

PRODUCT BULLETIN

APPLICATION GUIDE

Polyurethane film:

PLOTTER FLEX: CUTFLEX

REQUIRED EQUIPMENT

- › A plotter
- › A heat press
- › Plotter Flex: CUTFLEX
- › A textile
- › A TEFLEX protection sheet, or silicone paper or parchment paper (optional)
- › A FILFLEX pressing pad (optional)
- › A laser thermometer

CHARACTERISTICS

Matt stretchable polyurethane film suitable for heat transfer.

	HFLEX100P	HFLEX1000P
COMPATIBILITY WITH FABRIC		
Cotton	✓	✓
Nylon		
Polyester	✓	✓
Acrylique	✓	✓

For further technical information, please refer to the data sheet available on the "Professionals" pages on our website www.hexis-graphics.com.

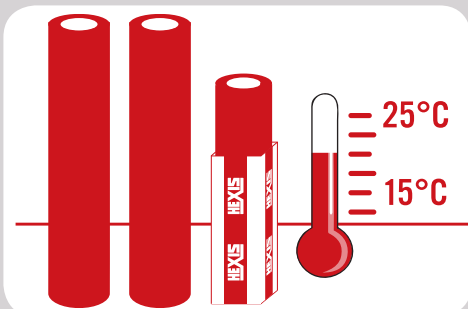
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STORE YOUR FILMS UNDER APPROPRIATE CONDITIONS

Keep the films away from sources of heat (radiators, direct exposure to sunlight...).

Shelf life: 1 year if stored in its original packing at a temperature between 15 °C and 25 °C (59 °F and 77 °F) and between 30 % and 70 % relative humidity.



Application methods are based upon HEXIS' experience and are non restrictive. In order to make application of HEXIS films easier, comply with instructions.

1. RECOMMENDATIONS:

- › To protect delicate fabrics against possible shine caused by direct contact of the fabric with the hot metal of the press, you can use any of the following:
 - a TEFLON® TEFLEX protection sheet,
 - a silicone or parchment paper,
 - a FILFLEX pressing pad (it gives the graphics a grid-like appearance, best used during postpressing).
- › Carry out different tests before any first application:
 - Test the resistance of the fabric to the temperature of the press.
 - Test the compatibility of the CUTFLEX film with the fabric.
- › Apply on a previously washed fabric.
- › For optimum durability, avoid application of the CUTFLEX film over seams.

2. CUTTING THE FILMS:

The films should preferably be stored under the same environmental conditions as the plotter.

The pressure of the blade has to be adjusted depending on the film. It is recommended to carry out a plotting test before starting a production run.

If there is too much pressure, the protective liner could slightly crack and the adhesive could penetrate. This would make the weeding process more difficult.

In any case, it is recommended to weed the material right after cutting.

2.1. Introduction to plotting:

The smallest possible size to be cut depends on the condition of the blade, the pressure, the cutting speed and the plotter. In general, an acceptable height is 10 mm (0.4 in), with serifs of 1.5 mm (0.05 in), at medium speed and with a blade in good condition. Smaller letters can be obtained by reducing the speed.

For instance, the recommended medium speed for a ROLAND® GX24 cutting plotter is 20 cm/s (7.87 in/s).

Note: In any case, carefully read the operating manual of the cutting plotter and carry out a preliminary test.

The blade must cut the polyurethane film and the adhesive surface. (FIG. 01)

A blunt and worn blade will impair the quality of the cut and will require a higher pressure. Weeding will also be more difficult.

2.2. Preliminary plotting test:

In order to determine the plotter settings, we advise you to carry out a preliminary test:

- › Cut a square of 10 cm x 10 cm (4 in x 4 in).
- › Weed (FIG. 02) (FIG. 03): remove any excess material.
- › Check:
 - › that the cut square adheres well to the liner
 - › that the liner is free of any incisions

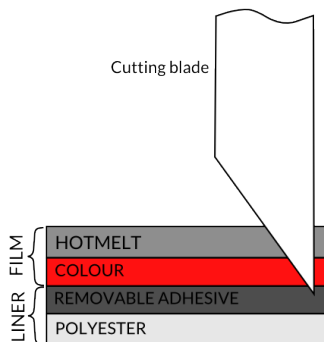


Figure 01



FIG. 02



FIG. 03

› Weeding will be easy and efficient if the plotter is properly set up (pressure, speed, condition of the blade).

2.3. Mirror plotting and weeding:

› Cut a mirror image. (FIG. 04)

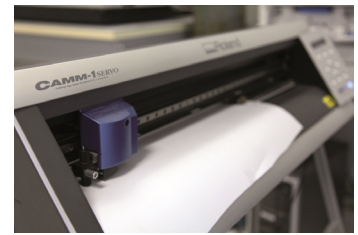


FIG. 04

› Weed (FIG. 05) (FIG. 06) (FIG. 07): remove any excess material.

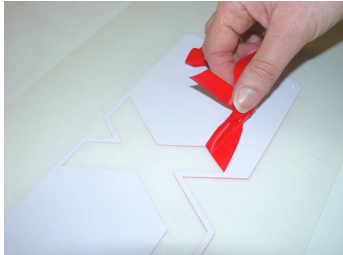


FIG. 05

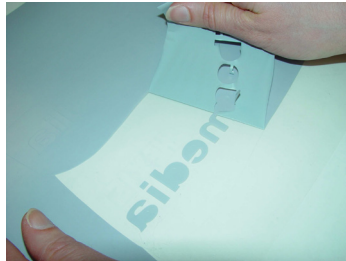


FIG. 06



FIG. 07

3. APPLICATION OF THE GRAPHICS:

3.1. Parameters of the heat press:

(FIG. 08)

3.1.1. Without fabric protection

The indications below must be followed during the entire application process of the FLEX without any accessories to protect the fabrics.

› Pressure: medium depending on the type of press

CUTFLEX	Indicative press temperature
HFLEX100P	160 °C (320 °F)
HFLEX1000P colours and fluorescents	160 °C (320 °F)
HFLEX1000P metallics (HFLEX1020P and HFLEX1030P)	140 °C (284 °F)



FIG. 08

3.1.2. With fabric protection

Purpose: to protect delicate fabrics against possible shine caused by direct contact of the fabric with the hot metal of the press.

The indications below must be followed during the entire application process of the FLEX using accessories to protect the fabrics.

› Place the protection on the fabrics or graphics before any pressing.

CUTFLEX	Indicative press temperature
HFLEX100P	175 °C (347 °F)
HFLEX1000P colours and fluorescents	175 °C (347 °F)
HFLEX1000P metallics (HFLEX1020P and HFLEX1030P)	155 °C (311 °F)

3.2. Preheat the textile:

Purpose: to remove humidity from the textile

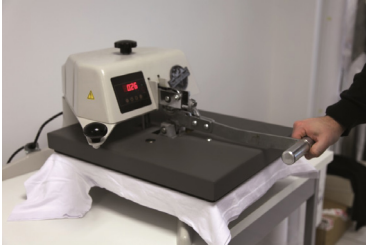


FIG. 09

- › Position the textile on the press.
- › Press the textile: (FIG. 09)
 - › 5 seconds without fabric protection
 - › 10 seconds with fabric protection

3.3. Position the graphics:



FIG. 10

- › Once the fabric has cooled down to room temperature, place the lettering/graphics in the reading direction (the protective liner is on top and the polyurethane film must be in direct contact with the fabric and the hot plate of the press). (FIG. 10)

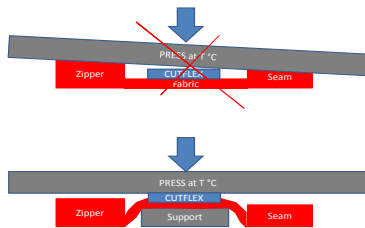


FIG. 11

- › Some fabrics/clothes have a non-uniform thickness (seams, rivets, buttons, etc.) and require an additional support between the fabric and the press table, which should be:
 - as large as the graphics or slightly larger
 - thick enough
 to allow the Flex to perfectly fit with the hot plate. (FIG. 11)

3.4. Press:

(FIG. 12)



FIG. 12

CUTFLEX	Indicative press temperature without fabric protection	Indicative press temperature with fabric protection
HFLEX100P	160 °C (320 °F) - 20 s	175 °C (347 °F) - 30 s
HFLEX1000P colours and fluorescents	160 °C (320 °F) - 20 s	175 °C (347 °F) - 30 s
HFLEX1000P metallics (HFLEX1020P and HFLEX1030P)	140 °C (284 °F) - 15 s	155 °C (311 °F) - 25 s

3.5. Remove the liner:

(FIG. 13)



FIG. 13

CUTFLEX	Remove the tape when the Flex is:
HFLEX100P	-warm: right after opening the press
HFLEX1000P colours and fluorescents	-cold
HFLEX1000P metallics (HFLEX1020P and HFLEX1030P)	-warm

3.6. In case of an additional graphics, position it as follows:

- › As a precaution, you may protect the entire graphics by means of:
 - the previously removed protective liner (please refer to § 3.5),
 - a TEFLON® TEFLEX protection sheet,
 - a silicon or parchment paper,
 - a FILFLEX pressing pad (it gives the graphics a grid-like appearance, best used during postpressing).

3.7. Press:

(FIG. 14)

CUTFLEX	Indicative press temperature without fabric protection	Indicative press temperature with fabric protection
HFLEX100P	160 °C (320 °F) - 20 s	175 °C (347 °F) - 30 s
HFLEX1000P colours and fluorescents	160 °C (320 °F) - 20 s	175 °C (347 °F) - 30 s
HFLEX1000P metallics (HFLEX1020P and HFLEX1030P)	140 °C (284 °F) - 15 s	155 °C (311 °F) - 25 s



FIG. 14

3.8. Remove the liner while warm or cold:

- › Proceed when the fabric's temperature spans from 30 °C to 60 °C (86 °F and 140 °F).

3.9. Final result:

Different results and appearances can be obtained depending on the protection accessory used during postpressing.

NOTE: the operation must be carried out after having set the temperature of the press at 190 °C (374 °F).

3.9.1. For optimal effect and adhesion:

- › Place on the surface of the graphics (FIG. 15):
 - a TEFLEX protection sheet
 - a silicone or parchment paper



Silicone paper → siliconed face to be placed on the graphics



FIG. 15

Purpose: to make the CUTFLEX film penetrate between the textile fibres during the pressing, thus improving its durability.

3.9.2. Giving the graphics a grid-like appearance:

- › Place the FILFLEX pressing pad on the surface of the graphics.

3.9.3. Postpressing:



FIG. 16

- › Press the gathered material: (FIG. 16)
 - › Time: 5 seconds (Up to 20 seconds with the FILFLEX to obtain a more or less grid-like structure.)

4. CARE OF TEXTILES WITH CUTFLEX FILMS:

- › After the pressing, wait at least 24 hours before washing the garment.

CUTFLEX	Maximum washing temperature:
HFLEX100P	60 °C (140 °F)
HFLEX1000P	80 °C (176 °F)

- › Use laundry products without chlorine bleach.
- › Tumble dryer is not recommended.
- › We recommend you to wash and iron your garment inside out.

For further technical information, please refer to the Technical Data Sheets available for free download from our website www.hexis-graphics.com, on the "Professionals" pages.

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