typical Value |
|---|---|---|
| Film Thickness | ISO 4591:1992 | K81219 190µm / K81232 320µm |
| Adhesive Thickness | ISO 4591:1992 | 0.038mm |
| Adhesive Type | | Clear Permanent Cross-Linking Acrylic |
| Release Liner | | 140gsm Layflat |
| Storage | | Two years, out of direct sunlight at 23°C and 50% humidity |
| Tensile | ISO 527:1996 | >13.5 N/mm² |
| Elongation | ISO 527:1996 | >50% |
| Adhesion 20 Mins/90° | FINAT FTM2/Stainless Steel | 550 N/Metre |
| Adhesion 20 Mins/180° | FINAT FTM1/Stainless Steel | 730 N/Metre |
| Adhesion 24 Hrs/180° | FINAT FTM1/Stainless Steel | 830 N/Metre |
| Static Shear (25 x 25mm) | FINAT FTM8/Stainless Steel | >16 hours |
| Dimensional Stability (150 x 150mm/48 hours/70°C) | FTM14/Aluminium | <0.5mm |
| Gloss 60° | ASTM 523-89 | N/A |
| Flammability | | Self Extinguishing |
| Artificial Weathering | Atlas Weatherometer | >2,000 hours |
| Weathering Black | Florida | >2 years |
| | Arizona | >2 years |
| Rivet Testing KPMF ST 22 N/A | | |
| Application Temperature | Clean, dry surface | +8°C to 25°C |
| Service Temperature | | -40°C to + 90°C |

**Adhesion Properties to Various Substrates for 24 hours at 23°C/180° Peel**

| | |
|---|---|
| Aluminium - Untreated | 1,215 N/Metre |
| Aluminium - Anodised | 1,190 N/Metre |
| Stainless Steel | 830 N/Metre |
| Chromed Steel | 900 N/Metre |
| Polyurethane | 560 N/Metre |
| Glass | 830 N/Metre |
| Acrylic Sheet | 830 N/Metre |
| ABS Sheet | 760 N/Metre |

**Resistance to various liquids after application and conditioned for 24 hours at 23°C. Results examined 1 hour after test.**

| | | |
|---|---|---|
| Humidity | 300 hours | No Effect |
| Water (Distilled) | 24 hours at 32°C | No Effect |
| Sea Water | 1 year Mid Tide (BS 5609:1986) | No Effect |
| Reference Fuel | 1 hour at 23°C | Very Slight Film Softening |
| 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 |
| Detergent Solution | 8 hours at 65°C | No Effect |
| Hydraulic Oil | 24 hours at 23°C | No Effect |
| Battery Acid | 24 hours at 23°C | No Effect |

## Technical Data (continued)

### General

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). The above data shows typical properties and should not be taken as a guarantee for performance. Purchasers should determine the suitability of each product prior to its intended use. Prolonged exposure to high and low temperatures in the presence of chemicals such as solvents, acids etc. may eventually cause deterioration. Durability is based on middle European exposure conditions.

Actual performance will depend on substrate preparation, exposure conditions and application of marking.

### Important

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.