

SWAROVSKI

APPLICATION MANUAL 2016

CONTENTS

09 GENERAL INFORMATION

- 10 Application Manual
- 10 Application Online
- 11 Application Services
- 14 General Product Information
- 21 Swarovski Products and Suitable Application Techniques

23 SOLDERING, PLATING, AND STONE SETTING

- 24 Product Overview
- 24 Machines, Tools, and Aids
- 25 Suppliers
- 26 Application
- 34 Directions for Jewelry Manufacturing
- 36 Quick Assistance

39 GLUING

- 40 Product Overview
- 40 Machines, Tools, and Aids
- 43 Suppliers
- 45 Application
- 58 Overview of the Application Processes
- 59 Product-specific Application Instructions
- 64 Useful Information
- 67 Quick Assistance

71 CERALUN

- 72 Product Overview
- 73 Machines, Tools, and Aids
- 75 Suppliers
- 76 Application
- 81 Useful Information
- 82 Quick Assistance

85 HOTFIX APPLICATION

- 86 Product Overview
- 86 Machines, Tools, and Aids
- 88 Suppliers
- 89 Application
- 97 Useful Information
- 100 Quick Assistance
- 101 Swarovski Hotfix Selector

111 SEWING, EMBROIDERY, AND HAND APPLICATION

- 112 Product Overview
- 112 Machines, Tools, and Aids
- 115 Suppliers
- 116 Application
- 123 Useful Information
- 124 Quick Assistance

127 MECHANICAL APPLICATION

- 128 Product Overview
- 128 Machines, Tools, and Aids
- 143 Suppliers
- 151 Application
- 160 Useful Information
- 161 Quick Assistance

163 CARE INSTRUCTIONS

- 164 Textile Care Instructions
- 167 General Care Instructions
- 168 Laws, Regulations, Norms, and Standards
- 168 Warning Notices
- 169 Care Instructions

Swarovski is the premium brand for the finest crystal embellishments since 1895. It is recognized for its innovative excellence and its collaborations with top-class designers and brands in the fashion, jewelry, accessories, interior design, and lighting industries across the globe.

Available in myriad colors, effects, shapes, and sizes, crystals from Swarovski offer designers a fabulous palette of inspiration, and are produced according to the innovative, lead-free* Advanced Crystal standard. Born out of a passion for detail and high-precision cutting, these precious ingredients impart refined glamour to everything they embellish. They can be recognized by the 'Crystals from Swarovski' seal, which serves as a certificate of authenticity that identifies products made with genuine Swarovski crystals.

A family-owned company for more than 100 years, with values rooted in integrity, respect, and excellence, Swarovski is noted as much for its ethics in business as for its contemporary artistry and innovative flair.

[SWAROVSKI.COM/PROFESSIONAL](https://www.swarovski.com/professional)

* Crystal glass and all other materials containing 0.009% lead or less.



SEAL YOUR SUCCESS

Be part of our exclusive Ingredient Branding program



SWAROVSKI

CRYSTAL COLLECTION

TAKE THOUSANDS OF CRYSTALS WHEREVER YOU GO

INSPIRATION IS ONLY AN APP AWAY

Wherever you are, whatever you're looking for, search over 15,000 loose elements and 200,000 forward-integrated elements with Swarovski's inspirational new Crystal Collection App. Online or offline, stay app-to-date with the latest innovations and find popular classics – it's easy to install, easy to browse, easy to use.



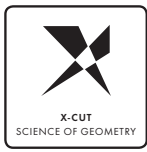
Made for iPad



Made for Tablets

SWAROVSKI.COM/COLLECTIONAPP

EXCELLENCE, THROUGH INNOVATION AND ORIGIN



X-CUT
Advanced optical measurement and high-precision manufacturing deliver premium cuts characterized by unmatched brilliance.



HOTFIX GLUE
The variable temperatures at which Hotfix glue can be activated enable the application of crystals on a broad range of textiles.



PLATINUM PRO
With its new advanced foiling technique, Swarovski has set a new standard in the lifespan of crystals.



CRYSTALS - MADE IN AUSTRIA
The combination of innovation with sustainability and respect for individual wellbeing means that quality is always assured.

PREMIUM, BY SERVICE AND DESIGN



DESIGN SERVICE
Throughout its global network of Design Centers, Swarovski offers exceptional service provided by the industry's best creative talent.



GLOBAL SERVICE
Swarovski's Global Service Network provides customers with dedicated personal assistance on a local level.



APPLICATION SERVICE
A comprehensive range of application services means customers benefit from the extensive experience of leading international experts, as well as internal specialists.



DESIGNER EDITIONS
Creative collaborations with top designers result in exclusive cuts and unique designs for Swarovski crystal.

COMPLIANCE, WITH INTEGRITY



ADVANCED CRYSTAL
Swarovski's patented lead-free* formula has changed the DNA of crystal while still offering the same sparkle, dependability, and variety for which Swarovski is famous.



CLEAR
Regular legal monitoring of chemical requirements and reasonable testing provide customers with the comfort of trust in Swarovski's products.

*Crystal glass and all other materials containing 0.009% lead or less.



OEKO-TEX
Oeko-Tex® Standard 100 Class II (direct contact with skin) certification creates confidence in chemical safety of textile applications.



COMPLIANCE SERVICE
Assessments regarding substance limitations as well as compliance information and advice to support customers in complying with relevant laws, regulations, and voluntary standards.

[SWAROVSKI.COM/PROFESSIONAL](https://www.swarovski.com/professional)

GENERAL INFORMATION

Swarovski offers a comprehensive range of services, tailored to customers' requirements, for the application of Swarovski products.

APPLICATION MANUAL

This Application Manual offers extensive information on the various Application Services provided by Swarovski. Thanks to their outstanding quality, and with the help of specially developed application techniques, Swarovski products can be processed easily and quickly to produce a high-quality finished product. The processes involved are described in this manual on a step-by-step basis, with photos and illustrations.

Each application method contains detailed information on the following areas:

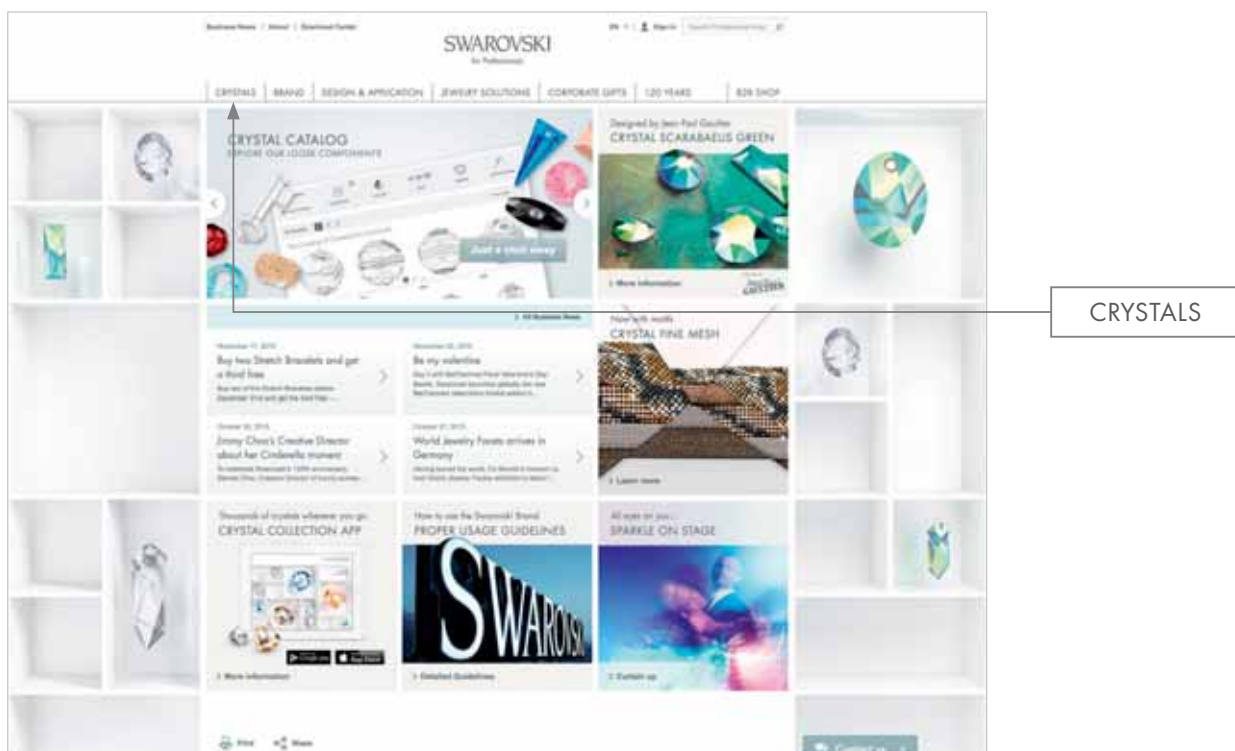
Product Overview	Swarovski products that are suitable for the application technique in question
Machines, Tools, and Aids	List of machines, tools, and aids necessary for application
Suppliers	Selection of suppliers that sell these machines, tools, and aids
Application	Detailed description of the entire application process and the product-specific procedure. Furthermore, the Hotfix Selector outlines extensive application parameters for suitable product and carrier material combinations
Useful Information	Advice and tips on working with Swarovski products
Quick Assistance	A checklist of typical application problems, along with possible causes and recommendations on avoiding them (in each chapter these are marked with a ?!)

Extensive care instructions and further information on laws, regulations, norms, and standards are featured at the end of the manual.

APPLICATION ONLINE: SWAROVSKI.COM/PROFESSIONAL

All the information contained in this manual is regularly updated on the Swarovski products business website (SWAROVSKI.COM/PROFESSIONAL). In addition, application techniques are demonstrated through animations and videos. The site is an excellent way to find out about Swarovski's application services and application techniques.

To gain access to the restricted section of the business website, please contact your local Swarovski representative.



APPLICATION SERVICES

Swarovski offers a comprehensive range of services, tailored to your requirements, for applying Swarovski products. In doing so, the company aims to meet the needs of each industry, and to jointly offer flexible and integrated solutions.

- Technical enquiry service
- Compliance service
- Technical customer support – field services
- Application partner network

Technical enquiry service

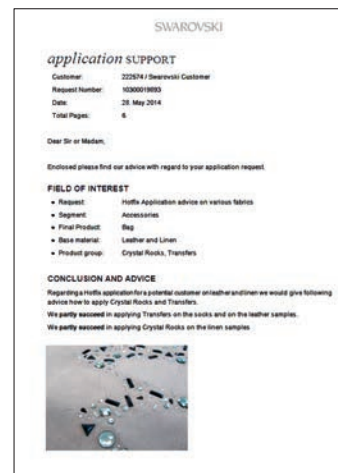
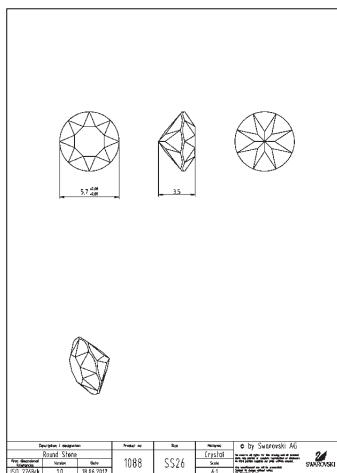
Available worldwide, the technical enquiry service can help you in the following areas:

- Product information
- Technical drawing
- Care instructions
- Information on industry standards
- Individual application tests based on customer samples
- Information on machines, tools, and aids

Compliance service

The worldwide available compliance service can support you in the following areas:

- Certificates
- Information on laws and regulations
- Compliance information of Swarovski crystals
- Compliance statement to customer-specific requirements



For further information, please contact your local Swarovski office.

Technical customer support – field services

Swarovski imparts its crystal application expertise through customized **Crystal Application Workshops, Crystal Application Consultancy, Troubleshooting, and Technical Assessments**. These can take place either on customers' premises or at Swarovski locations. The focus is always on customers' individual needs, the efficient use of Swarovski products, and on the quality of the crystal application.

Our services have been created to take advantage of our comprehensive crystal application expertise in the following areas: mastery of the relevant techniques, technical knowledge of Swarovski products, process-engineering competencies, and our experience of crystal application equipment, together with our product manufacturing knowledge of various industries.



Service results (dependent on the particular individual service package):

PREVENTION OF INCREASED DEVELOPMENT COSTS THROUGH TECHNICAL INPUT IN:

- The correct choice of Swarovski products
- The correct technical design
- The correct application technique
- The correct integration of an application process into the entire process landscape
- Application process set-up

PREVENTION OF COST COMPLAINTS THROUGH TECHNICAL INPUT IN:

- The correct positioning and arrangement of Swarovski products
- Learning how to check the quality of crystal applications
- Suitability of the customer's equipment, tools, and aids

PREVENTION OF INCREASED STAFF DEVELOPMENT COSTS THROUGH:

- Staff training in appropriate application techniques
- Building your technical knowledge base, thereby enabling you to be self-sufficient

Application partner network

As a company with a global sales network and deep understanding of the market, Swarovski has comprehensive knowledge of various application companies and their services from around the world.

Based on this knowledge, Swarovski has developed a global application partner network. These partners offer a wide range of technical and product-related services, as well as tailored production solutions. In order to qualify and to get access to the application partner network, certain criteria with regard to application techniques, know-how as well as product assortment need to be fulfilled by the application partners.

Application partners can assist you with a variety of application techniques, such as gluing, Hotfix application, sewing, embroidery, and mechanical application. In addition, many partners can carry out technically complex solutions, such as Flat Back Leather and the automated, mechanical application of Rivets. The services offered by our partners range from product and design consultancy, to prototyping and carrying out production, and make up a key component of our customer focus.

Should you require a professional partner to assist you in applying items such as Flat Backs onto interior, Transfer Motifs onto T-shirts, Rivets onto belts, or Plastic Trimmings onto jeans, the "Application Partner Platform" or your local Swarovski office can offer guidance.

Application Partner Platform (APP)

The Application Partner Platform enables you to find the right application partner swiftly and easily, wherever in the world production may be taking place. Through a tailored "search function", you can send out a specific, detailed request (e.g. searching for a specific country, an application technique, or products) to select partners around the world.

The platform is made up of two core areas – "Find a Partner" and "Become a Partner":

Find a Partner

Using the search function, this area enables you to locate the best application partner for your application work. You are immediately provided with a list of application partners, which you can download and save. If you use the search function for a specific enquiry regarding an application service, you receive detailed information from the application partners contacted.

Become a Partner

If you are interested in becoming an application partner yourself, the "Become a Partner" section contains key information on the requirements and an application form to complete. Your local Swarovski office will then contact you as soon as possible.

The screenshot shows the 'Find a Partner' search form on the Swarovski Professional website. The form is titled 'Find a Partner' and includes a search bar with the text 'Please fill out the search fields to find the right partner for your request.' Below the search bar, there are several input fields: 'Company', 'City', 'Continent', and 'Country'. The 'Continent' and 'Country' fields are dropdown menus with 'please choose' as the selected option. Below these fields, there is a 'Products' section with four checkboxes: 'Flat Backs Hotfix', 'Flat Backs for Hotfix', 'Crystal Tattoos', and 'Crystal Trimmings'. The form is part of a larger navigation menu that includes 'CRYSTALS', 'DESIGN & APPLICATION', 'JEWELRY SOLUTIONS', 'CORPORATE GIFTS', and 'IGB SHOP'. The 'DESIGN & APPLICATION' menu item is currently selected, and the 'Application & Manufacturing' sub-menu is active.

Access to the Application Partner Platform:

Part of the "Application Partner Platform" is located in the restricted area of the business website [SWAROVSKI.COM/PROFESSIONAL](https://www.swarovski.com/professional). Under "Design & Application" → "Application & Manufacturing" you will find access to the Application Partner Platform.

For access to the restricted area of the business website and for further information, please contact your local Swarovski office or register online on the business website.

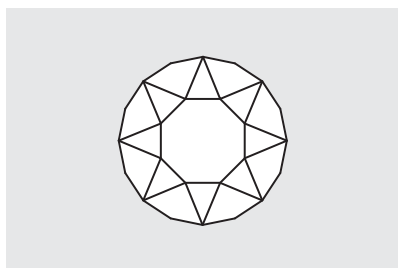
GENERAL PRODUCT INFORMATION

This list offers an overview of Swarovski products that are suitable for the application methods described. Product categories/ descriptions are based on the 2014 Collection.

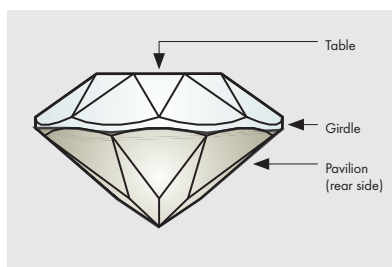
Round Stones	Round Stones are loose crystal elements. Most of them are pointed on the reverse side, making them easy to apply in either metal claw settings or pre-set cavities in die-cast metal alloys. The assortment features a wide variety of different cuts, the most innovative one is the XIRIUS Chaton.
Fancy Stones & Settings	Fancy Stones are offered in numerous shapes ranging from classical gemstone-inspired cuts to progressive trend cuts. They come in a huge assortment of different sizes and colors. Showing either a faceted or flat reverse side, Fancy Stones can be glued into pre-cast cavities or used in metal settings. Their precision-cut facets ensure the highest brilliance and endow design ideas with a unique sparkle.
Beads	Beads offer the highest standard available on the market. The high-quality precision cutting and the clear through-hole achieve high brilliance and clarity. Rounded hole edges reduce the wear on thread and increase the durability of designs. The assortment is divided into classic, romantic, and progressive shape characteristics. They are available in the latest fashion colors, effects, and cuts.
BeCharmed & Pavé	The BeCharmed assortment, from Beads, Crystal Pearls, Pavé, and Rondelles, to Stoppers and Pavé Balls in a brilliant array of colors and effects, offers unlimited combination possibilities. All products of this unique line feature a high-quality stainless steel part with Swarovski branding and a 4.5 mm-diameter hole, which is the standard size for existing charm concepts, making BeCharmed pieces ideal collectibles.
Crystal Pearls	Crystal Pearls are perfect replicas of genuine pearls. They are made of a unique crystal core covered with an innovative pearl coating, which features a flawless, silky smooth, rounded surface. They are available in a variety of shapes, sizes, and colors and are delivered loosely threaded or, if desired, also knotted.
Pendants	Pendants have timeless elegance and are available in a large range of classical and avant-garde cuts and shapes, as well as in many colors and effects. Pendants offer a whole range of design possibilities for different segments thanks to their easy application, with the hole on top requiring only a jump ring/ pinch bail with a chain or cord.
Flat Backs No Hotfix	Flat Backs No Hotfix are loose crystal elements backed with platinum foiling for extra brilliance and protection. These Flat Backs are easy to apply to a variety of carrier materials using standard one- or two-component glues. They are available in a multitude of sizes, colors, shapes, and cuts.
Flat Backs Hotfix	Flat Backs Hotfix are loose crystal elements with a flat reverse side that has been pre-coated with a heat-sensitive glue. These Flat Backs can be easily applied to a large range of textile carrier materials using heat to produce a durable and long-lasting crystal effect. Flat Backs Hotfix are available in a multitude of colors, shapes, and cuts.
Sew-on Articles	Sew-on Articles are loose crystals that can be easily sewn (either by hand, or with a standard domestic or industrial embroidery sewing machine) onto any type of textile or accessory. Sew-on Articles come in two- or three-hole varieties, including round, oval, and triangle holes for use in a wide range of decorative applications for fine embroidery or even jewelry. Lochrosen are crystals with just one hole. Sew-on Articles have rounded edges on the hole entry and exit areas to guarantee thread protection.
Self-adhesive Elements	Self-adhesive Elements such as Crystal-it, Crystal Fabric-it, Crystaltex-it Chaton or Crystal Rocks-it are eye-catching and innovative products that come ready-to-apply. They are pressure-sensitive and self-adhesive. When applied to paper and solid surfaces, they can create elegant, romantic, or sporty designs.
Transfers	Transfers are ideal for Hotfix application on all kinds of textiles. They are available in a large range of motifs and numbers of rows, which are made up of different articles from the Flat Back Hotfix assortment. Featuring designs from the in-house design team, they can comprise XIRIUS and XILION Roses, or Creation Stones, as well as Metallics and Cabochons.
Synthetics Hotfix	These versatile products open up a multitude of creative design possibilities through their numerous application techniques. They combine elegant crystals from Swarovski that can be applied using Hotfix technology with synthetic carrier materials. They are ideal for use in the textile, interior design, jewelry, and accessories segments.
Plastic Trimmings	Plastic Trimmings are plastic carrier materials with integrated crystals. These multi-functional products can either be hand- or machine-sewn or glued onto various surfaces. The range of bandings not only offers a color selection of chatons, but also a variety of casing colors.
Buttons, Fasteners & Zippers	Crystal Buttons can be used in exactly the same way as standard buttons. The assortment of available buttons ranges from those for shirts, blouses, jackets, and coats, to buttons for denim and accessories. They are suitable for hand and mechanical application. Zippers from our assortment are unique because the crystals are integrated into the zipper teeth, allowing them to be used in the same way as standard zippers.

Metal Trimmings	Metal Trimmings are forward-integrated metal products. They can be sewn by hand or machine and mechanically applied onto different fabrics or other materials. Metal Trimmings are bestsellers among the textile, shoe, and accessories segments because their wide range of application possibilities ensures that they can be used in a multitude of different ways.
Crystal Mesh	Crystal Mesh is a flexible metal mesh carrier with integrated loose crystals. The product is available in a wide range of colors and casings, either as a Hotfix version, which can be applied using heat, or as a No Hotfix version that can be hand- or machine-sewn.
Cupchains & Findings	These products are metal chains and findings that can integrate either Round or Fancy Stones and Beads into any creative design. They can be divided into seven sub-categories: Single Stone Settings, Cupchains and Brass Components, Multi Stone Settings, Channels, Metal Buttons, Rondelles, and Linked Findings. Each of these groupings is available in a wide variety of shapes, sizes, colors, and platings.

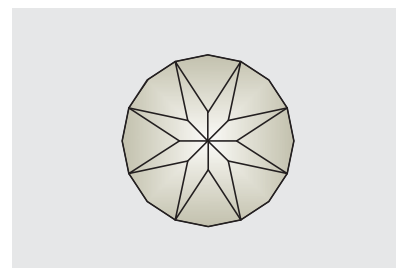
Crystal specifications



Front view



Side view



Rear view (Pavilion)

Foiling

Foiling is the process of mirror coating the reverse side of the crystals.



Silver Foiling (A)

A silver mirror finish for XIRIUS and XILION Hotfix articles only.



Platinum Pro Foiling (F)

A silver mirror finish that is coated with a platinum colored protective layer of highest quality. The Platinum Pro Foiling is not only resistant to environmental damage from chlorine, salt water, and perfume – it can also withstand processes such as soldering and electroplating, giving it unprecedented durability (e.g. art. 4120).



Aluminum Foiling (M)

An aluminum mirror finish is applied using a vacuum coating process (e.g. art. 2855 Flat Back HF).



Protective Layer (P) for Beads and Pendants

Protective layer is a transparent lacquer system that is applied over the effects. This lacquer is designed to protect the effects from scratches, fingerprints, and other damage and also helps to prevent moisture that can lead to corrosion (e.g. from perspiration) penetrating into the effect layer when jewelry is designed to incorporate Crystal Stones that are not set in casings/settings.



Unfoiled (U)

Effects

Vacuum Coating Effects

Vacuum coating processes on the surface of the crystal produce either a special surface or a translucent effect, according to the application methods used.

Please find below a list of all Swarovski effects followed by an explanation of the special vacuum coating processes.


Surface Effects

(Vacuum coating on the surface of the crystal)

	Effect Code	Name
	AB	Aurore Boreale
	ANTP	Antique Pink
	API	Astral Pink
	BLSH	Blue Shade
	BRSH	Bronze Shade
	CAL	Comet Argent Light
	COP	Copper
	DOR	Dorado
	GSHA	Golden Shadow
	HEM	Hematite (only on Jet)
	IRIG	Iridescent Green
	LISH	Lilac Shadow
	LTCH	Light Chrome
	LUMG	Luminous Green
	METSH	Metallic Sunshine
	METBL	Metallic Blue
	MLGLD	Metallic Light Gold
	MOL	Moonlight
	NUT	Nut (only on Jet)
	PARSH	Paradise Shine
	REDM	Red Magma
	ROGL	Rose Gold
	SAT	Satin
	SCGR	Scarabaeus Green designed by JPG
	SSHA	Silver Shade
	TRA	Transmission

Translucent Effects

(Vacuum coating on the reverse side of the crystal, effect shines through the transparent crystal)

	Effect Code	Name
	BBL	Bermuda Blue
	HEL	Heliotrope
	MBL	Meridian Blue
	SINI	Silver Night
	TAB	Tabac
	VL	Vitrail Light
	VM	Vitrail Medium
	VOL	Volcano

Patina Effects

(Partial coating of the correspondingly modified effects)

Effect Code	Name
BLAPA	Black Patina
GOLPA	Gold Patina
ROSPA	Rose Patina
SILPA	Silver Patina
WHIPA	White Patina

Lacquer^{PRO} Effects

A premium opaque varnish which is applied to the reverse side of the crystal instead of foiling, resulting in an opalescent appearance.

Effect Code	Name
L104	Powder Blue
L102	Powder Green
L105	Powder Grey
L103	Powder Rose
L101	Powder Yellow

Variations on Surface Effects

2x



Both sides of the stone are treated with an effect (e.g. art. 5000AB 2).

B



Effects on three sides of a cube shape (e.g. art. 5601 AB B).

V



The effect is used in reverse. A surface effect is used like a translucent effect (e.g. art. 2420 NoHF SSHA V - Silver Shade on the reverse side).

Z



Only a part of the stone is treated with an effect (e.g. art. 4869 HEL Z).

FC (Full Coated)

Improved technology allows for the perfectly homogeneous, all-round application of high-intensity metallic effects in the Bead assortment (art. 5000).

CAL'V'SI & CAL'VZ'SI

The effect CAL (Comet Argent Light) is also used as a mirror coating on the reverse side of the crystal instead of standard foilings (A, F, ...) in special cases (e.g. art. 2035).

/G

Article with partly (PF) or fully frosted (FF) surface (e.g. art. 2611/G)

PA (Patina)

Innovative technology allows for the partly coated application of adapted effects. Its historical edge and "used" look give it a certain timelessness, without losing its crystalline appearance (e.g. art. 2034).

Special Surface Effects

Swarovski has been able to achieve various special surface effects by using special chemical and mechanical processes on the surface of the crystals.



MAT




COS

<i>Effect Code</i>	<i>Name</i>
MAT	Matt Finish
COS	Cosmojet

The Matt Finish effect is achieved by performing a chemical matting process on the entire surface of the crystal. Small variations in the size of the articles may occur as a result of this chemical process.

Using a special process, the outer facets of Flat Back Roses can be blackened. The Cosmojet effect is only possible for the color Crystal (001).

Colors









 Crystal 001	 Violet 371
 White Opal 234	 Light Amethyst 212
 Light Silk 261	 Smoky Mauve 265
 Silk 391	 Provence Lavender 283
 Light Peach 362	 Light Sapphire 211
 Rosaline 508	 Light Azure 361
 Rose Water Opal 395	 Aquamarine 202
 Vintage Rose 319	 Air Blue Opal 285
 Blush Rose 257	 Sapphire 206
 Light Rose 223	 Capri Blue 243
 Rose Peach 262	 Dark Indigo 288
 Padparadscha 542	 Montana 207
 Indian Pink 289	 Turquoise 267
 Hyacinth 236	 Caribbean Blue Opal 394
 Light Siam 227	 Light Turquoise 263
 Indian Siam*** 327	 Blue Zircon 229
 Rose 209	 Indicolite 379
 Fuchsia 502	 Indian Sapphire 217
 Ruby 501	 Denim Blue 266
 Siam 208	 Black Diamond 215
 Burgundy 515	 Pacific Opal 390
 Garnet 241	 Chrysolite Opal 294
 Amethyst 204	 Chrysolite 238
 Cyclamen Opal 398	 Peridot 214
 Purple Velvet 277	 Erinite 360
 Tanzanite 539	 Fern Green 291

 Dark Moss Green 260
 Emerald 205
 Palace Green Opal 393
 Olivine 228
 Khaki 550
 Greige 284
 Light Grey Opal 383
 Sand Opal 287
 Light Colorado Topaz 246
 Jonquil 213
 Yellow Opal 231
 Light Topaz 226
 Sunflower 292
 Topaz 203
 Tangerine 259
 Light Smoked Topaz 221
 Smoked Topaz 220
 Smoky Quartz 225
 Graphite 253
 Jet 280

Ceramics

 Marbled Light Grey 657
 Marbled Terracotta 655
 Marbled Yellow 652
 Marbled Blue 654
 Marbled Black 653

Effects

 Crystal Silver Shade 001 SSHA
 Crystal Moonlight 001 MOL
 Crystal Aurore Boreale 001 AB
 Crystal Luminous Green* 001 LUMG
 Crystal Golden Shadow 001 GSHA
 Crystal Metallic Sunshine* 001 METSH
 Crystal Rose Gold* 001 ROGL
 Crystal Copper* 001 COP
 Crystal Astral Pink 001 API
 Crystal Red Magma* 001 REDM
 Crystal Antique Pink* 001 ANTP
 Crystal Vitrail Light** 001 VL
 Crystal Paradise Shine 001 PARSH
 Crystal Vitrail Medium** 001 VM
 Crystal Volcano** 001 VOL
 Crystal Lilac Shadow 001 LISH
 Crystal Heliotrope** 001 HEL
 Crystal Bermuda Blue** 001 BBL
 Crystal Metallic Blue* 001 METBL
 Crystal Blue Shade* 001 BLSH
 Crystal Tabac** 001 TAB
 Crystal Scarabaeus Green**** 001 SCGR
 Crystal Iridescent Green* 001 IRIG
 Crystal Dorado* 001 DOR
 Crystal Metallic Light Gold* 001 MLGLD
 Crystal Bronze Shade* 001 BRSH

 Crystal Satin* 001 SAT
 Crystal Light Chrome* 001 LTCH
 Crystal Comet Argent Light* 001 CAL
 Crystal Silver Night** 001 SINI
 Jet Nut* 280 NUT
 Jet Hematite* 280 HEM

Crystal Lacquer^{PRO} Effects

 Crystal Powder Yellow* 001 L101
 Crystal Powder Rose* 001 L103
 Crystal Powder Blue* 001 L104
 Crystal Powder Green* 001 L102
 Crystal Powder Grey* 001 L105

Crystal Patina

 Crystal White Patina 001 WHIPA
 Crystal Rose Patina* 001 ROSPA
 Crystal Silver Patina* 001 SILPA
 Crystal Gold Patina* 001 GOLPA
 Crystal Black Patina* 001 BLAPA

Classic Colors: This color range offers a wide choice of traditional Swarovski crystal colors.
 Exclusive Colors: This color range is offered exclusively by Swarovski.

The listed colors and effects are based on the Color Chart for Round Stones (2016).

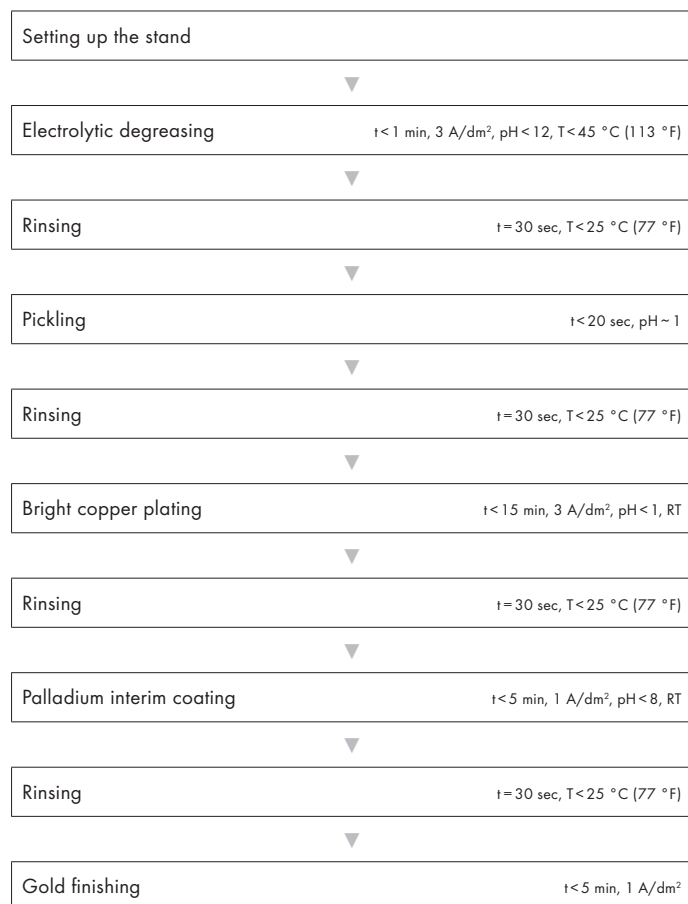
The standard assortment of colors and effects may vary per product group. Slight changes in shades are unavoidable. Colors may vary according to cut and shape.

The plating resistance of effects is tested according to Swarovski's plating guidelines (SWAROVSKI.COM/PROFESSIONAL). Customers are advised to carry out their own tests if customers' plating parameters diverge from Swarovski plating guidelines. Details for parameter settings can be found on page 19.

- * Crystals are not resistant to plating and similar processing.
- ** Crystals are resistant to plating only if they are foiled.
- *** The color Indian Siam is available only for a specific size range. Please refer to the current Collection.
- **** Designed by Jean Paul Gaultier

Testing the plating-resistance

For testing the plating-resistance of effects, the following parameter settings have to be considered:



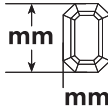
Note: Swarovski cannot warrant the resistance of effects when the parameters as set out above are changed. Swarovski's declaration of resistance does not discharge customer from carrying out its own tests of the suitability for the intended finishing of products. The use and processing of these techniques and products are solely the user's responsibility.

Sizes

Various measurement abbreviations are used to classify the jewelry stones.



PP, SS
 Pearl Plate (PP), Sieve Size or Stone Size (SS)
 for round crystals.



mm
 Metric figures in millimeters for crystal components and
 geometric forms.

•	PP 0 0.70-0.80 mm	•	PP 21 (SS 10) 2.70-2.80 mm	•	SS 26 5.61-5.78 mm	•	SS 45 9.85-10.19 mm
•	PP 1 (SS 000) 0.80-0.90 mm	•	PP 22 (SS 10) 2.80-2.90 mm	•	SS 27 5.78-5.96 mm	•	
•	PP 2 (SS 00) 0.90-1.00 mm	•	PP 23 (SS 11) 2.90-3.00 mm	•	SS 28 5.96-6.14 mm	•	SS 46 10.19-10.54 mm
•	PP 3 (SS 0) 1.00-1.10 mm	•	PP 24 (SS 12) 3.00-3.20 mm	•	SS 29 6.14-6.32 mm	•	
•	PP 4 (SS 1) 1.10-1.20 mm	•	PP 25 (SS 13) 3.20-3.30 mm	•	SS 30 6.32-6.50 mm	•	SS 47 10.54-10.91 mm
•	PP 5 (SS 2) 1.20-1.30 mm	•	PP 26 (SS 13) 3.30-3.40 mm	•	SS 31 6.50-6.68 mm	•	
•	PP 6 (SS 2) 1.30-1.35 mm	•	PP 27 (SS 14) 3.40-3.50 mm	•	SS 32 6.68-6.87 mm	•	SS 48 10.91-11.30 mm
•	PP 7 (SS 3) 1.35-1.40 mm	•	PP 28 (SS 14) 3.50-3.60 mm	•	SS 33 6.87-7.07 mm	•	
•	PP 8 (SS 3) 1.40-1.50 mm	•	PP 29 (SS 15) 3.60-3.70 mm	•	SS 34 7.07-7.27 mm	•	SS 49 11.30-11.72 mm
•	PP 9 (SS 4) 1.50-1.60 mm	•	PP 30 (SS 15) 3.70-3.80 mm	•	SS 35 7.27-7.48 mm	•	
•	PP 10 (SS 4) 1.60-1.70 mm	•	PP 31 (SS 16) 3.80-4.00 mm	•	SS 36 7.48-7.70 mm	•	SS 50 11.72-11.97 mm
•	PP 11 (SS 5) 1.70-1.80 mm	•	PP 32 (SS 17) 4.00-4.10 mm	•	SS 37 7.70-7.93 mm	•	
•	PP 12 (SS 5) 1.80-1.90 mm	•	PP 33 (SS 17) 4.10-4.20 mm	•	SS 38 7.93-8.16 mm	•	SS 55 12.97-13.22 mm
•	PP 13 (SS 6) 1.90-2.00 mm	•	SS 18 4.20-4.40 mm	•	SS 39 8.16-8.41 mm	•	
•	PP 14 (SS 6) 2.00-2.10 mm	•	SS 19 4.40-4.60 mm	•	SS 40 8.41-8.67 mm	•	SS 60 14.22-14.47 mm
•	PP 15 (SS 7) 2.10-2.20 mm	•	SS 20 4.60-4.80 mm	•	SS 41 8.67-8.95 mm	•	
•	PP 16 (SS 7) 2.20-2.30 mm	•	SS 21 4.80-4.90 mm	•	SS 42 8.95-9.23 mm	•	SS 65 15.47-15.72 mm
•	PP 17 (SS 8) 2.30-2.40 mm	•	SS 22 4.90-5.10 mm	•	SS 43 9.23-9.53 mm	•	
•	PP 18 (SS 8) 2.40-2.50 mm	•	SS 23 5.10-5.27 mm	•	SS 44 9.53-9.85 mm	•	SS 70 16.72-16.97 mm
•	PP 19 (SS 9) 2.50-2.60 mm	•	SS 24 5.27-5.44 mm	•		•	
•	PP 20 (SS 9) 2.60-2.70 mm	•	SS 25 5.44-5.61 mm	•		•	SS 75 17.97-18.22 mm

SWAROVSKI PRODUCTS AND SUITABLE APPLICATION TECHNIQUES

		Soldering	Plating	Setting	Gluing	Hoflix Application	Sewing	Embroidery	Hand Application	Mechanical Application	Ceralun
Round Stones				✓	✓						✓
Fancy Stones & Settings	Fancy Stones			✓	✓						✓
	Settings	✓	✓	✓			✓ ¹		✓		
Beads							✓ ¹		✓		
BeCharmed & Pavé							✓ ¹		✓		
Crystal Pearls							✓ ¹		✓		
Pendants							✓ ¹		✓		
Flat Backs No Hoflix				✓	✓						✓
Flat Backs Hoflix	XILION Rose & XIRIUS Rose					✓					
	Framed Flat Backs					✓					
	Creation Stones					✓					
	Creation Stones Plus					✓					
	Cabochon Round					✓					
Sew-on Articles							✓	✓ ²	✓		
Self-adhesive Elements					✓						
Transfers	XILION Transfers & XIRIUS Transfers					✓					
	Creation Transfers					✓					
	Creation Transfers Plus					✓					
	Pearl Transfers					✓					
	Diamond Transfers					✓					
	Metallic Transfers					✓					
	Mezzo Transfers					✓					
Synthetics Hoflix	Crystal Fabric				✓	✓					
	Crystal Rocks & Crystal Fine Rocks				✓	✓					
	Crystaltex				✓	✓	✓ ³				
Plastic Trimmings	Basic Bandings				✓		✓	✓ ⁴			
	Fishnet Bandings						✓				
	Decorative Bandings						✓				
	Plastic Components						✓ ¹		✓		
Buttons, Fasteners & Zippers	Crystal Buttons						✓		✓		
	Buttons with Plastic Shank						✓		✓		
	Snap Fasteners & Decorative Buttons									✓	
	Inset Snap Fasteners & XIRIUS Flat Back Snap Fasteners									✓	
	Jeans Buttons									✓	
	Buttons with Metal Shank						✓		✓		
	Zippers						✓				
Metal Trimmings	Chaton & Flat Back Bandings / Motifs				✓		✓				
	Spike Bandings				✓		✓ ¹				
	Rivets (Crystal Pearl, Square, Chessboard, Star, Spike)									✓	
	Roses & Chaton Montées						✓ ¹		✓		
	Rose Pins, Chessboard Pins & Rhombus Pins									✓	
	Crystal Studs									✓	
Crystal Mesh					✓	✓	✓ ⁵				
Cupchains & Findings		✓	✓				✓		✓		

1 These products are not suitable for sewing with a sewing machine 2 Art. 3129 3 Not suitable for Crystaltex Chaton Bandings 4 Art. 50 002, 50 003, and 50 004 (single-row)
5 Crystal Fine Mesh is not suitable for sewing with a sewing machine

HOTFIX APPLICATION

The Swarovski product assortment includes a wide range of Hotfix products. These can be applied simply, quickly and securely. Hotfix technology is ideal for application in the fields of textiles, interior décor and accessories.

PRODUCT OVERVIEW

The following products are suitable for Hotfix application:

HOTFIX APPLICATION
Flat Backs Hotfix
Transfers
Synthetics Hotfix
Crystal Mesh

MACHINES, TOOLS, AND AIDS

The following machines, tools, and aids are used in the Hotfix application of Swarovski crystals:



Heat press



Double heat press



Continuous fusing press



Ultrasonic device



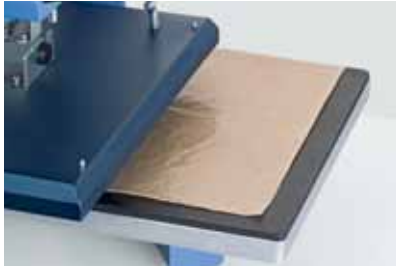
Stone setting machine



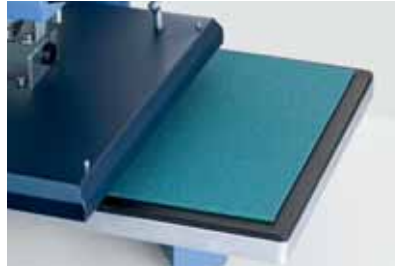
Applicator



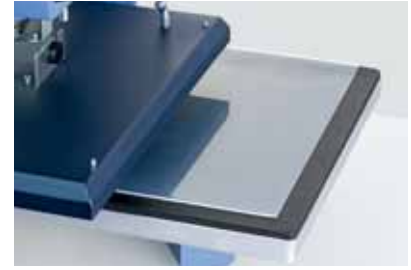
Iron



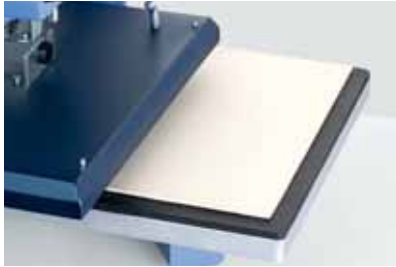
Teflon®
(art. 9010/003)



Silicone ironing pad (foam)
(art. 9010/002)



Silicone pad (aid for Diamond Transfers)
(art. 9010/005)



Felt



Standard cardboard



Standard pressing cloth



Temperature measuring strips
(art. 9010/007)



Laser temperature measuring device



Transfer film



Silicone board
(art. 9010/006)

SUPPLIERS

This list provides an overview of selected suppliers worldwide.

MACHINES / TOOLS / AIDS	SUPPLIER	CONTACT
Heat press	Bestblanks	www.bestblanks.com
	Elna SMP Singapore	www.elnasingapore.com
	Fukutomi Equipment & Supplies	www.fukutomidigital.com
	Hix Corporation	www.hixcorp.com
	Zhejiang Huangyan Garment Machinery Factory	www.ji-feng.com
	Jesse J. Heap & Son, Inc.	www.jesseheap.com
	Nagel & Hermann	www.strass.cc
	OSHIMAKK Co., Ltd.	www.oshima.com.tw
	Pro World	www.proworldinc.com
	ColDesi, Inc	www.rhinestonecamsmachines.com
	RPL Supplies, Inc.	www.rplsupplies.com
	STAHL'S Europe GmbH	www.stahls.de
	Teva	www.teva-organisation.com
Thermopress Europe	www.thermopress.de	
Double heat press	Teva	www.teva-organisation.com
	Wagner GmbH	www.wagner-transferpressen.de
Continuous fusing press	Maschinenfabrik Herbert Meyer GmbH	www.meyer-machines.com
Ultrasonic device	Ever Green Ultrasonic Co., Ltd.	www.evergreen-taiwan.com
	Zhejiang Huangyan Garment Machinery Factory	www.ji-feng.com
	Jesse J. Heap & Son, Inc.	www.jesseheap.com
	Perfecta Schmid Triopan AG	www.perfecta.ch
	Pessani s.r.l.	www.pessani.com
	ColDesi, Inc	www.rhinestonecamsmachines.com
	Shanghai Exing Industry Co., Ltd.	www.exingsh.com.cn
Teva	www.teva-organisation.com	
Stone setting machine	Dairo Machine Co.	www.dairomc.com
	Nagel & Hermann	www.strass.cc
	Pessani s.r.l.	www.pessani.com

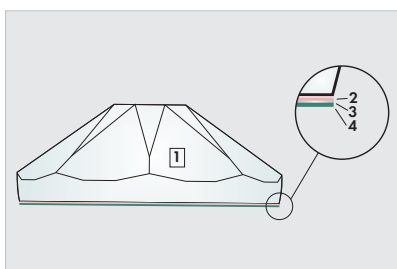
MACHINES / TOOLS / AIDS	SUPPLIER	CONTACT
Applicator	Creative Crystal® Company	www.bejeweler.com
	Donwei Machinery Industry Co., Ltd.	www.donwei.com.tw
	Dreamtime Creations	www.dreamtimecreations.com
	Hobbyring	www.hobbyring.de
	Kandi Corp.	www.kandicorp.com
	Shanghai Exing Industry Co., Ltd.	www.exingsh.com.cn
Teflon® (100x50 cm, 40x20 inches)	Swarovski: art. 9010/003	www.swarovski.com/professional
Silicone ironing pad (foam) (134x100 cm, 54x40 inches)	Swarovski: art. 9010/002	www.swarovski.com/professional
Silicone pad (aid for Diamond Transfers) (50x50x0.2 cm, 20x20x0.08 inches)	Swarovski: art. 9010/005	www.swarovski.com/professional
Temperature measuring strips	Swarovski: art. 9010/007	www.swarovski.com/professional
Silicone board (aid for designing Transfers) (50x25x0.1 cm, 20x10x0.05 inches)	Swarovski: art. 9010/006	www.swarovski.com/professional
Laser temperature measuring device	PCE Instruments	www.industrial-needs.com
Transfer film	DSO, Co., Ltd.	www.dso-co.com
	Nagel & Hermann	www.strass.cc

APPLICATION

Basic Hotfix Principles

Hotfix elements have a coating of hot-melt glue on the back, enabling swift, simple application. This glue is activated by **heat** (applied either directly or indirectly via ultrasound), and bonds with the carrier material. When cooling, the glue hardens and securely and permanently fixes the elements in place. The Swarovski Hotfix adhesive is characterized by its **wash resistance** and **easy-care** properties. The temperature, application time and pressure can be varied according to the carrier material.

Further details and information can be found in the "Care Instructions" chapter and in the Hotfix Selector table at the end of this chapter.



1 Crystal

2 A – Foiling:

A brilliant silver-based (Ag) mirror coating with a rose-colored protective layer

3 Primer:

Transparent primer improves the bonding between the Hotmelt adhesive and the A-Foiling

4 Hotmelt adhesive:

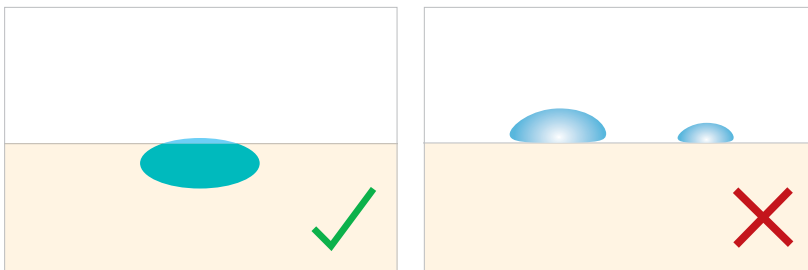
This transparent adhesive, developed by Swarovski, allows the application of the crystals on a variety of different materials

Before beginning the application process, you should always check whether the carrier material is suitable for Hotfix application. Please check the following criteria:

- Heat resistance (min. 120 °C/250 °F)
- Resistance against pressure
- Application area of the product
- Suitability of surface properties and absorbency

Checking absorbency via the water drop test

The water drop test is a quick and easy way to get an initial idea of the absorbency of the carrier material. Apply a couple of water drops onto the carrier material. If the material quickly absorbs the drops, it offers good absorbency. If the water pearls off the carrier material, or if it takes a long time to be absorbed, the material offers insufficient absorbency. This can impair the effectiveness of Hotfix application.



Good absorbency
Drops are absorbed

Insufficient absorbency
Drops pearl off

Some textiles and special finishes are **unsuitable** for Hotfix application, due to a **lack of absorbency**.

This is a list of **unsuitable** carrier materials and finishes:

- Very tightly woven textiles
- Very thin fabrics, e.g. tulle
- Smooth leather and smooth imitation leather
- Hydrophobic or water-repellent treatments (silicone, synthetic resin as a waterproofing agent)
- Teflon® coatings
- Stain-resistant treatments
- Easy-to-care treatments
- Fluorocarbon finishes
- Softening agents
- Select dyes (dyes with metal pigments)
- Enzymatic treatments

It can sometimes be helpful to wash the carrier material before application, in order to remove any unsuitable finishes (particularly softening agents), and thus improve absorbency.



Generally, the following parameters are most important when carrying out Hotfix applications of Swarovski products, depending on the consistency of the base material:

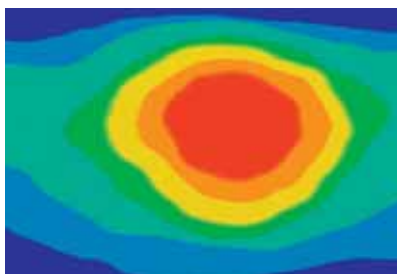
- Temperature
- Pressure
- Application time
- Application side

A detailed summary of all application parameters can be found in the Hotfix Selector table at the end of this chapter.

Temperature

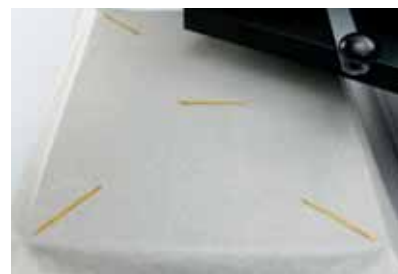
Swarovski Hotfix adhesive is activated within a temperature range of 120 °C to 170 °C (250 °F to 340 °F). A suitable application temperature can be selected from this range according to the carrier material and its sensitivity to heat. With heat presses, the temperature selected on the display does not always reflect the actual temperature on the surface of the press. Often, the temperature can be distributed unevenly, or one heat plate may be defective.

It is therefore recommended to regularly check the temperature with a laser measuring device or temperature measuring strips at various points on the heating surface, to ensure the temperature is distributed evenly across it. Checks should be carried out regularly (once per week), particularly during production.



■ = 120 °C (250 °F)
■ = 100 °C (212 °F)

Uneven heat distribution in the central area of the heat press



Test with temperature measuring strips (art. 9010/007)

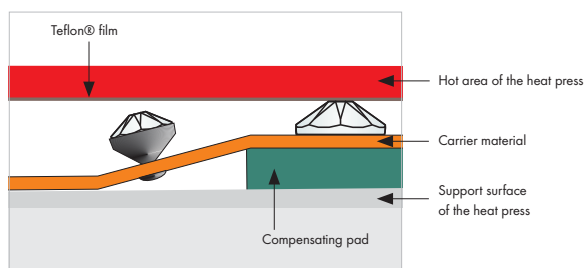
Pressure

The pressure setting depends on the Hotfix elements to be applied, the carrier material, and the technical equipment (machines, etc.) available.

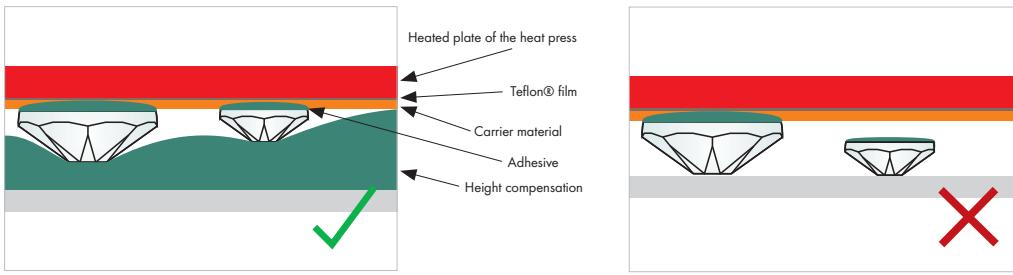
Too much pressure can cause the adhesive to be spread out and can also affect the surface of the carrier material. Too little pressure, however, can result in a weak and insufficient bond between the crystal and the carrier material. In general, the pressure should be applied **directly to the crystal product** (e.g. Flat Backs Hotfix, Transfers, Crystal Mesh). It is therefore necessary to check if there are any buttons, zippers or other raised parts surrounding them. Always use a **compensating pad** to even out the surface.



Jeans pocket



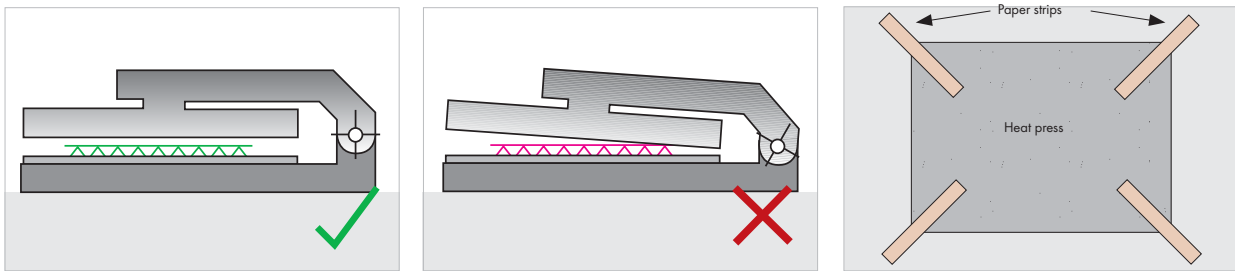
When applying Swarovski crystals of different heights, a **compensating pad** should always be used. Silicone foam, foam rubber or felt can be used here.



Height compensation with different Hotfix elements

THE PARALLEL PLANE OF THE HEAT PRESS

Take great care to apply pressure evenly when using a heat press with a scissor mechanism. The upper plate of the heat press must be completely horizontal in order to effectively and evenly distribute pressure and temperature. ?!



Checks should always be carried out to make sure the plates are parallel. This can be done by placing paper test strips into the press and closing it with the least possible pressure. After this, if it takes the same force to pull out each strip, the plates are parallel.

Application time

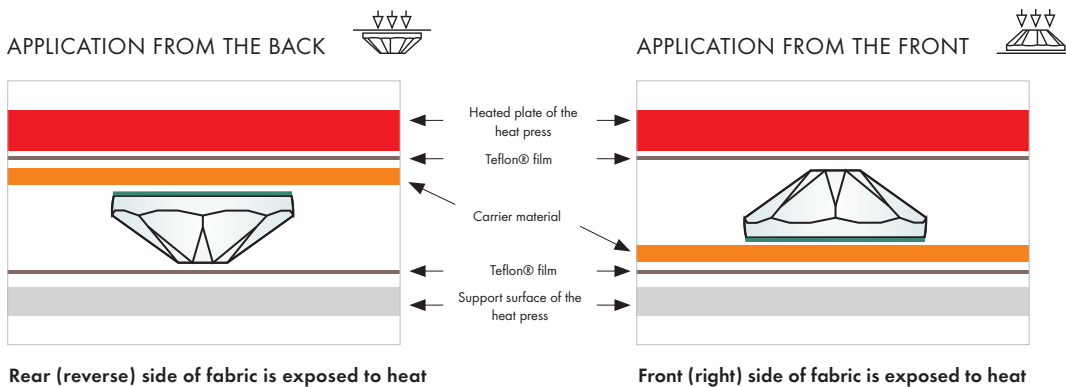
In general, the application time should be sufficient to allow the hot-melt glue to be fully activated, and then to penetrate the carrier material.

The application time necessarily depends on the Hotfix elements, the temperature selected, the machine used, the carrier material and the application side.

A detailed summary can be found in the Hotfix Selector table at the end of this chapter. Please note that the times stated are intended as a guideline. When adapting them to your application, it is recommended to carry out tests on the original material.

Application side

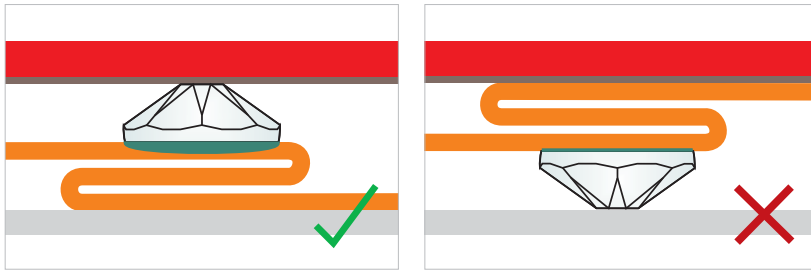
Hotfix elements can usually be applied from the front and the back. A shorter application time can be achieved with thinner fabrics by applying crystals from the back, as the heat reaches the adhesive through the carrier material faster, activating it immediately. ?!



Rear (reverse) side of fabric is exposed to heat

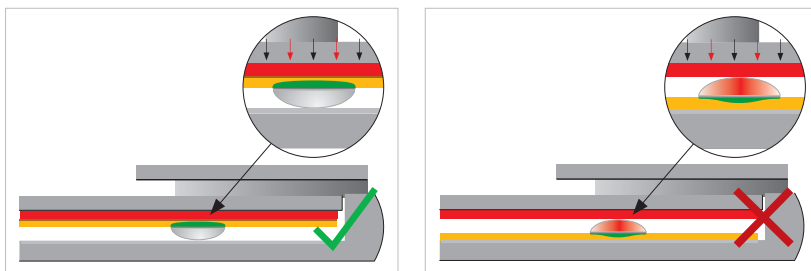
Front (right) side of fabric is exposed to heat

When applying Hotfix products on **thick or multi-layered** fabrics (such as seams) the application side selected should be the one that allows the heat to be transferred to the hot-melt adhesive quickest. This ensures fast, optimum activation.



Selecting the optimum application side

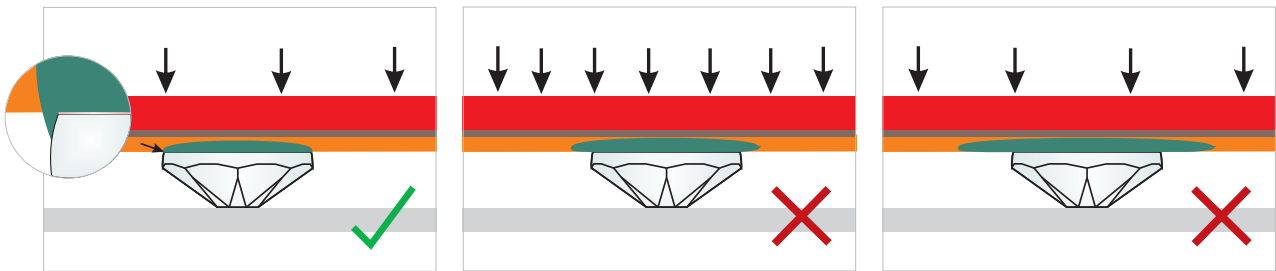
Note that the shape and size (causing irregular temperature penetration) of many items (e.g. Crystal Pearls, Cabochons, Creation Stones Plus) will only allow an application **from the back**. Further information can be found in the Hotfix Selector table at the end of this chapter.



Certain Swarovski products can only be applied from the back.

Defining the optimum application parameters

Adhesive has been successfully activated when, using a magnifying glass, it is possible to see a thin edge of glue formed around the crystal. On thin fabrics, the optimum application parameters are chosen when the glue will have lightly penetrated through the fabric and is lightly visible at the reverse.



Optimum application result

Huge excess of glue – too much pressure exerted with heat press

Huge excess of glue – heat press temperature too high, or applied too long

When parameters have been incorrectly selected, such as an extreme application temperature, pressure, or application time, significant amounts of glue can spread out.

When the application temperature or pressure is too low, or the application time too short, the adhesive cannot be sufficiently activated, leading to problems with adhesion.

Application using a heat press

A heat press is the ideal tool for applying Hotfix products as it can be used to apply even, adjustable pressure. All Swarovski products mentioned in the product overview can be applied using the following steps. Please also note the helpful hints concerning the application of Crystal Mesh and Diamond Transfers.

To adjust the application parameters and the aids to achieve an ideal balance, it is strongly recommended that tests are carried out with the original material.



1 Peel off the white protective film*.



2 Place the product in the desired position.



3 Make sure to apply the elements from the recommended side and use the correct pressing aid. To protect the heating surfaces from any glue residue, it is best to cover them with Teflon® film.



4 After pressure, time and temperature are set, close the heat press.



5 After the application is finished, use a pressing cloth to apply additional pressure to the product.



6 Once the product is at least hand warm, the transparent film can be removed at an acute angle.

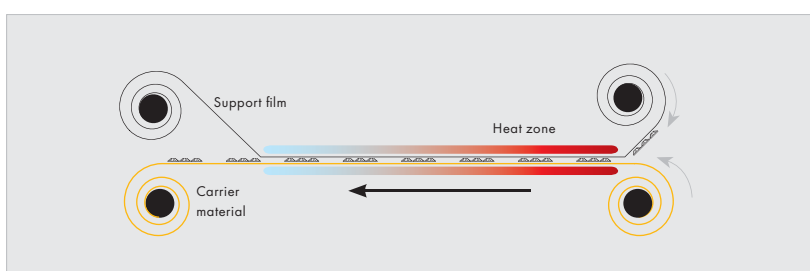
* If the adhesion is insufficient after the application process, the whole process can be repeated, adjusting the parameters (such as pressure, time, and temperature). Please ensure that the application process is repeated from the very beginning, and that the initial application time is combined with the additional time.

For example: An application time of 10 seconds was not sufficient. Pressure should not just be applied for a further 5 seconds – the process must be repeated in its entirety, with an application time of 15 seconds.



Application using a continuous fusing press

Transfers and other Hotfix Banding variants can be applied using a continuous fusing press. This type of application offers a simple, efficient way of joining the carrier material and the Hotfix product as part of a continuous application process.



Continuous fusing press operation

With most continuous fusing presses, heat is generated on both sides. The speed of the press, pressure and temperature should be selected to ensure that the time in the heat zone corresponds to the figures in the Hotfix Selector table (see the end of this chapter). This time can be calculated using the length of the heat zone and the speed selected.

Application using an ultrasonic device

Art. 2078 XIRIUS Flat Back Hotfix (SS 12 – SS 34), art. 2038 XILION Flat Back Hotfix (SS 6 – SS 10) and some Creation Stones (e.g. Rivoli cuts art. 2716, 2816, 2826) can quickly and easily be applied using an ultrasonic device. In this process, the hot-melt adhesive is activated via **friction heat**, created through the quick vibrations and simultaneous pressing down of the Flat Backs onto the carrier material.

A device with a vacuum pump is best for correctly positioning the crystals. Alternatively, they can also be positioned using transfer film or tweezers, and then applied via ultrasonic.

The frequency of the ultrasonic device must be precisely set according to the manufacturer's instructions. Some manufacturers also offer devices with automatic frequency setting. The application time is then selected according to pretests.



1 Choose an adapter to match the size of the crystal.



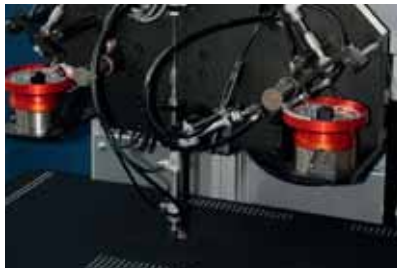
2 Position the crystal on the carrier material, which should be resting on a solid base (e.g. glass, metal).



3 Press the adapter firmly onto the crystal at a perpendicular angle and activate the device.

Application using a stone setting machine

Hotfix crystals can be secured with a stone setting machine using either ultrasonic or heat. The feed and application of the crystals is either fully or semi-automatic.



Stone setting machine

Application using an applicator

Applicators are a cost-effective way to apply art. 2078 XIRIUS Flat Back Hotfix (SS 12 – SS 34) and art. 2038 XILION Flat Back Hotfix (SS 6 – SS 10) onto the carrier material.



1 Choose an applicator point to match the size of the crystal, so that the crystal cannot tilt out of place or use a plain applicator point.



2 Heat the applicator to a suitable temperature and pick up the crystal.



3 As soon as the Hotfix adhesive on the rear of the crystal has melted, position the element on the carrier material, which should be resting on a solid base (e.g. glass, metal).

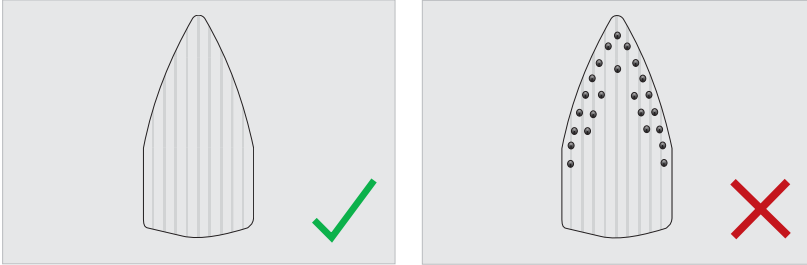
Note: Heat sensitive fabrics can be damaged by high temperatures of the applicator point.



Application using an iron

In general, an iron can be used for the application of all Hotfix elements. However, as pressure and temperature can only be controlled to a **limited extent**, the use of a heat press is recommended.

Always make sure that there are no **steam vents** on the soleplate of the iron. Pressure cannot be applied at these vents, and water droplets and steam have a negative effect on the application results. Always iron on a firm, flat, and even base.



EXPLANATION OF DOT SYSTEM ACCORDING TO DIN EN ISO 3758

- Soleplate temperature 110 °C (230 °F)
- Soleplate temperature 150 °C (302 °F)
- Soleplate temperature 200 °C (392 °F)



1 Select symbol •• (max. 150 °C/302 °F).



2 Use felt or cardboard to prevent the crystal elements from marking the fabric.



3 A Teflon® underlay protects the soleplate of the iron from any glue residue.



Hot-melt adhesive generally requires 24 hours to cure completely. Any washing or quality assurance should take place after this period.

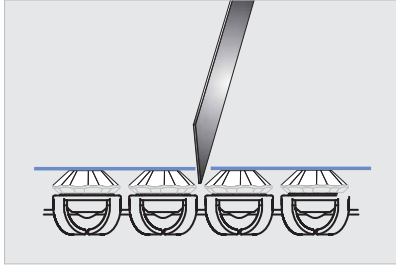
USEFUL INFORMATION

Pre-cut fabric

Experience has shown that the best results are obtained with applications on pre-cut fabric. In order to obtain optimum adjustment of all application parameters, advance testing on the materials to be used is strongly recommended before production begins.

Cutting Crystal Mesh

Before Hotfix application, the transparent film must not be removed. The film allows the individual crystals to be aligned perfectly, and provides Crystal Mesh with the stability necessary for flawless application.



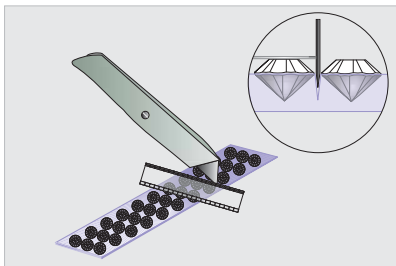
1 Cut between the rows of crystals with a Stanley knife, but do not pull them apart, otherwise the stability of the crystals will be lost.



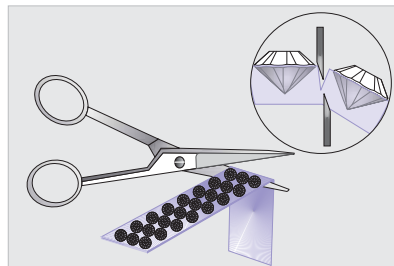
2 Cut the metal mesh with scissors along the scored line, and remove the excess link rings. The Crystal Mesh is now ready for Hotfix application.

Cutting Crystaltex Chaton Bandings and Cabochon Bandings

When working with Crystaltex Chaton Bandings and Cabochon Bandings, the lack of space between crystals means great care must be taken during cutting, so as to avoid any damage.



1 Cut into the carrier material between the crystal rows with a Stanley knife.

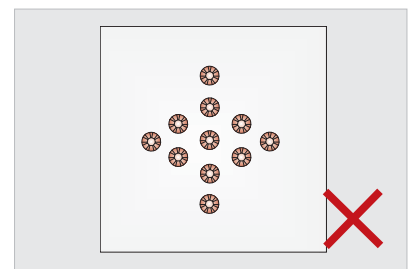
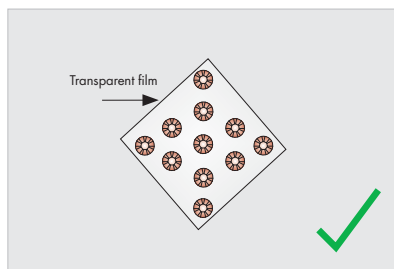


2 Snap and cut off the Crystaltex Chaton Banding and Cabochon Banding along the scored edge.

Avoiding film marks

Undesired film marks on sensitive fabrics can be avoided by cutting the transparent film close **to the edge of the motif**. Apply the product for a short time, using a small amount of pressure. Then remove the transparent film and press again following the recommended time and pressure settings.

?!



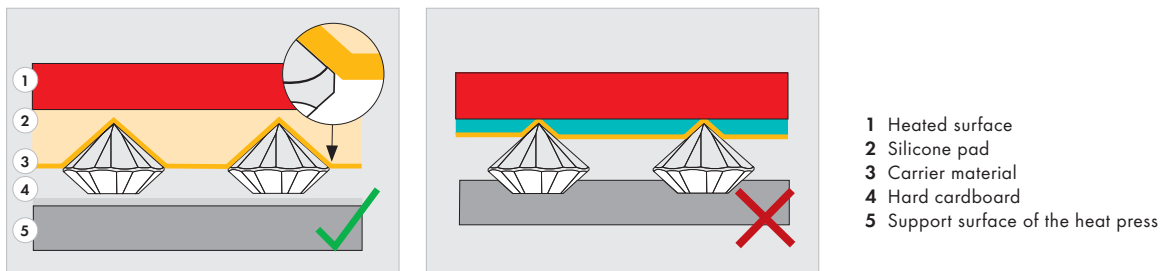
If the film has already left marks, the surface structure of the carrier material can usually be restored by brushing, using a steam iron or by re-pressing it in the heat press.

Hotfix application on other materials

The Hotfix glue was specially developed for use with textiles. However, experience shows that Hotfix applications can also be carried out on other materials such as wood, paper or metal. In such cases it is very important to carry out application tests beforehand, and to check the surface properties (see surface tension in the "Gluing" chapter).

Application instructions for Diamond Transfers

When applying Diamond Transfers (Transfers with high-brilliance Chatons: art. 1028 XILION Chaton for sizes PP 7 and PP 12, art. 1088 XIRIUS Chaton for PP 17), a **soft, compensating underlay** (e.g. Silicone pad art. 9010/005) should always be used. This soft pad encloses the crystal points, and allows the optimum distribution of pressure, thus improving the bond between the carrier material and the Diamonds (adhesion right up to the girdle). Cardboard prevents the crystals from sinking into the soft support surface of the heat press, and ensures the proper application of pressure.

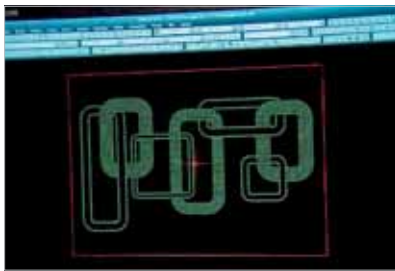


A soft silicone pad offers optimum distribution of pressure and allows adhesion right up to the girdle.

Without a pressure compensator, adhesion only occurs at the contact points with the heated plate.

Diamond Transfers on solid materials

To apply Diamond Transfers on solid, wooden-based surfaces carry out the following instructions:



1 To program the CNC milling machine with the requested Diamond motif the individual .dxf file is required. Contact your Swarovski sales office to request this file.



2 Mill the cavities using a special 90° mill with a diameter that corresponds to the selected element. Clean the surface carefully using oil-free compressed air afterwards.



3 For an easier removal of the transfer film after the application, apply a small transfer foil on the edge of the carrier material.



4 Peel off the Diamond Transfer's white protective film and place the Diamond Transfer in the desired position on the carrier material. The transfer film is lying on the small transfer foils, too.



5 Carefully clean the contact surfaces of the heat press while turned off. Position the carrier material in the heat press and set the application parameters. Make sure that the right application aids are used.



6 After the application is finished, use a pressing cloth or a heat resistant glove to apply additional pressure.



7 Once the product has cooled down completely, the transparent film can be removed at an acute angle with help of the applied transfer foil.

We do not recommend the application of Diamond Transfer on following fields of application:

- In baths and wellness areas, due to high temperature and moisture
- In contact with sweat, chlorine and other aggressive cleaning agents
- Outdoors

For further information visit SWAROVSKI.COM/PROFESSIONAL

CAVITY PRODUCTION/TYPES

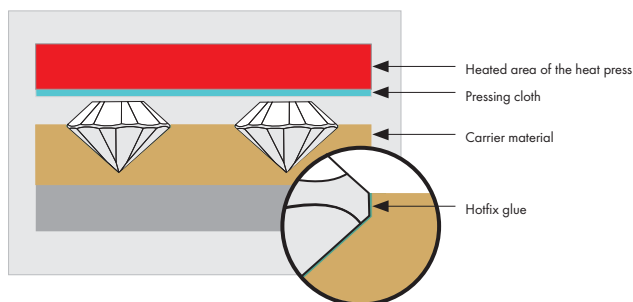
Specific cavities need to be created when applying Diamond Transfers onto a carrier material with a solid surface. The cavity enables the Transfer to be easily positioned and ensures a higher protection of the crystal against mechanical and chemical stress. These cavities can be produced by milling (e.g. with CNC machines). The individual .dxf file which is needed to program the machine includes position information (centre point of each diamond). It can be read by standard CNC machines.

For detailed information and instructions about cavity production/types please refer to the “Gluing” chapter.

ART. 1360	CAVITY ANGLE	ADDITIONAL COUNTERSINK	TWIST/NC DRILL 90° DIAMETER
PP 7	90°	0.10 mm	1.5 mm
PP 12			2.0 mm
PP 17			2.5 mm

HOTFIX APPLICATION OF DIFFERENT STONE SIZES

A Hotfix application of one motif with different stone sizes is not possible in only one application step. In this case the specific design must be divided into separate motifs, which in turn must be applied separately, starting with the Diamond Transfers that feature the smallest stone.



QUICK ASSISTANCE

The following table outlines common problems and their causes when applying Hotfix elements, and offers advice on how to avoid them. Further details and more extensive descriptions can be found in the section marked with a **?!**

PROBLEM	CAUSE
The product does not adhere to the fabric.	1, 2, 3, 4, 5, 6
Glue is oozing out around the crystals.	7, 8, 9, 10
The support film leaves marks on delicate fabrics.	7, 8, 9, 10, 11, 12
The product does not adhere to seams or multi-layered fabric.	1, 2, 3, 4, 5, 6, 13

CAUSE	RECOMMENDATION
1 The application temperature is too low.	Increase the temperature to at least 120 °C (250 °F). See the Hotfix Selector table for further assistance.
2 Uneven distribution of heat on the heated surface.	Check the temperature with a temperature measuring strip or a laser measuring device, and set up the heat press again.
3 The application time is too short.	Increase application time; it takes longer for the heat to activate the Hotfix glue on layered fabric and seams; if necessary apply from the front. See the Hotfix Selector table for further assistance.
4 The pressure is too low.	Thick fabrics and certain products need higher pressure. See the Hotfix Selector table for further assistance.
5 The heat press does not close evenly.	Adjust the heat press.
6 The ironing pad is unsuitable.	Carry out tests with different ironing pads to establish the most suitable.
7 The temperature is too high.	Choose a lower temperature, between 120 °C and 170 °C (250 °F - 340 °F). See the Hotfix Selector table for further assistance.
8 The application time is too long.	Reduce the application time. See the Hotfix Selector table for further assistance.
9 The pressure is too high.	Reduce the pressure on the heat press. See the Hotfix Selector table for further assistance.
10 The ironing pad is too hard.	Use a soft silicone pad.
11 The fabric is extremely sensitive.	Iron the fabric with a steam iron.
12 The transparent support film leaves marks.	Cut away more of the film, closer to the edge of the motif, to reduce marking.
13 Hotfix elements are not being affected by the heat plate.	Balance out the different thicknesses of seams, buttons, zippers etc. by using pieces of felt, which have been cut to exactly the right size and placed under the Hotfix element.

SWAROVSKI HOTFIX SELECTOR

The Hotfix Selector table contains information on the application parameters









- temperature
- pressure
- application time
- application side

for various Swarovski products and material combinations. The figures given are for Hotfix application using a heat press.

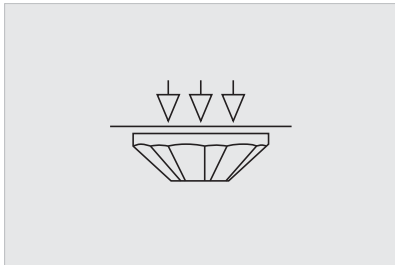
Note: The temperature/time combinations in the Hotfix Selector table are only guidelines. Please note that too high temperature or too long application times might decrease the final bonding. Pressure cannot be specified more exactly, as this depends on the setting options of the press closure system (manual, pneumatic, hydraulic or electromagnetic). In all cases, tests should be carried out from the start of production, to ensure the ideal combination of settings for the design. The figures listed are valid until further notice.

PRODUCT	DESCRIPTION	TYPE OF SELECTOR	
Transfers	XIRIUS Transfers	Transfers with XIRIUS Flat Backs Hotfix (art. 2078)	Hotfix Selector 1, page 103
	XILION Transfers	Transfers with XILION Flat Backs Hotfix (art. 2038)	Hotfix Selector 1, page 103
	Creation Transfers	Transfers combined with Creation Stones (e.g. art. 2200, 2300) or (Pearl) Cabochons (2080/4). Stone size: max. 8 mm	Hotfix Selector 2, page 103
	Creation Transfers Plus	Transfers combined with Creation Stones Plus (e.g. art. 2493, 2555). Stone size >8 mm	Hotfix Selector 3, page 104
	Pearl Transfers	Transfers with Pearls	Hotfix Selector 2, page 103
	Diamond Transfers	Transfers with Diamonds (stone size: PP 7/12/17)	Hotfix Selector 4, page 104*
	Metallic Transfers	Transfers with Metallics	Hotfix Selector 2, page 103
	Mezzo Transfers	Metallic Transfers combined with XILION and XIRIUS Flat Backs, Pearls or Creation Stones	Hotfix Selector 2, page 103
	Framed Flat Back Transfers	Transfers with Framed Flat Backs	Hotfix Selector 11, page 108
Synthetics Hotfix	Crystal Fabric, Graphic Fabric and Crystal Medley	Carrier material is completely covered with tiny cut and uncut crystals	Hotfix Selector 5, page 105
	Crystal Rocks and Graphic Rocks	Carrier material is covered with large double-pointed Chatons (stone size: PP 22)	Hotfix Selector 7, page 106
	Crystal Fine Rocks and Graphic Fine Rocks	Carrier material is covered with small double-pointed Chatons (stone size: PP 14)	Hotfix Selector 8, page 106
	Crystaltex	Differently colored carrier material with XILION Flat Backs	Hotfix Selector 6, page 105
	Crystaltex Chaton	Small XILION Chatons laid on a transparent base material	Hotfix Selector 5, page 105
	Crystaltex Cabochon	Carrier material is covered with Cabochons	Hotfix Selector 5, page 105
Crystal Mesh	Crystal Mesh Standard	Flexible metal mesh carrier with integrated loose crystals (stone size: PP 21)	Hotfix Selector 9, page 107
	Crystal Mesh XL	Flexible metal mesh carrier with integrated loose crystals (stone size: SS 24)	Hotfix Selector 10, page 107
	Crystal Mesh Metallisée	Flexible metal mesh carrier with integrated loose crystals and metallic parts (stone size: PP 21)	Hotfix Selector 9, page 107
	Crystal Aerial Mesh	Flexible metal mesh carrier with integrated loose crystals (stone size: PP 14)	Hotfix Selector 9, page 107
	Crystal Fine Mesh	Flexible metal mesh carrier with integrated loose crystals (stone size: PP 9)	Hotfix Selector 9, page 107

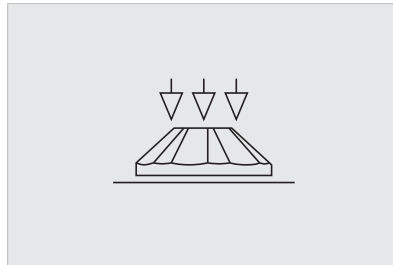
* For application on textiles and on solid materials.

FABRIC CATEGORY	FABRIC EXAMPLE	MATERIAL	WEIGHT
Reference fabric	 Cotton/polyester blend	65% cotton, 35% polyester	190 g/m ²
Natural fibers	 Batiste, Vichy fabric, cotton jersey, interlock, linen fabrics, etc.	Cotton, linen	100 - 200 g/m ²
	 Silk fabrics, toile, etc.	Silk	100 - 200 g/m ²
	 Jeans, denim, cord, velvet, damask, gabardine, sweatshirt fabrics, etc.	Cotton	300 - 400 g/m ²
	 Cloth, tweed, bouclé, loden, boiled wool, felt, knitted fabrics, etc.	Wool	300 - 400 g/m ²
Cellulose and synthetic fibers	 Viscose, satin, organza, chiffon, taffeta, tulle, lace, etc.	Viscose, acetate, triacetate, polyester, polyamide, polyacrylics and various fiber blends	20 - 120 g/m ²
	 LYCRA®, neoprene, etc.		150 - 250 g/m ²
Pile fabrics	 Artificial leather, alcantara, suede, fleece, artificial fur, plush, toweling, etc.	Cottons, various fiber blends	200 - 350 g/m ²

As most Swarovski products can be applied from the front or back, the Hotfix Selector table features the application parameters for both sides. Extensive information on optimum application, depending on the production process and the application type (e.g. on trouser pockets), is available.



Back: The back (reverse) of the fabric is exposed to the heat press.



Front: The front (right side) of the fabric is exposed to the heat press.

The temperature settings selected depend on the heat resistance of the carrier material, and should be judged by the customer. The higher the temperature, the less time is required to activate the Hotfix adhesive (see table/chart). The application time depends primarily on the textile used and its thickness.

Aids

- Teflon® (100x50 cm, 40x20 inches, art. 9010/003)
- Silicone ironing pad (foam) (134x100 cm, 54x40 inches, art. 9010/002)
- Silicone pad (50x50x0.2 cm, 20x20x0.08 inches, art. 9010/005)
- Felt
- Standard pressing cloth (cotton)
- Standard cardboard
- Transfer film (www.dso-co.com, www.strass.cc)

HOTFIX SELECTOR 1

XILION TRANSFERS/XIRIUS TRANSFERS

APPLICATION FROM THE FRONT



	Temperature/time required (in seconds)					
	120 °C	130 °C	140 °C	150 °C	160 °C	170 °C
	250 °F	265 °F	285 °F	300 °F	320 °F	340 °F

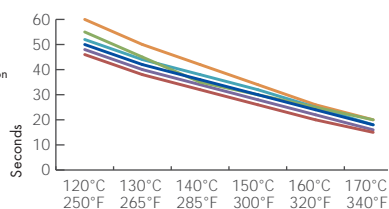
Reference fabric	50	42	36	30	24	18
Silk, batiste, cotton jersey, thin linen fabrics, etc.	46	38	32	26	20	15
Jeans, cord, loden, cloth, knitted fabrics, etc.	55	45	35	30	25	20
Viscose, satin, chiffon, organza, taffeta, etc.	48	40	34	28	22	16
LYCRA®, neoprene, etc.	52	44	38	32	25	18
Artificial fur, artificial leather, fleece, suede, etc.	60	50	42	34	26	20

Pressure: low

Aids: Teflon®, pressing cloth, silicone foam

Note: The application time depends primarily on the size of the crystal.

To offer an average, figures are given for crystal size SS 20 (art. 2078).



APPLICATION FROM THE BACK



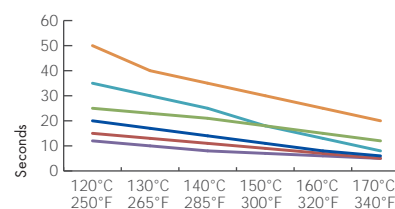
	Temperature/time required (in seconds)					
	120 °C	130 °C	140 °C	150 °C	160 °C	170 °C
	250 °F	265 °F	285 °F	300 °F	320 °F	340 °F

Reference fabric	20	17	14	11	8	6
Silk, batiste, cotton jersey, thin linen fabrics, etc.	15	13	11	9	7	5
Jeans, cord, loden, cloth, knitted fabrics, etc.	25	23	21	18	15	12
Viscose, satin, chiffon, organza, taffeta, etc.	12	10	8	7	6	5
LYCRA®, neoprene, etc.	35	30	25	18	13	8
Artificial fur, artificial leather, fleece, suede, etc.	50	40	35	30	25	20

Pressure: low

Aids: Teflon®, pressing cloth, silicone foam

Note: XIRIUS Transfers with size SS 40 and SS 48 should be applied like Creation Stones Plus (page 102)



HOTFIX SELECTOR 2

CREATION TRANSFERS, PEARL TRANSFERS, METALLIC TRANSFERS & MEZZO TRANSFERS

Pearl Transfers are **NOT** suitable for application from the front!

APPLICATION FROM THE FRONT



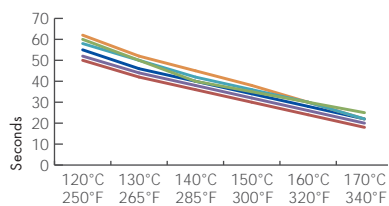
	Temperature/time required (in seconds)					
	120 °C	130 °C	140 °C	150 °C	160 °C	170 °C
	250 °F	265 °F	285 °F	300 °F	320 °F	340 °F

Reference fabric	55	46	40	34	28	22
Silk, batiste, cotton jersey, thin linen fabrics, etc.	50	42	36	30	24	18
Jeans, cord, loden, cloth, knitted fabrics, etc.	60	50	40	35	30	25
Viscose, satin, chiffon, organza, taffeta, etc.	52	44	38	32	26	20
LYCRA®, neoprene, etc.	58	50	42	36	30	22
Artificial fur, artificial leather, fleece, suede, etc.	62	52	45	38	30	22

Pressure: medium

Aids: Teflon®, pressing cloth, silicone foam

Note: The application time depends primarily on the largest element in the motif.



APPLICATION FROM THE BACK

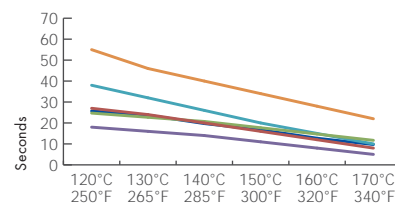


	Temperature/time required (in seconds)					
	120 °C	130 °C	140 °C	150 °C	160 °C	170 °C
	250 °F	265 °F	285 °F	300 °F	320 °F	340 °F

Reference fabric	25	23	19	16	12	9
Silk, batiste, cotton jersey, thin linen fabrics, etc.	27	24	20	16	12	8
Jeans, cord, loden, cloth, knitted fabrics, etc.	25	23	21	18	15	12
Viscose, satin, chiffon, organza, taffeta, etc.	18	16	14	11	8	5
LYCRA®, neoprene, etc.	38	32	26	20	15	10
Artificial fur, artificial leather, fleece, suede, etc.	55	46	40	34	28	22

Pressure: medium

Aids: Teflon®, pressing cloth, silicone foam



HOTFIX SELECTOR 3

CREATION TRANSFERS PLUS

These items are **NOT** suitable for application from the front!

APPLICATION FROM THE FRONT



APPLICATION FROM THE BACK

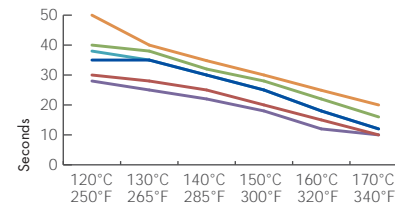


Temperature/time required (in seconds)
 120 °C 130 °C 140 °C 150 °C 160 °C 170 °C
 250 °F 265 °F 285 °F 300 °F 320 °F 340 °F

Reference fabric	35	35	30	25	18	12
Silk, batiste, cotton jersey, thin linen fabrics, etc.	30	28	25	20	15	10
Jeans, cord, loden, cloth, knitted fabrics, etc.	40	38	32	28	22	16
Viscose, satin, chiffon, organza, taffeta, etc.	28	25	22	18	12	10
LYCRA®, neoprene, etc.	38	35	30	25	18	12
Artificial fur, artificial leather, fleece, suede, etc.	50	40	35	30	25	20

Pressure: medium

Aids: Teflon®, pressing cloth



HOTFIX SELECTOR 4

DIAMOND TRANSFERS

APPLICATION FROM THE FRONT



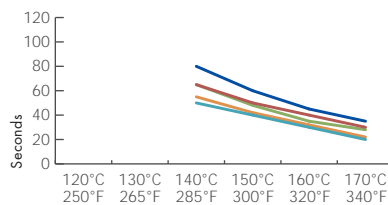
Temperature/time required (in seconds)
 110 °C 120 °C 130 °C 140 °C 150 °C 160 °C 170 °C
 230 °F 250 °F 265 °F 285 °F 300 °F 320 °F 340 °F

Reference fabric	-	-	-	80	60	45	35
Silk, batiste, cotton jersey, thin linen fabrics, etc.	-	-	-	65	50	40	30
Jeans, cord, loden, cloth, knitted fabrics, etc.	-	-	-	65	48	35	28
Viscose, satin, chiffon, organza, taffeta, etc.	-	-	-	-	-	-	-
LYCRA®, neoprene, etc.	-	-	-	50	40	30	20
Artificial fur, artificial leather, fleece, suede, etc.	-	-	-	55	42	32	22
Medium density fiberboard (MDF)	120	-	-	-	-	-	-
Veneered wood fiberboard	120	-	-	-	-	-	-
Laminated wood fiberboard (HPL)	120	-	-	-	-	-	-
Solid hardwood	120	-	-	-	-	-	-

Pressure: high

Aids: Teflon®, pressing cloth, cardboard, preheated silicone pad

Note: Diamond Transfers are best suited to soft, voluminous fabrics.



APPLICATION FROM THE BACK



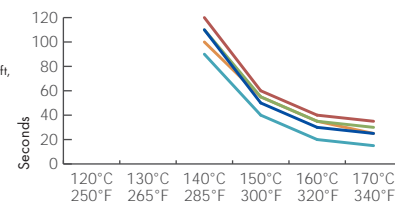
Temperature/time required (in seconds)
 120 °C 130 °C 140 °C 150 °C 160 °C 170 °C
 250 °F 265 °F 285 °F 300 °F 320 °F 340 °F

Reference fabric	-	-	110	50	30	25
Silk, batiste, cotton jersey, thin linen fabrics, etc.	-	-	120	60	40	35
Jeans, cord, loden, cloth, knitted fabrics, etc.	-	-	110	55	35	30
Viscose, satin, chiffon, organza, taffeta, etc.	-	-	-	-	-	-
LYCRA®, neoprene, etc.	-	-	90	40	20	15
Artificial fur, artificial leather, fleece, suede, etc.	-	-	100	55	35	25

Pressure: high

Aids: Teflon®, pressing cloth, cardboard, preheated silicone pad

Note: Diamond Transfers are best suited to soft, voluminous fabrics.



HOTFIX SELECTOR 5

**CRYSTAL FABRIC, GRAPHIC FABRIC, CRYSTAL MEDLEY,
CRYSTALTEX CHATON & CRYSTALTEX CABOCHON***

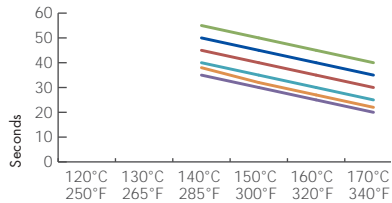
APPLICATION FROM THE FRONT



Temperature/time required (in seconds)
 120 °C 130 °C 140 °C 150 °C 160 °C 170 °C
 250 °F 265 °F 285 °F 300 °F 320 °F 340 °F

Reference fabric	-	-	50	45	40	35
Silk, batiste, cotton jersey, thin linen fabrics, etc.	-	-	45	40	35	30
Jeans, cord, loden, cloth, knitted fabrics, etc.	-	-	55	50	45	40
Viscose, satin, chiffon, organza, taffeta, etc.	-	-	35	30	25	20
LYCRA®, neoprene, etc.	-	-	40	35	30	25
Artificial fur, artificial leather, fleece, suede, etc.	-	-	38	32	27	22

Pressure: medium
 Aids: Teflon®, pressing cloth



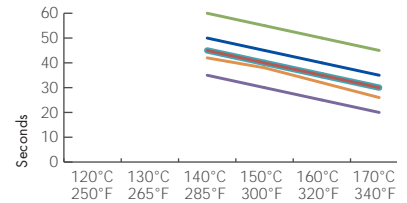
APPLICATION FROM THE BACK



Temperature/time required (in seconds)
 120 °C 130 °C 140 °C 150 °C 160 °C 170 °C
 250 °F 265 °F 285 °F 300 °F 320 °F 340 °F

Reference fabric	-	-	50	45	40	35
Silk, batiste, cotton jersey, thin linen fabrics, etc.	-	-	45	40	35	30
Jeans, cord, loden, cloth, knitted fabrics, etc.	-	-	60	55	50	45
Viscose, satin, chiffon, organza, taffeta, etc.	-	-	35	30	25	20
LYCRA®, neoprene, etc.	-	-	45	40	35	30
Artificial fur, artificial leather, fleece, suede, etc.	-	-	42	38	32	26

Pressure: medium
 Aids: Teflon®, pressing cloth



HOTFIX SELECTOR 6

CRYSTALTEX

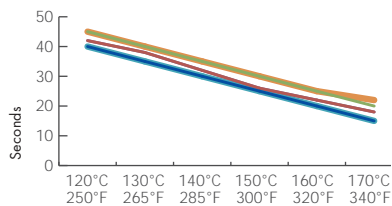
APPLICATION FROM THE FRONT



Temperature/time required (in seconds)
 120 °C 130 °C 140 °C 150 °C 160 °C 170 °C
 250 °F 265 °F 285 °F 300 °F 320 °F 340 °F

Reference fabric	40	35	30	25	20	15
Silk, batiste, cotton jersey, thin linen fabrics, etc.	42	38	32	26	22	18
Jeans, cord, loden, cloth, knitted fabrics, etc.	45	40	35	30	25	20
Viscose, satin, chiffon, organza, taffeta, etc.	42	38	32	26	22	18
LYCRA®, neoprene, etc.	40	35	30	25	20	15
Artificial fur, artificial leather, fleece, suede, etc.	45	40	35	30	25	22

Pressure: medium
 Aids: Teflon®, pressing cloth



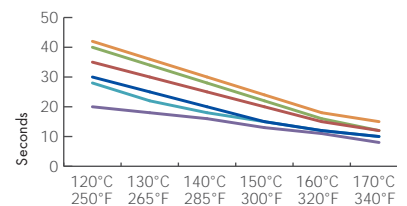
APPLICATION FROM THE BACK



Temperature/time required (in seconds)
 120 °C 130 °C 140 °C 150 °C 160 °C 170 °C
 250 °F 265 °F 285 °F 300 °F 320 °F 340 °F

Reference fabric	30	25	20	15	12	10
Silk, batiste, cotton jersey, thin linen fabrics, etc.	35	30	25	20	15	12
Jeans, cord, loden, cloth, knitted fabrics, etc.	40	34	28	22	16	12
Viscose, satin, chiffon, organza, taffeta, etc.	20	18	16	13	11	8
LYCRA®, neoprene, etc.	28	22	18	15	12	10
Artificial fur, artificial leather, fleece, suede, etc.	42	36	30	24	18	15

Pressure: medium
 Aids: Teflon®, pressing cloth



* Due to the crystals' lacquer it is recommended applying Crystaltex Cabochons from the back. If applying them from front side, make sure to protect the crystals by using a felt or a rubber foam.

HOTFIX SELECTOR 7

CRYSTAL ROCKS, GRAPHIC ROCKS

APPLICATION FROM THE FRONT

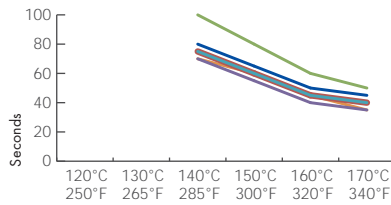


	Temperature/time required (in seconds)					
	120 °C	130 °C	140 °C	150 °C	160 °C	170 °C
	250 °F	265 °F	285 °F	300 °F	320 °F	340 °F

Reference fabric	-	-	80	65	50	45
Silk, batiste, cotton jersey, thin linen fabrics, etc.	-	-	75	60	45	40
Jeans, cord, loden, cloth, knitted fabrics, etc.	-	-	100	80	60	50
Viscose, satin, chiffon, organza, taffeta, etc.	-	-	70	55	40	35
LYCRA®, neoprene, etc.	-	-	75	60	45	40
Artificial fur, artificial leather, fleece, suede, etc.	-	-	70	60	45	35

Pressure: medium

Aids: Teflon®, pressing cloth



APPLICATION FROM THE BACK

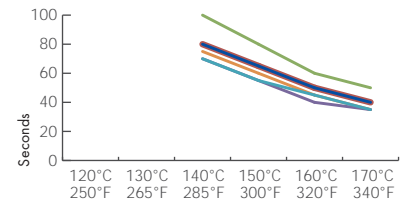


	Temperature/time required (in seconds)					
	120 °C	130 °C	140 °C	150 °C	160 °C	170 °C
	250 °F	265 °F	285 °F	300 °F	320 °F	340 °F

Reference fabric	-	-	80	65	50	40
Silk, batiste, cotton jersey, thin linen fabrics, etc.	-	-	70	55	45	35
Jeans, cord, loden, cloth, knitted fabrics, etc.	-	-	100	80	60	50
Viscose, satin, chiffon, organza, taffeta, etc.	-	-	70	55	40	35
LYCRA®, neoprene, etc.	-	-	80	65	50	40
Artificial fur, artificial leather, fleece, suede, etc.	-	-	75	60	45	35

Pressure: medium

Aids: Teflon®, pressing cloth



HOTFIX SELECTOR 8

CRYSTAL FINE ROCKS, GRAPHIC FINE ROCKS

APPLICATION FROM THE FRONT

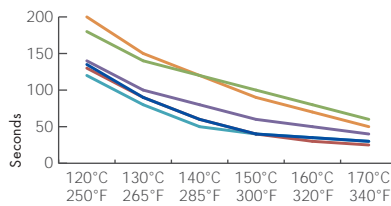


	Temperature/time required (in seconds)					
	120 °C	130 °C	140 °C	150 °C	160 °C	170 °C
	250 °F	265 °F	285 °F	300 °F	320 °F	340 °F

Reference fabric	-	-	70	60	50	45
Silk, batiste, cotton jersey, thin linen fabrics, etc.	-	-	65	55	45	40
Jeans, cord, loden, cloth, knitted fabrics, etc.	-	-	80	70	60	50
Viscose, satin, chiffon, organza, taffeta, etc.	-	-	60	50	40	30
LYCRA®, neoprene, etc.	-	-	65	55	40	35
Artificial fur, artificial leather, fleece, suede, etc.	-	-	60	50	40	30

Pressure: medium

Aids: Teflon®, pressing cloth



APPLICATION FROM THE BACK

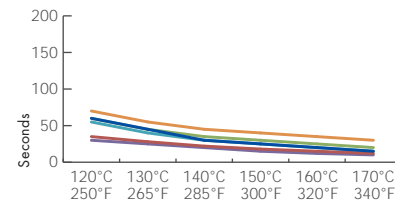


	Temperature/time required (in seconds)					
	120 °C	130 °C	140 °C	150 °C	160 °C	170 °C
	250 °F	265 °F	285 °F	300 °F	320 °F	340 °F

Reference fabric	-	-	80	65	50	40
Silk, batiste, cotton jersey, thin linen fabrics, etc.	-	-	70	55	45	35
Jeans, cord, loden, cloth, knitted fabrics, etc.	-	-	100	80	60	50
Viscose, satin, chiffon, organza, taffeta, etc.	-	-	70	55	40	35
LYCRA®, neoprene, etc.	-	-	80	65	50	40
Artificial fur, artificial leather, fleece, suede, etc.	-	-	75	60	45	35

Pressure: medium

Aids: Teflon®, pressing cloth, transfer film to fix in place



HOTFIX SELECTOR 9

CRYSTAL MESH (STANDARD, AERIAL, METALLISÉE & CRYSTAL FINE MESH)

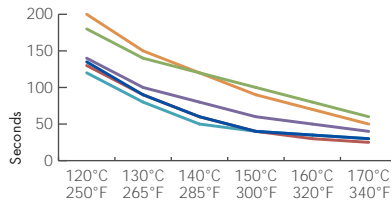
APPLICATION FROM THE FRONT



	Temperature/time required (in seconds)					
	120 °C	130 °C	140 °C	150 °C	160 °C	170 °C
	250 °F	265 °F	285 °F	300 °F	320 °F	340 °F

Reference fabric	135	90	60	40	35	30
Silk, batiste, cotton jersey, thin linen fabrics, etc.	130	90	60	40	30	25
Jeans, cord, loden, cloth, knitted fabrics, etc.	180	140	120	100	80	60
Viscose, satin, chiffon, organza, taffeta, etc.	140	100	80	60	50	40
LYCRA®, neoprene, etc.	120	80	50	40	35	30
Artificial fur, artificial leather, fleece, suede, etc.	200	150	120	90	70	50

Pressure: high
Aids: Teflon®, pressing cloth



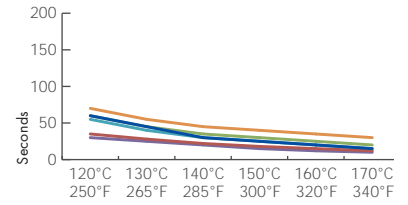
APPLICATION FROM THE BACK



	Temperature/time required (in seconds)					
	120 °C	130 °C	140 °C	150 °C	160 °C	170 °C
	250 °F	265 °F	285 °F	300 °F	320 °F	340 °F

Reference fabric	60	45	30	25	20	15
Silk, batiste, cotton jersey, thin linen fabrics, etc.	35	28	22	18	15	12
Jeans, cord, loden, cloth, knitted fabrics, etc.	60	45	35	30	25	20
Viscose, satin, chiffon, organza, taffeta, etc.	30	25	20	15	12	10
LYCRA®, neoprene, etc.	55	40	30	25	20	15
Artificial fur, artificial leather, fleece, suede, etc.	70	55	45	40	35	30

Pressure: high
Aids: Teflon®, pressing cloth, transfer film to fix in place



HOTFIX SELECTOR 10

CRYSTAL MESH XL

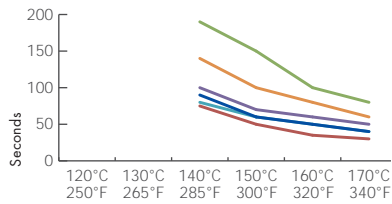
APPLICATION FROM THE FRONT



	Temperature/time required (in seconds)					
	120 °C	130 °C	140 °C	150 °C	160 °C	170 °C
	250 °F	265 °F	285 °F	300 °F	320 °F	340 °F

Reference fabric	-	-	90	60	50	40
Silk, batiste, cotton jersey, thin linen fabrics, etc.	-	-	75	50	35	30
Jeans, cord, loden, cloth, knitted fabrics, etc.	-	-	190	150	100	80
Viscose, satin, chiffon, organza, taffeta, etc.	-	-	100	70	60	50
LYCRA®, neoprene, etc.	-	-	80	60	50	40
Artificial fur, artificial leather, fleece, suede, etc.	-	-	140	100	80	60

Pressure: high
Aids: Teflon®, pressing cloth



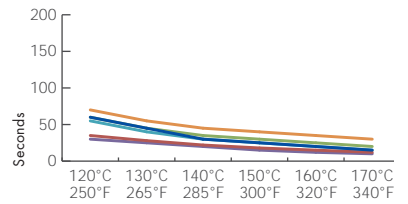
APPLICATION FROM THE BACK



	Temperature/time required (in seconds)					
	120 °C	130 °C	140 °C	150 °C	160 °C	170 °C
	250 °F	265 °F	285 °F	300 °F	320 °F	340 °F

Reference fabric	60	45	30	25	20	15
Silk, batiste, cotton jersey, thin linen fabrics, etc.	35	28	22	18	15	12
Jeans, cord, loden, cloth, knitted fabrics, etc.	60	45	35	30	25	20
Viscose, satin, chiffon, organza, taffeta, etc.	30	25	20	15	12	10
LYCRA®, neoprene, etc.	55	40	30	25	20	15
Artificial fur, artificial leather, fleece, suede, etc.	70	55	45	40	35	30

Pressure: high
Aids: Teflon®, pressing cloth



HOTFIX SELECTOR 11

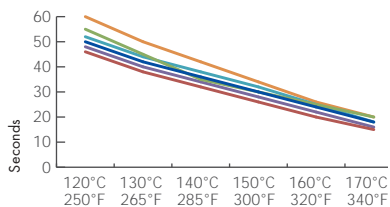
FRAMED FLAT BACK

APPLICATION FROM THE FRONT



	Temperature/time required (in seconds)					
	120 °C	130 °C	140 °C	150 °C	160 °C	170 °C
	250 °F	265 °F	285 °F	300 °F	320 °F	340 °F
Reference fabric	95	80	65	50	45	40
Silk, batiste, cotton jersey, thin linen fabrics, etc.	90	75	60	47	40	35
Jeans, cord, loden, cloth, knitted fabrics, etc.	95	80	65	50	45	40
Viscose, satin, chiffon, organza, taffeta, etc.	90	75	60	47	40	35
LYCRA®, neoprene, etc.	80	65	55	47	40	35
Artificial fur, artificial leather, fleece, suede, etc.	100	88	70	57	50	40

Pressure: low
Aids: Teflon®, pressing cloth, silicone foam

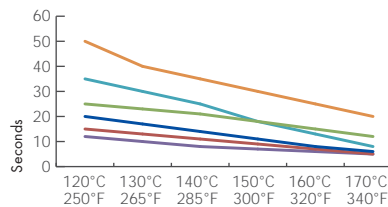


APPLICATION FROM THE BACK



	Temperature/time required (in seconds)					
	120 °C	130 °C	140 °C	150 °C	160 °C	170 °C
	250 °F	265 °F	285 °F	300 °F	320 °F	340 °F
Reference fabric	20	17	14	11	8	6
Silk, batiste, cotton jersey, thin linen fabrics, etc.	15	13	11	9	7	5
Jeans, cord, loden, cloth, knitted fabrics, etc.	25	23	21	18	15	12
Viscose, satin, chiffon, organza, taffeta, etc.	12	10	8	7	6	5
LYCRA®, neoprene, etc.	35	30	25	18	13	8
Artificial fur, artificial leather, fleece, suede, etc.	50	40	35	30	25	20

Pressure: low
Aids: Teflon®, pressing cloth, silicone foam



CARE INSTRUCTIONS

To ensure the highest quality and longest-lasting applications of Swarovski products, proper care is essential. The Swarovski Hotfix adhesive is characterized by its wash resistance and easy-care properties.

TEXTILE CARE INSTRUCTIONS

								
General Recommendations		Turn inside out, choose a gentle wash cycle and use mild laundry detergent. To protect the crystals as much as possible, the use of a soft wash bag is recommended.			Turn inside out and use mild laundry detergent.	Do not wash!	Chlorine bleach may be used.	Do not use chlorine bleach!
Round Stones		✓						✓
Fancy Stones		✓						✓
Beads	Beads	✓						✓
	Crystal Mesh Balls				✓			✓
BeCharmed & Pavé			✓					✓
Crystal Pearls					✓			✓
Pendants						✓		✓
Flat Backs No Hotfix ¹		✓						✓
Flat Backs Hotfix	XILION Rose & XIRIUS Rose ¹	✓						✓
	Framed Flat Backs	✓						✓
	Creation Stones	✓						✓
	Creation Stones Plus ²				✓			✓
	Cabochons				✓			✓
Sew-on Articles		✓						✓
Self-adhesive Elements						✓		✓
Transfers	XILION Transfers & XIRIUS Transfers	✓						✓
	Creation, Diamond	✓						✓
	Metallic & Mezzo Transfers		✓					✓
	Creation Transfers Plus ²				✓			✓
	Pearl Transfers				✓			✓
Synthetics Hotfix	Crystal Fabric		✓					✓
	Crystal Rocks & Crystal Fine Rocks		✓					✓
	Graphic Fabric & Graphic (Fine) Rocks				✓			✓
	Crystal Medley		✓					✓
	Crystalltex ³		✓					✓
Plastic Trimmings	Basic Bandings	✓						✓
	Fishnet Bandings	✓						✓
	Decorative Bandings		✓					✓
	Plastic Components		✓					✓
Buttons, Fasteners & Zippers	Crystal Buttons	✓						✓
	Buttons with Plastic Shank		✓					✓
	Snap Fasteners & Decorative Buttons		✓					✓
	Jeans Buttons		✓					✓
	Buttons with Metal Shank		✓					✓
	Zippers			✓				✓
Metal Trimmings	Chaton & Flat Back Bandings & Spike Bandings				✓			✓
	Rivets, Square Rivets, Chessboard Rivets & Star Rivets		✓					✓
	Crystal Pearl Rivets				✓			✓
	Spike Rivets				✓			✓
	Roses & Chaton Montées		✓					✓
	Rose Pins, Chessboard Pins & Rhombus Pins		✓					✓
	Crystal Studs				✓			✓
Crystal Mesh					✓			✓
Cupchains & Findings						✓		✓

1 XIRIUS size SS 40 and SS 48: only wash with a hand wash program.

2 Creation Stones Plus have a stone size of 8 - 10 mm.

3 It is recommended to wash Crystalltex Cabochon with a hand wash program.

TEXTILE CARE INSTRUCTIONS

					
	Turn inside out and dry at reduced temperature.	Do not tumble dry!	Iron inside out using a silk/polyester/viscose setting. Ironing the textile inside out and using a pressing cloth is recommended.	Iron inside out using a wool setting.	Do not iron! Do not iron directly over the crystals.
Round Stones		✓			✓
Fancy Stones		✓			✓
Beads	Beads	✓			✓
	Crystal Mesh Balls		✓		✓
BeCharmed & Pavé		✓			✓
Crystal Pearls		✓			✓
Pendants		✓			✓
Flat Backs No Hotfix ¹		✓			✓
Flat Backs Hotfix	XILION Rose & XIRIUS Rose ¹	✓		✓	
	Framed Flat Backs			✓	
	Creation Stones	✓		✓	
	Creation Stones Plus ²		✓		✓
	Cabochons	✓		✓	
Sew-on Articles		✓			✓
Self-adhesive Elements		✓			✓
Transfers	XILION Transfers & XIRIUS Transfers	✓		✓	
	Creation, Diamond	✓		✓	
	Metallic & Mezzo Transfers		✓	✓	
	Creation Transfers Plus ²		✓		✓
	Pearl Transfers	✓		✓	
Synthetics Hotfix	Crystal Fabric		✓	✓	
	Crystal Rocks & Crystal Fine Rocks		✓	✓	
	Graphic Fabric & Graphic (Fine) Rocks		✓	✓	
	Crystal Medley		✓	✓	
	Crystaltex ³		✓	✓	
Plastic Trimmings	Basic Bandings	✓			✓
	Fishnet Bandings		✓		✓
	Decorative Bandings		✓		✓
	Plastic Components		✓		✓
Buttons, Fasteners & Zippers	Crystal Buttons		✓		✓
	Buttons with Plastic Shank		✓		✓
	Snap Fasteners & Decorative Buttons		✓		✓
	Jeans Buttons		✓		✓
	Buttons with Metal Shank		✓		✓
Zippers		✓			✓
Metal Trimmings	Chaton & Flat Back Bandings & Spike Bandings		✓		✓
	Rivets, Square Rivets, Chessboard Rivets & Star Rivets		✓		✓
	Crystal Pearl Rivets		✓		✓
	Spike Rivets		✓		✓
	Roses & Chaton Montées		✓		✓
	Rose Pins, Chessboard Pins & Rhombus Pins		✓		✓
Crystal Studs					✓
Crystal Mesh		✓			✓
Cupchains & Findings		✓			✓

TEXTILE CARE INSTRUCTIONS

					
		The textile can be gently dry-cleaned using perchlorethylene. Turn inside out.	The textile can be gently dry-cleaned using hydrocarbon. Turn inside out.	The textile will withstand gentle professional wet cleaning. Turn inside out.	The textile may not be dry-cleaned.
		To protect the crystals as much as possible, the use of a soft wash bag is recommended.			
Round Stones			✓	✓	
Fancy Stones			✓	✓	
Beads	Beads	✓	✓	✓	
	Crystal Mesh Balls		✓	✓	
BeCharmed & Pavé			✓	✓	
Crystal Pearls			✓	✓	
Pendants					✓
Flat Backs No Hotfix ¹			✓	✓	
Flat Backs Hotfix	XILION Rose & XIRIUS Rose ¹	✓	✓	✓	
	Framed Flat Backs	✓	✓	✓	
	Creation Stones	✓	✓	✓	
	Creation Stones Plus ²	✓	✓	✓	
	Cabochons	✓	✓	✓	
Sew-on Articles		✓	✓	✓	
Self-adhesive Elements					✓
Transfers	XILION Transfers & XIRIUS Transfers	✓	✓	✓	
	Creation, Diamond	✓	✓	✓	
	Metallic & Mezzo Transfers		✓	✓	
	Creation Transfers Plus ²	✓	✓	✓	
	Pearl Transfers	✓	✓	✓	
Synthetics Hotfix	Crystal Fabric		✓	✓	
	Crystal Rocks & Crystal Fine Rocks		✓	✓	
	Graphic Fabric & Graphic (Fine) Rocks		✓	✓	
	Crystal Medley		✓	✓	
	Crystaltex ³		✓	✓	
Plastic Trimmings	Basic Bandings	✓	✓	✓	
	Fishnet Bandings	✓	✓	✓	
	Decorative Bandings	✓	✓	✓	
	Plastic Components	✓	✓	✓	
Buttons, Fasteners & Zippers	Crystal Buttons	✓	✓	✓	
	Buttons with Plastic Shank	✓	✓	✓	
	Snap Fasteners & Decorative Buttons	✓	✓	✓	
	Jeans Buttons		✓	✓	
	Buttons with Metal Shank		✓	✓	
	Zippers		✓	✓	
Metal Trimmings	Chaton & Flat Back Bandings & Spike Bandings		✓	✓	
	Rivets, Square Rivets, Chessboard Rivets & Star Rivets	✓	✓	✓	
	Crystal Pearl Rivets		✓	✓	
	Spike Rivets	✓	✓	✓	
	Roses & Chaton Montées	✓	✓	✓	
	Rose Pins, Chessboard Pins & Rhombus Pins	✓	✓	✓	
	Crystal Studs		✓	✓	
Crystal Mesh			✓	✓	
Cupchains & Findings					✓

GENERAL CARE INSTRUCTIONS

A light layer of dust is most easily removed with a clean, dry and antistatic cloth. To avoid unsightly fingerprints on the crystal, wear white cotton gloves during the cleaning process. For heavier dirt, lukewarm water with a little dishwashing detergent will suffice. Ideally you should use a damp and clean microfiber or thin, lint-free cotton cloth. Gently wipe each individual crystal and dry with a clean cloth. Again, wearing white cotton gloves is recommended.

When cleaning with moisture, make sure to use cleaning agents that do not damage the surrounding material. By correctly cleaning your Swarovski crystals, you will restore their full reflectivity.



Cloth

LAWS, REGULATIONS, NORMS & STANDARDS

The composition of loose and forward-integrated crystals in the Advanced Crystal standard is compliant with regulatory industry norms and laws regarding the restriction or prohibition of certain

substances for finished products in the most relevant segments of our customers' business.

WARNING NOTICES

General Warning



Loose crystals may present a small parts hazard to young children, particularly children under three years old. Depending on the size of the crystal and any attached material (such as glue, fabric, etc.), children may choke on, inhale, swallow, or insert the crystal into their noses. Magnetic products with crystal applications pose a particular risk of serious intestinal injury if ingested. The application techniques as stated in the Application Manual do not guarantee that crystals will not come loose. For each application, the manufacturer must determine whether the product meets the relevant requirements related to small parts hazards and assess any risk it may pose to small children. Failure to follow Swarovski's care instructions may result in damage to the crystal, which could pose a risk of laceration or other harm.

Warning for Crystal Tattoos

Crystal Tattoos may be applied on healthy skin only. Do not adhere to eyes or on mucous membranes. Crystal Tattoos are not recommended for young children. Loose crystals may present a small parts hazard to young children, particularly children under three years old. If a crystal comes loose, depending on the size of the crystal, children may choke on, inhale, swallow, or insert the crystal into their noses.

Warning for Magnetic Products

Loose crystals may present a small parts hazard to young children, particularly children under three years old. Magnetic products with crystal applications pose a particular risk of serious intestinal injuries if ingested. For each application of magnetic crystal products, the manufacturer must determine whether the product meets relevant requirements related to small parts hazards and assess any risk it may pose to small children.

Warning for Tableware

The application of loose crystals to tableware presents a potential risk of aspiration, choking, swallowing, or tooth damage should crystals become loose. To reduce this risk, crystals should never be applied to any surface of tableware likely to come in contact with food or the mouth, and crystals should never be placed on any tableware intended for use by children. Tableware with

crystals intended for decorative use only should be marked as such. To avoid dishwasher damage, tableware decorated with crystals should be washed by hand. The application techniques or suggestions in this manual do not guarantee that crystals will not come loose. For each application, the manufacturer must determine whether the product meets relevant requirements related to small parts hazards or use in food contact items and assess any risk it may pose to users.

The use of crystals (which may contain restricted substances deemed hazardous under local laws) and adhesives on tableware is subject to legal restrictions in specific countries. The customer is fully responsible for complying with these country-specific provisions and shall defend, indemnify, and hold Swarovski harmless from any and all third-party claims based on product liability or otherwise relating to uses of Swarovski products, and waives all its own claims against Swarovski.

Unsuitable Applications

Crystals from Swarovski are intended for use in the fields of fashion, jewelry, accessories, textile products, and for interior décor. Due to their physical properties, crystals from Swarovski are unsuitable for other uses (e.g. gluing onto teeth, using on or near mucous membranes, and other unsafe uses). The customer shall defend, indemnify, and hold Swarovski harmless from any and all third-party claims based on product liability or otherwise relating to uses of Swarovski products purchased by the customer, and waives all its own claims.

Responsibility of User

Any oral, written, or test-based advice that Swarovski provides regarding techniques for the application of its products are recommendations based on Swarovski's current knowledge and the information provided by its suppliers. Such advice does not discharge the customer from carrying out its own tests of techniques it proposes to use and their suitability for the intended application. The application, use, and processing of these techniques and products are solely the user's responsibility.

CARE INSTRUCTIONS

Not following Swarovski care instructions can damage the product and thus lead to damage of textiles or other damage.

Please note that with all standard washing processes (whether carried out by a household washing machine or via dry cleaning) the rotation of the drum places significant mechanical forces on the textiles. The most important factor in ensuring a secure wash is correctly applying the product, without compromising its adhesion. The larger the product employed, and the more products are applied next to each other, the greater the risk of damage. Swarovski products are made out of crystal or contain crystal and must thus be handled with suitable care.

In general, it is recommended that a soft wash bag is used and that the washer drum is filled to protect against damage. To maintain the quality of crystals from Swarovski, the following is also important: before washing, turn items of clothing inside out, select a gentle wash cycle, and use a mild detergent. According to DIN EN ISO 3758, our care instructions list all product groups, meaning each product used by customers must be assessed separately with regard to its washability and suitability for its purpose/the end product. The recommendations given by Swarovski reflect our current level of knowledge. Swarovski uses these recommendations to decide on the suitability of the product for textile applications. Customers are solely responsible for defining the recommended cleaning process for the end product, and must consider the care advice of Swarovski and any other manufacturers in doing so. The type of shape, cut, surface effect, and size, as well as the weight of the application and the quantity of crystals used has a significant impact on the cleaning process to be followed.

To avoid all risks, customers/textile cleaning companies should remove any large crystal stones, buttons, etc., that have been stitched on before cleaning, and stitch them back on again afterwards.

Content is subject to change without notice.

Errors and misprints excepted.

Please note, the actual products may deviate from the pictures in color and effect.

D. Swarovski Distribution GmbH, Swarovskistrasse 30, 6112 Wattens, Austria

© 2016 D. Swarovski Distribution GmbH. All rights reserved. Partial or total publication, transmission, copy or other duplication of texts, graphics, pictures etc. which are to be found in this publication is forbidden without special consent by D. Swarovski Distribution GmbH.

Swarovski® is a registered trademark of Swarovski AG.

Please visit our website for contact information: SWAROVSKI.COM/PROFESSIONAL