Crystal Fashion Components

Application Manual

HOTFIX Technology

INTRODUCTION

Crystal components can be processed very simply and effectively thanks to the unrivalled product quality and the application systems developed by Swarovski. To maximize these benefits, Swarovski has introduced its unique Application Support service which passes all its application expertise onto all its users.

This manual gives you a brief overview of the most important crystal processing techniques. You can obtain more in-depth support from our technical specialists, who are available throughout the world, or on our business-to-business website: www.business.swarovski.com.

Here you will find, amongst other things, a wide range of multimedia support which we are continually developing, including animations, FAQs and hints and tips, which will help you meet a variety of technical challenges.
Turning dreams into reality is, after all, what the fashion business is all about!

OVERVIEW OF APPLICATION METHODS

PRODUCT GROUPS	SELECTION OF PROCESSING OPTIONS						
	GLUING*	HEAT*	BEADING	SEWING*	SOLDERING*	MECHANICAL*	SETTING
ROUND STONES	■						■
FLAT BACKS NO HOTFIX	■						■
FLAT BACKS HOTFIX		■					
SEW-ON STONES	■		■	■			
FANCY STONES	■		■	■			■
BEADS			■	■			
CRYSTAL PEARLS			■	■			
PENDANTS			■	■			■
TRANSFERS		■					
CRYSTAL FABRIC	■	■		■			
PLASTIC TRIMMINGS	■	■	■	■		■	■
ZIPPERS				■			
BUTTONS & FASTENERS			■	■		■	
METAL TRIMMINGS	■			■		■	■
CRYSTAL MESH NO HOTFIX			■	■			
CRYSTAL MESH HOTFIX	■	■		■			
CUPCHAINS & FINDINGS			■	■	■	■	■

* These application methods are described in detail in this manual. You can obtain information about all other types of application from your Swarovski partner or on our website www.business.swarovski.com.

Our oral, written, and advice by testing are recommendations based on our current state of knowledge and the information provided by our suppliers. It does not discharge you from carrying out your own tests of the proposed techniques and their suitability for the intended application. You will therefore apply, use and process the techniques and products within your sole responsibility.

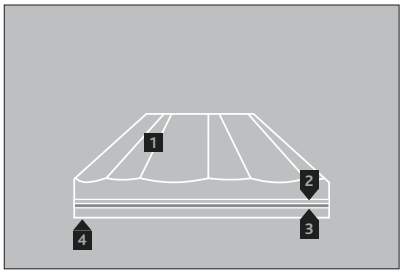
HOTFIX TECHNOLOGY

Swarovski offers a range of crystal components with Hotfix glue, which are applied using heat.

BASIC PRINCIPLES

HOTFIX TECHNOLOGY

Hotfix components have a coating of hot-melt adhesive on the back. This is activated by the application of heat and bonds with the carrier material. The glue hardens as it cools and attaches the component permanently and securely to the material. The unique Swarovski Hotfix glue is also easy-care and can be machine-washed without problems. You can find more information about this in the „Care instructions" chapter. The temperature, application time and pressure can be varied depending on the carrier material.



Complex structure for perfect adhesion.

1 Crystal

2 M-Foil
This specially developed coating guarantees the highest level of brilliance and adhesion for the primer and the Hotfix glue.

3 Primer
The colored primer improves the bond between the glue and the M-Foil.

4 Hotfix glue
The transparent glue developed by Swarovski allows the crystals to be applied to different carrier materials.

OVERVIEW OF TOOLS AND AIDS

TOOLS

Ironing press

Robo Stick

Ultrasonic device

Stone setting machine

Iron

AIDS

Teflon®

Silicone foam

Felt

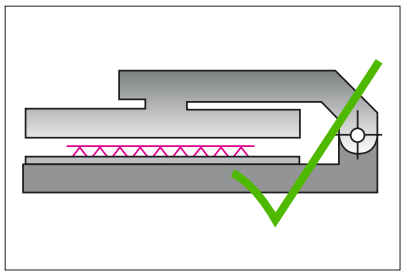
DIAMOND TRANSFERS

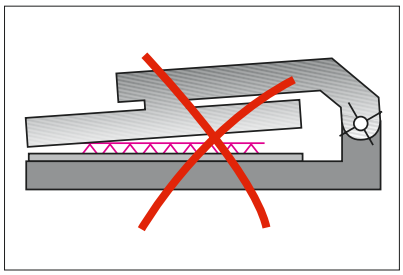
Cardboard

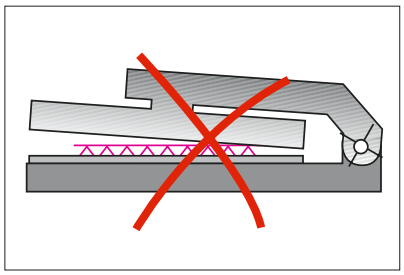
Silicone pad

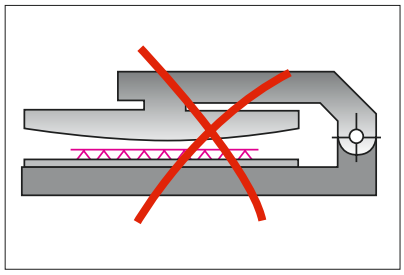
APPLICATION WITH AN IRONING PRESS

The even pressure of the ironing press makes it ideally suited to the application of XILION Rose Hotfix, particularly for large production runs, complex Swarovski Transfer motifs, Crystal Mesh, Crystal Fabric and other products.







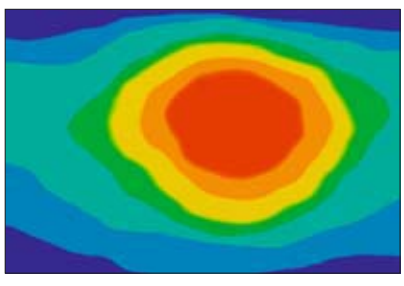


In the case of ironing presses with a scissor mechanism, care must be taken to ensure that the pressure is evenly distributed (see the first drawing). The surface of the ironing press must be completely level, as otherwise the pressure and the heat will not be evenly distributed.

APPLICATION PARAMETERS

The variable application temperatures from 120°C to a maximum of 170°C (250°F to 340°F) and short application times of the Swarovski Hotfix glue result in optimum adhesion and quality, and allow for maximum flexibility in the application process. You will find detailed information on the recommended application parameters in the „Swarovski Hotfix Selector" at the end of this manual.*

TEMPERATURE



= 120°C (250°F)

= 80°C (175°F)

The temperature selected does not always correspond to the actual temperature on the surface of the ironing press. In particular in the case of ironing presses with large surfaces, the temperature is lower at the edges.
We recommend regularly testing the temperature at different points on the surface using a measuring device.

* Please note that the time and temperature figures given in the „Swarovski Hotfix Selector" are only recommendations. In any case we recommend carrying out tests before production starts to find the best combination of parameters for your design.

PRESSURE

The choice of pressure depends on the elements being applied, the fabrics and your technical equipment (see the „Swarovski Hotfix Selector"). We generally recommend a medium pressure. Too much pressure can cause the glue to ooze out and can also affect the surface of the fabrics.

APPLYING TRANSFERS, CRYSTAL FABRIC, CRYSTAL MESH HOTFIX AND SWAROTEX BANDING HOTFIX

Wherever possible, apply the elements to pieces of cut fabric.

Before you start work, make sure that you have the necessary materials ready to hand and have read the application parameters in the „Swarovski Hotfix Selector". We strongly recommend carrying out tests with the original fabrics, in order to ensure that you make the best choice of conditions and aids.

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1 Separate multi-row motifs along the perforations or cut them out with scissors.

2 Pull off the protective film with the Swarovski Logo.

3 Position the transfer motif.

4 Before placing the cut fabric in the ironing press, read the recommendation in the „Swarovski Hotfix Selector" about the heat supply (front or back) and choose the right ironing pad.

5 Use a Teflon pad on the carrier material between the back of the fabric with the crystals and the ironing press, in order to protect the surfaces of the press against possible glue residues. Close the ironing press and follow the application times recommended in the „Swarovski Hotfix Selector".

6 Open the ironing press, remove the fabric and press the transfer motif onto the fabric with a soft cotton cloth.

7 You should generally not remove the carrier film until it has cooled down completely.

If individual elements stick to the carrier film, repeat the application process. If necessary, vary the pressure, time and temperature.

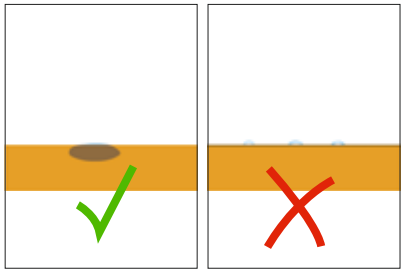
Please note that the glue only reaches its full strength after it has hardened completely, generally after several hours. During this period handle the pieces of cut fabric with care and avoid washing them or carrying out tests.

HINTS AND TIPS

FILM MARKS

With delicate fabrics, cut as much of the carrier film as possible off the transfer motif to avoid undesirable film marks. Apply the transfer motif briefly using low pressure. Pull off the adhesive film and apply it again for the recommended period of time and using the recommended amount of pressure.

WATER DROP TEST

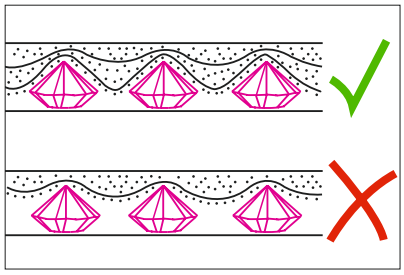


To achieve maximum adhesion, the glue must be absorbed by the carrier material. A simple „water drop" test will show whether a particular fabric has the necessary properties. If the original fabric has a finish, it will not absorb either the water or the glue.*

IRONING PRESSURE

The pressure must always be applied directly onto the transfer. For this reason you should take into account buttons which stick out, zippers and other thicker items. Use an ironing pad to balance out the different thicknesses when applying motifs that have elements of different heights.

APPLYING DIAMOND TRANSFERS



When applying diamond transfers (transfers with brilliant XILION Chatons), use a pad, such as cotton cloth folded in two, to balance out the different thicknesses. If the film has already left marks, restore the fabric by brushing it, ironing it with a steam iron or pressing it in the ironing press again.

CUT FABRIC

You will achieve the best results when you apply the crystals to the cut fabric rather than the finished article. In order to find the best combination of application parameters, we recommend carrying out tests using the original fabric before starting production.

* Very thin fabrics, such as organza, and also smooth leather, smooth imitation leather, thick polyamide and fabrics with a silicone or wax coating may well be unsuitable because they cannot absorb the glue.

STEAM IRONING

If the film has already left marks, you can restore the fabric by brushing it, ironing it with a steam iron or pressing it in the ironing press again.

SPECIAL INSTRUCTIONS FOR CRYSTAL MESH HOTFIX

Before you cut the metal mesh, the film must first be cut to size with a cutter and a ruler. The mesh must always be cut horizontally or vertically. The final cut is made with a pair of tailor's scissors.

You must never remove the film before application, as it provides the Crystal Mesh with the stability it requires.

Please ensure that you remove superfluous connecting rings directly after you have cut the metal mesh (and before you apply the mesh).

You will achieve the best results when you apply the crystals to the cut fabric rather than the finished article. In order to find the best combination of application parameters, we recommend carrying out tests using the original fabric before starting production.

TROUBLESHOOTING

FAULT	
The transfer is not adhering to the fabric.	**1, 2, 3, 4, 5, 6**
The glue is oozing out around the crystals.	**7, 8, 9, 10**
The carrier film leaves marks on delicate materials.	**8, 9, 10, 11, 12**
The transfer does not adhere to seams and multi-layered fabrics.	**1, 2, 3, 4, 5, 6, 13, 14**
Crystal Fabric remains opaque after application.	**2, 3, 4, 5, 6, 15**

FAULT	CAUSE	RECOMMENDATION
1	The application temperature is too low.	Increase the temperature to at least 120°C (250°F).
2	Uneven distribution of heat on the heated surface.	Check the temperature with a measuring strip or thermometer.
3	The application time is too short.	Increase the application time. You can find information about this in the Hotfix selector table at the end of this manual.
4	The pressure is too low.	Increase the pressure for thick materials or specific products. See the Hotfix Selector.
5	The ironing press does not close evenly.	Adjust the ironing press.
6	The ironing pad is unsuitable.	Carry out tests with different ironing pads.
7	The temperature is too high.	Choose a lower temperature between 120°C (250°F) and a maximum of 170°C (340°F).
8	The application time is too long.	Reduce the application time. You can find information about this in the Hotfix selector table at the end of this manual.
9	The pressure is too high.	Reduce the pressure of the ironing press.
10	The ironing pad is too hard.	Use a soft silicone pad.
11	The fabric is very delicate.	Iron the fabric with a steam iron.
12	The transparent transfer film leaves marks.	Cut away the transfer film to reduce the number of marks.
13	The application time is too short.	Extend the application time, as with multi-layered fabrics or seams the heat takes longer to activate the Hotfix glue. Consider applying the transfer from the front.
14	The pressure is too low for the transfer.	Balance out the different thicknesses of seams, buttons, zippers etc. using pieces of felt which have been carefully cut out and placed under the transfer.
15	The application temperature is too low.	Increase the temperature to a maximum of 170°C (340°F).

APPLICATION WITH A ROBO STICK

XILION Rose Hotfix can be applied to a carrier material very cheaply using a Robo Stick. The Robo Stick is ideal for applying XILION Rose Hotfix (Art. 2028) in sizes SS6 – SS34 and for some Creation Flat Backs. You can obtain the complete Robo Stick set from your Swarovski partner. See „Tools and Equipment" at the end of the manual.

APPLICATION

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1 Lay the piece of cut fabric on a level, firm surface.

2 Match the picker tips to the selected stone sizes.

3 Heat the Robo Stick to a suitable temperature and pick up the crystals.

4 As soon as the Hotfix glue on the back of the crystal melts (a small amount of foam will form), put the element on the carrier material.

APPLICATION WITH AN ULTRASONIC DEVICE

You can apply XILION Rose Hotfix quickly and easily with an ultrasonic device. These devices are ideal for applying XILION Rose Hotfix (Art. 2028, 2029) in sizes SS6 – SS20.

APPLICATION

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1 Put the carrier material on a level, firm surface, for example made of metal or glass.

2 Choose the right adapter for the stone size and pick up the crystal component. If your device does not have a vacuum pump, position the crystal using tweezers or a wax stick.

3 Position the tip and activate the device by pressing the button.

APPLICATION WITH A STONE SETTING MACHINE

Stone setting machines allow XILION Rose Hotfix to be applied automatically. The crystal components are applied accurately and securely to the carrier material which is fed in by hand.

APPLICATION WITH AN IRON

We generally recommend ironing presses for applying transfers and other article groups coated with Hotfix glue. In some cases irons are also suitable for creating patterns.

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1 Make sure that the sole plate of the iron has no steam outlets. Water and steam would have a negative effect on the results. Always iron on a level, firm, stable surface.

2 Choose an iron temperature between 120°C and 170°C (250°F – 340°F) or choose the symbol for silk/wool or a similar moderate temperature. A Teflon pad will protect the sole plate from glue residues.

3 If necessary we recommend placing a piece of thick paper in the item of clothing to protect it from possible marks caused by the crystal components.

4 Put the iron directly on the transfer and apply moderate pressure without moving the iron. Follow all the instructions in the section „Application with an ironing press".