

# GRAFIPRINT MEDIA FOR LARGE FORMAT PRINTING



## REFERENCE PU50C

Released on 7<sup>th</sup> October 2019

### Description

GrafiPrint PU50C is a white glossy thermoplastic polyurethane printing film (PVC free), especially developed for printing on eco-solvent and UV printers. The film is provided with a special permanent pressure-sensitive light grey solvent-based acrylic adhesive, giving the film an excellent slideability. Thanks to this light grey adhesive the film is much less transparent. The adhesive is protected by a high-quality structured PE-coated paper, giving the film an **air escape** effect, to facilitate the application.

### Composition

Film : 50 micron thick white glossy thermoplastic polyurethane film  
 Adhesive : permanent pressure-sensitive light grey solvent-based acrylic **air escape** adhesive  
 Backing paper : white structured PE-coated paper of 150 g/m<sup>2</sup>

### Application

GrafiPrint PU50C thermoplastic polyurethane film is perfectly suited for all long-term outdoor applications under the most extreme conditions, on corrugated surfaces and over rivets. GrafiPrint PU50C has been developed for car wrapping, and thanks to its superior conformability to irregular shapes and its air escape adhesive it can be applied on 3D surfaces with the greatest possible ease.

### Product Specifications

Technical properties at a relative humidity of 50 ± 5 % and a temperature of 23 ± 2°C.

	Test method	Result
<b>1. Thickness<sup>1</sup></b> Thickness vinyl + top coating Thickness vinyl + top coating + glue + paper	Din53370 Din53370	50 micron 275 micron
<b>2. Elongation at break<sup>2</sup></b> In production length direction In cross direction	Din53455 Din53455	> 250 % > 250 %
<b>3. Dimensional stability<sup>3</sup></b>	Finat 14	< 0,1 mm
<b>4. Degree of gloss</b> Minimum (measuring angle 20°)	Din67530	> 50 GU (gloss units)
<b>5. Adhesion strength<sup>4</sup></b> After 20 minutes After 24 hours	Finat 1 Finat 1	10 N/25mm 11 N/25mm
<b>6. Quickstick<sup>5</sup></b>	Finat 9	10 N/25mm
<b>7. Expected outdoor life span<sup>6</sup></b>	-	8 years
<b>8. Temperature range</b> At application At use	- -	+10°C to +35°C -25°C to +80°C
<b>9. Colour back print</b>	-	Blanc
<b>10. Flammability</b> If applied on aluminium, glass, steel = self-extinguishing		

## Storage instructions

All Grafiprint materials always need to be stored in their original packing and with the original protection flanges (and preferably stored vertically).

In order to avoid any loss of quality, the Grafiprint PU film should also be stored in suitable conditions, that is at a temperature between 10 and 20°C, and a relative humidity of 50%. Under these conditions, the Grafiprint materials can be stored for a period of two years.

## Remarks

**Recommended temperature settings on (eco) solvent printers :** If the Grafiprint media are used on an (eco) solvent printer, the temperature settings of the printer are extremely important. Depending on the ambient conditions, the amount of ink and the requested print quality, we advise a pre-heater temperature between 35°C and 45°C on these printers. This temperature can be raised, on condition that the Grafiprint material stays completely flat. A too high temperature can lead to an inferior print quality and to colour differences, because the material will become soft, as a result of which it might get damaged by the transport wheels of the printer, and because the material will undulate, as a result of which it could touch the print head. The same goes for the use of an after-heater (dryer). We advise an after-heater temperature that is about 5°C to 10°C higher than the pre-heater temperature. But again, the material should not undulate as a result of a too high temperature setting. In general, we can say the temperature of both heaters should be set as high as possible, without the material showing any form of undulation.

**Laminating :** A Grafiprint TPU-laminate, which is always necessary in case the print will be exposed to mechanical friction, can prolong the life span considerably, and can give the print a high-gloss or matt effect.

**Recommended drying times :** It is extremely important that prints, made on an (eco) solvent printer, are left to dry sufficiently before they are laminated and/or applied. A good ventilation during the drying process is also important. For standard prints, you need to calculate a drying time of 24 to 48 hours. In case of very dark prints or very high ink loads on the material, a drying time of 48 to 72 hours is required.

**Ink amount :** Large amounts of solvent ink on the material can activate the ink on the backside of the material. If the material is enrolled too quickly after printing, the print on the backside of the material may become visible in your printout.

**Vinyl colour :** As the colour of the film can differ slightly for each production run, we advise you not to use films with different batch numbers in one single and critical job. The number to be taken in to consideration for this purpose consists of the first 5 numbers of the 7-digit batch number.

## Important

The information, mentioned in this product data sheet, is based upon tests that were executed by Grafityp, and that we consider to be reliable. The information always represents an average, a minimum or a maximum value, and should be considered as such. It is only given for your information, and does not give any guarantee. It is up to the end user to decide whether or not the product is suited for his particular application.

**1)** The thickness of the Grafiprint materials may vary slightly. The indicated value is an average value, obtained from a series of measurements.

**2)** The elongation at break of the Grafiprint materials may vary slightly. The indicated value is a minimum value, obtained from a series of measurements.

**3)** The dimensional stability is the shrinkage of the unprinted material in mm. This value is measured by applying the film on aluminium (100x100mm), and placing it in a hot-air oven at 70°C for 48 hours (= Finat 14 Method, adjusted according to our own internally developed procedure). The indicated value is a maximum value, obtained from a series of measurements.

**4)** The adhesion strength is measured on glass, and this after 20 minutes and after 24 hours. The film is removed again in an angle of 180° and at a speed of 300 mm/min. The indicated value is an average value, obtained from a series of measurements.

**5)** The "Quickstick" is the direct adhesion strength, measured on glass. The indicated value is an average value, obtained from a series of measurements.

**6)** The expected outdoor life span refers to outdoor use under Central European conditions and to vertical applications. Non-vertical application can reduce the life span up to 50%. The expected life span of our films is based upon professional application on a dry, degreased and suitable background. Tropical conditions, or the use near chemical emission, may have a detrimental effect on the life span.

As the quality of your print does not only depend on the Grafiprint medium, but also on so many other factors (such as the printer, the quality of the inks, the print software, the ICC profile, the ambient temperature, the air humidity, etc...), Grafityp can not guarantee or be held responsible for the eventual print result.

The materials mentioned in our compatibility list have been tested under normal conditions and are purely indicative.

Subject to modifications.

For more detailed information we also refer to our general "Grafiprint Warranty Certificate" and to our "General Terms and Conditions of Sale and Delivery".