

# 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.



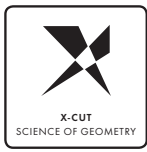
Made for iPad



Made for Tablets

[SWAROVSKI.COM/COLLECTIONAPP](http://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:

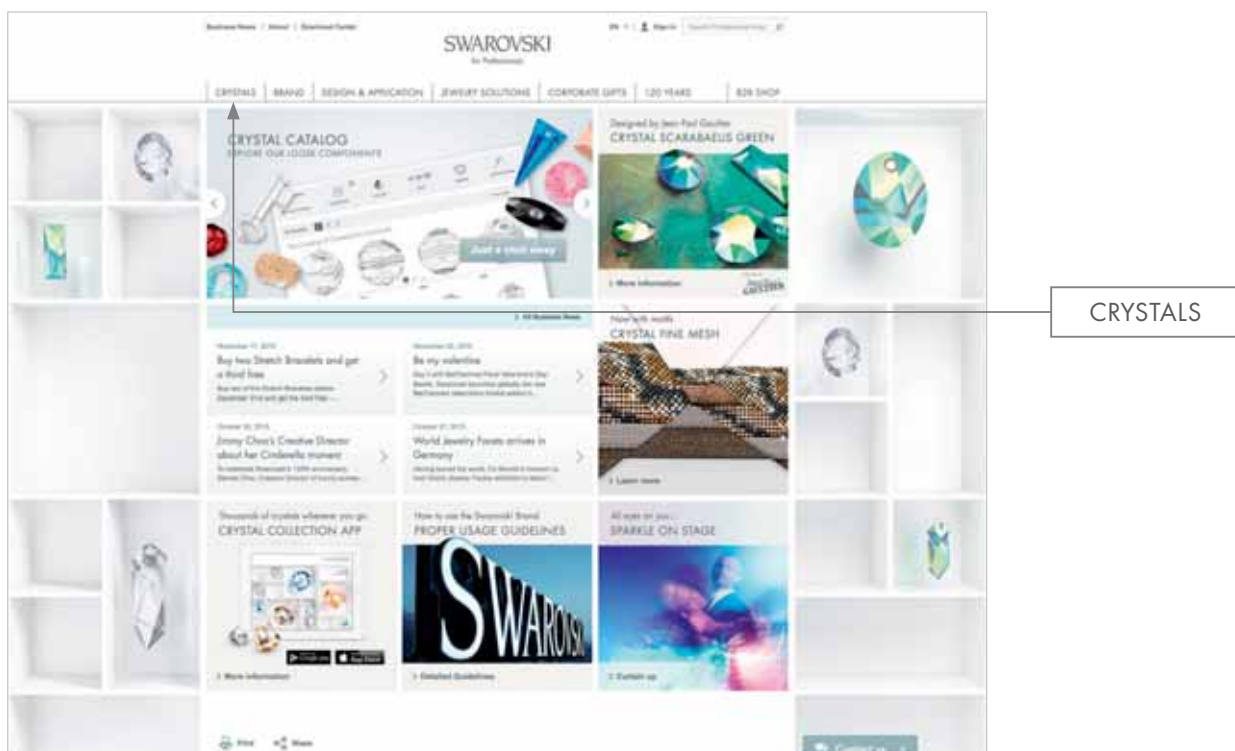
Product Overview	Swarovski products that are suitable for the application technique in question
Machines, Tools, and Aids	List of machines, tools, and aids necessary for application
Suppliers	Selection of suppliers that sell these machines, tools, and aids
Application	Detailed description of the entire 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 <b>?!)</b>

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

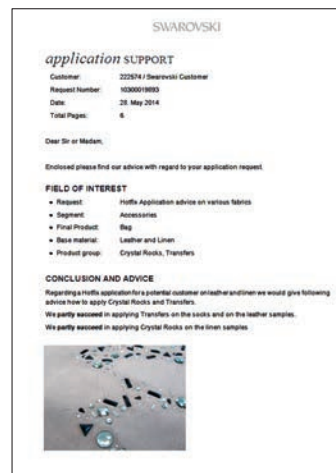
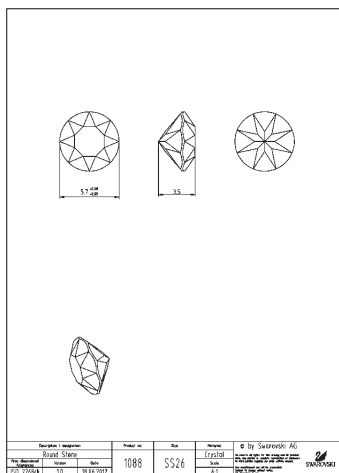
Available worldwide, the technical enquiry service can help you in the following areas:

- 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 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.

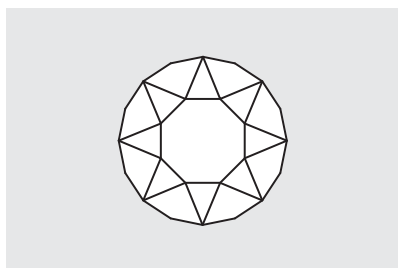
## GENERAL PRODUCT INFORMATION

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.

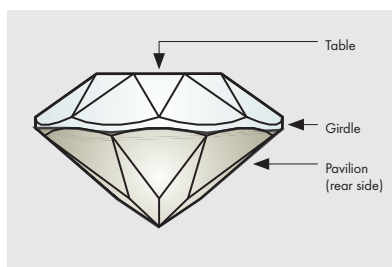
<b>Round Stones</b>	Round Stones are loose crystal elements. Most of them are pointed on the reverse side, making them easy to apply in either metal claw settings or pre-set cavities in die-cast metal alloys. The assortment features a wide variety of different cuts, the most innovative one is the XIRIUS Chaton.
<b>Fancy Stones &amp; Settings</b>	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.
<b>Beads</b>	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.
<b>BeCharmed &amp; Pavé</b>	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.
<b>Crystal Pearls</b>	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.
<b>Pendants</b>	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.
<b>Flat Backs No Hotfix</b>	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.
<b>Flat Backs Hotfix</b>	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.
<b>Sew-on Articles</b>	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.
<b>Self-adhesive Elements</b>	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.
<b>Transfers</b>	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.
<b>Synthetics Hotfix</b>	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.
<b>Plastic Trimmings</b>	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.
<b>Buttons, Fasteners &amp; Zippers</b>	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.

<b>Metal Trimmings</b>	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.
<b>Crystal Mesh</b>	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.
<b>Cupchains &amp; Findings</b>	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.

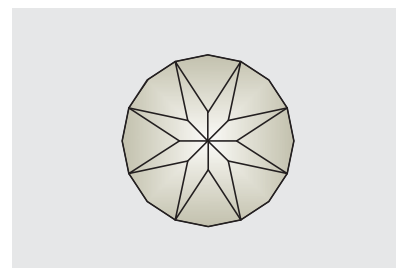
### Crystal specifications



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<sup>PRO</sup> 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<sup>PRO</sup> 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).

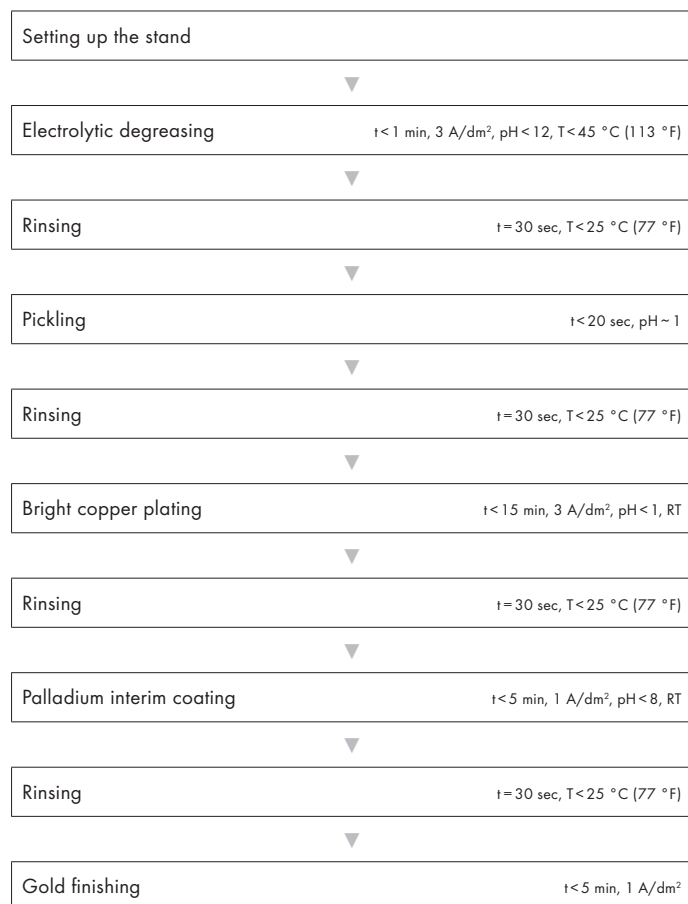
The standard assortment of colors and effects may vary per product group. Slight changes in shades are unavoidable. Colors may vary according to cut and shape.

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:



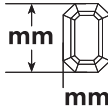
**Note:** Swarovski cannot warrant the resistance of effects when the parameters as set out above are changed. Swarovski's declaration of resistance does not discharge customer from carrying out its own tests of the suitability for the intended finishing of products. The use and processing of these techniques 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	✓	✓	✓			✓ <sup>1</sup>		✓		
Beads							✓ <sup>1</sup>		✓		
BeCharmed & Pavé							✓ <sup>1</sup>		✓		
Crystal Pearls							✓ <sup>1</sup>		✓		
Pendants							✓ <sup>1</sup>		✓		
Flat Backs No Hoflix				✓	✓						✓
Flat Backs Hoflix	XILION Rose & XIRIUS Rose					✓					
	Framed Flat Backs					✓					
	Creation Stones					✓					
	Creation Stones Plus					✓					
	Cabochon Round					✓					
Sew-on Articles							✓	✓ <sup>2</sup>	✓		
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				✓	✓	✓ <sup>3</sup>				
Plastic Trimmings	Basic Bandings				✓		✓	✓ <sup>4</sup>			
	Fishnet Bandings						✓				
	Decorative Bandings						✓				
	Plastic Components						✓ <sup>1</sup>		✓		
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				✓		✓ <sup>1</sup>				
	Rivets (Crystal Pearl, Square, Chessboard, Star, Spike)									✓	
	Roses & Chaton Montées						✓ <sup>1</sup>		✓		
	Rose Pins, Chessboard Pins & Rhombus Pins									✓	
	Crystal Studs									✓	
Crystal Mesh					✓	✓	✓ <sup>5</sup>				
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



# GLUING

Swarovski products can be glued to a wide range of materials in a variety of application areas. The greatest quality is ensured by following the entire application process.

## PRODUCT OVERVIEW

The following products are suitable for gluing:

	GLUING
Round Stones	✓
Fancy Stones	✓
Flat Backs No Hotfix	✓
Self-adhesive Elements	✓
Synthetics Hotfix	✓
Plastic Trimmings: Basic Bandings	✓*
Metal Trimmings: Chaton & Flat Back Bandings/Motifs, Spike Bandings	✓
Crystal Mesh	✓

\* Plastic Trimmings made of PE or PP are not suitable for gluing.

## MACHINES, TOOLS, AND AIDS

The following machines, tools, and aids can be used for the various processes involved in gluing Swarovski products:



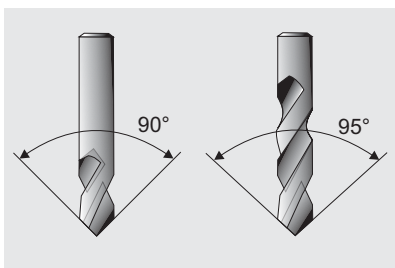
CNC milling machine



Box column drill

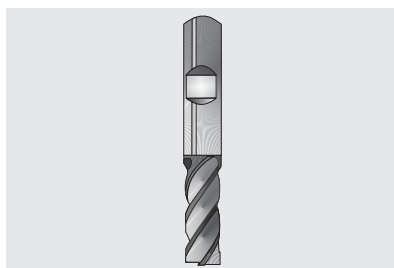


Hand drill



Twist drill 90° /  
NC drill 90°  
for XILION Chatons

Twist drill 95° /  
NC drill 95°  
for XIRIUS Chatons



Milling cutter





Test Pen (art. 9030/000)



Isopropyl alcohol/Acetone



Blow torch



Corona



Plasma cleaner



Precision balance



Gloves



Protective eyewear



Dispensing robot



Fluid dispenser

Courtesy of I&J Fisnar, Inc.



Dispensing gun



Dispensing syringes with dispensing tips



Mixing Nozzle



**CG 500 (A+B)**  
Two-component epoxy resin glue: 50 g cartridge (25 g component A, 25 g component B)



**CG 500 (A+B)**  
Two-component epoxy resin glue: 100 g tube (50 g component A, 50 g component B)



**CG 500 (A+B)**  
Two-component epoxy resin glue: 2 kg tin (1 kg component A, 1 kg component B)



**Different glues**



**CG 610 (A+B)**  
Two-component epoxy resin glue: 50 g cartridge (33.3 g resin + 16.7 g hardener)



**CG 610 (A+B)**  
Two-component epoxy resin glue: 750 g box (500 g resin + 250 g hardener)



**Chaton Sieve** for Chatons size PP 0 - PP 1 (art. 9030/003)



**Chaton Sieve** for Chatons size PP 2 - PP 20 (art. 9030/001)



**Chaton Sieve** for Chatons size PP 21 - SS 34 (art. 9030/002)



**Vacuum pick-up system**

Courtesy of I&J Fisnar, Inc.



**Tweezers**



**Wax stick**



**UV light**



**Drying oven**

## SUPPLIERS

This list provides an overview of selected suppliers worldwide.

MACHINES / TOOLS / AIDS	SUPPLIER	CONTACT
90° NC drill/milling cutter	Dixi Holding SA	<a href="http://www.dixi.ch">www.dixi.ch</a>
	Hahn & Kolb GmbH	<a href="http://www.hahn-kolb.de">www.hahn-kolb.de</a>
	Hoffmann GmbH	<a href="http://www.hoffmann-group.com">www.hoffmann-group.com</a>
	reich Präzisionswerkzeuge	<a href="http://www.reich.at">www.reich.at</a>
	Wedco	<a href="http://www.wedco.at">www.wedco.at</a>
Test Pen	Swarovski: art. 9030/000	<a href="http://www.swarovski.com/professional">www.swarovski.com/professional</a>
Fluid dispenser (with/without vacuum suction)	Epoxy & Equipment Technology Pte Ltd	<a href="http://www.eet.com.sg">www.eet.com.sg</a>
	Hottemp (M) Sdn. Bhd.	<a href="http://www.hottemp.com.my">www.hottemp.com.my</a>
	I & J Fisnar, Inc.	<a href="http://www.fisnar.com">www.fisnar.com</a>
	PT. SKT International	<a href="http://www.sktisolution.com">www.sktisolution.com</a>
	Vieweg GmbH	<a href="http://www.dosieren.de">www.dosieren.de</a>
Vacuum pick-up system	Epoxy & Equipment Technology Pte Ltd	<a href="http://www.eet.com.sg">www.eet.com.sg</a>
	I & J Fisnar, Inc.	<a href="http://www.fisnar.com">www.fisnar.com</a>
	Vieweg GmbH	<a href="http://www.dosieren.de">www.dosieren.de</a>
CG 500 (A+B) Two-component epoxy resin glue	Swarovski:	<a href="http://www.swarovski.com/professional">www.swarovski.com/professional</a>
	art. 9030, 50 g Cartridge, America, Asia, Europe	
	art. 9030, 100 g Tube, America, Asia, Europe	
	art. 9030, 2 kg Box, America, Asia, Europe	
CG 610 (A+B) Two-component epoxy resin glue	Swarovski:	<a href="http://www.swarovski.com/professional">www.swarovski.com/professional</a>
	art. 9030, 50 g Cartridge, America, Asia, Europe	
	art. 9030, 750 g Box, America, Asia, Europe	
Mixing nozzle for CG 500 and CG 610	Swarovski: art. 9030/126	<a href="http://www.swarovski.com/professional">www.swarovski.com/professional</a>
Araldite® adhesives	Huntsman International LLC.	<a href="http://www.huntsman.com/advanced_materials">www.huntsman.com/advanced_materials</a>
3M™ Scotch-Weld™ adhesives	3M	<a href="http://www.3m.com">www.3m.com</a>
DELO adhesives	DELO Industrial Adhesives	<a href="http://www.delo.de">www.delo.de</a>
ELASTOSIL® adhesives / MS Clear HS	Wacker Chemie AG	<a href="http://www.wacker.com">www.wacker.com</a>
LOCTITE® adhesives	Henkel Ltd.	<a href="http://www.loctite.com">www.loctite.com</a>
Hobby Line Schmuckstein Kleber	C. KREUL GmbH & Co KG	<a href="http://www.c-kreul.com">www.c-kreul.com</a>
CHRISANNE glues	CHRISANNE Ltd	<a href="http://www.chrisanne.com">www.chrisanne.com</a>
Bostik 1475	Bostik SA	<a href="http://www.bostik.com">www.bostik.com</a>
UHU plus endfest 300	UHU GmbH & Co KG	<a href="http://www.uhu.com">www.uhu.com</a>
Tile glues / joint sealers	PCI Augsburg GmbH	<a href="http://www.pci-augsburg.de">www.pci-augsburg.de</a>
	KERAKOLL Spa	<a href="http://www.kerakoll.com">www.kerakoll.com</a>
	ARDEX GmbH	<a href="http://www.ardex.com">www.ardex.com</a>

MACHINES / TOOLS / AIDS	SUPPLIER	CONTACT
Chaton Sieve	Swarovski: For Chaton size PP 0 – PP 1: art. 9030/003 For Chatons size PP 2 – PP 20: art. 9030/001 For Chatons size PP 21 – SS 34: art. 9030/002	<a href="http://www.swarovski.com/professional">www.swarovski.com/professional</a>
Pick-up stick	Crystal Ninja	<a href="http://www.crystalkatana.com">www.crystalkatana.com</a>
UV light	DELO Industrial Adhesives Dr. Hönle AG Heraeus Holding GmbH Herbert Waldmann GmbH & Co. KG	<a href="http://www.delo.de">www.delo.de</a> <a href="http://www.hoenle.de">www.hoenle.de</a> <a href="http://www.heraeus.com">www.heraeus.com</a> <a href="http://www.waldmann.com">www.waldmann.com</a>
Drying oven	Heraeus Holding GmbH VWR International, LLC.	<a href="http://www.heraeus.com">www.heraeus.com</a> <a href="http://www.vwr.com">www.vwr.com</a>

---

## APPLICATION

When gluing Swarovski crystals, optimal results are obtained by **coordinating the entire application process**. Following the application steps in the right order is very important. Experience has shown that the most common reasons for crystals becoming detached are inappropriate areas of application, poorly produced cavities, unsuitable gluing systems, and insufficient quantities of glue. **Product-specific application instructions** are detailed later in this section.



Many Swarovski crystals require cavities in order to be applied to materials. A properly produced cavity in combination with a suitable gluing system ensures a stylish, long-lasting application. The cavity makes it easy to glue properly and ensures higher **protection of the crystal against mechanical and chemical stress**.

There are several different production methods and cavity types. Always take into consideration the requirements and base material of the finished product when choosing the appropriate cavity, pre-treatment method, and kind of glue.

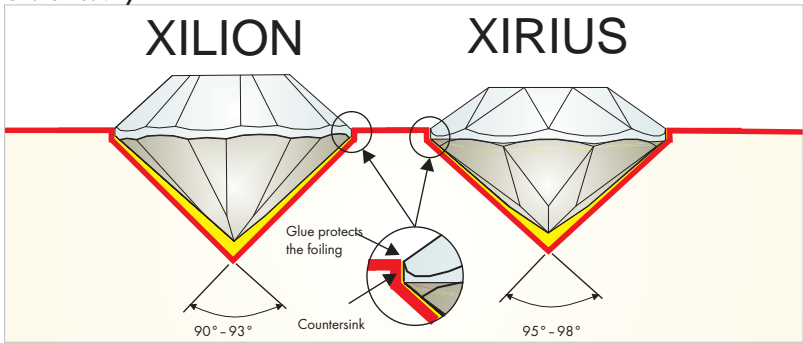
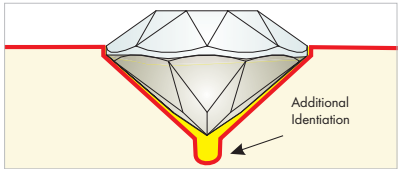
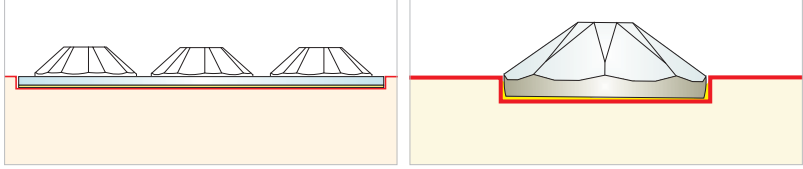
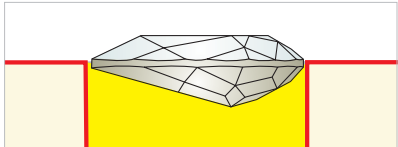
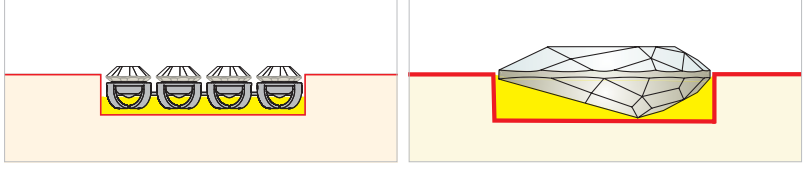
### Production methods

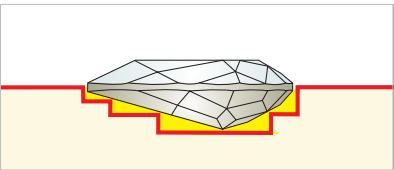
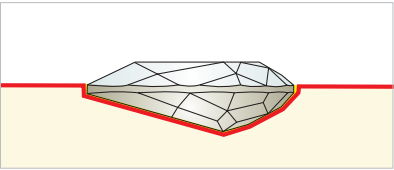
- **Drilling** is when materials are machined using a power drill and drilling tool.
- **Milling** is when materials are machined using a milling machine and milling cutter. Milling machines can be fitted with appropriate tools depending on the materials, e.g. for working with metal and plastic, wood, or natural stone. Modern CNC machining centers offer the greatest precision and can be used to produce **cavities of every shape** necessary. Please note that when machining natural stone, ceramic, or glass, for example, special diamond-tipped tools must be used.
- **Water jet cutting** allows materials to be separated via a high-pressure jet of water. Economic reasons make water jet cutting machines ideal for certain crystal shapes that are integrated into flat materials. Please note that only **end-to-end cavities** can be produced in this way. In addition, materials that swell through water cannot be worked with. Absorbent materials must be fully dried before gluing the crystal.
- **Casting:** To reproduce cavities, particularly in the jewelry sector, the cavities can be made when the metal component is cast. When following this process, the cavities must be cut into the original model. To prevent the bottom of the cavity being rounded off, which would result in the crystal sitting too high, it is recommended that an additional indentation is made when producing the original model.

Further instructions on jewelry production can be found on page 34.

## Cavity types

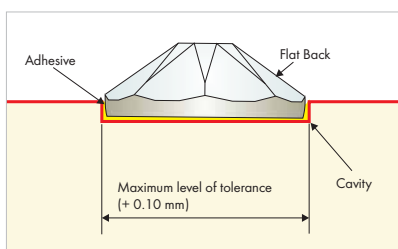
Depending on the Swarovski products used, various cavity types can be made using the different production methods.

SWAROVSKI PRODUCTS	PRODUCTION METHOD	CAVITY TYPE
Round Stones	Drilling Milling	<p><b>Chaton cavity</b></p>  <p>The optimal cavity for a XIRIUS Chaton is produced at an <b>angle of 95° – 98°</b>, for a XILION Chaton at <b>90° – 93°</b>. The cavity should have the same maximum diameter as the crystal plus at least 0.1 mm. The stone sizes available for Swarovski crystals can be found on page 19. For particularly large crystals with a prominent girdle, it is advisable to use an additional countersinking process. Please find a cavity calculator on <a href="http://SWAROVSKI.COM/PROFESSIONAL">SWAROVSKI.COM/PROFESSIONAL</a>.</p>
Round Stones	Casting	<p><b>Chaton casting cavity</b></p>  <p>For jewelry manufactured by casting, an <b>additional indentation</b> at the bottom of the cavity can be drilled to avoid a rounded tip, therefore preventing the crystal from being raised out of the cavity.</p>
Flat Backs No Hotfix Crystal Fabric Crystaltex Self-adhesive Elements Crystal Rocks Crystal Fine Rocks	Milling Casting	<p><b>Indentation</b></p>  <p>When gluing Swarovski crystals with a <b>Flat Back</b>, it is also advisable to create a cavity as shown here. This cavity ensures that the crystal is better protected against mechanical and chemical stress. The depth of the cavity depends on the height of the girdle and the strength of the base material.</p>
Round Stones Flat Backs No Hotfix Fancy Stones	Drilling Milling Water jet cutting	<p><b>End-to-end cavity</b></p>  <p>An end-to-end cavity is the <b>simplest option</b> when producing cavities. When selecting the glue (page 48), please note the additional instructions regarding the gluing gap.</p>
Plastic Trimmings Crystal Mesh Fancy Stones	Milling Casting	<p><b>Blind hole</b></p>  <p>A blind hole is another option when producing cavities. It allows Swarovski crystals in a variety of heights to be set and protected in the material. When selecting the depth of the cavity, ensure that there is still a <b>gap</b> between the lowest point of the crystal and the base material. When selecting the glue (page 48), please note the additional instructions regarding the gluing gap.</p>

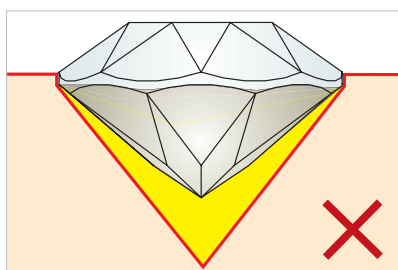
SWAROVSKI PRODUCTS	PRODUCTION METHOD	CAVITY TYPE
Fancy Stones	Milling Casting	<p><b>Step milling</b></p>  <p>Compared to a simple blind hole, step milling offers <b>better hold</b> of the crystal with less glue. When selecting the depth of the cavity, ensure that there is still a gap between the lowest point of the crystal and the base material. When selecting the glue (page 48), please note the additional instructions regarding the gluing gap.</p>
Fancy Stones	Milling Casting	<p><b>3D milling</b></p>  <p>3D milling offers an <b>optimum fit</b> with the smallest gluing gap. Due to the fact that the cavity is adapted to the contours of the crystal, CNC milling machines are required.</p>

**Production tolerances for cavities**

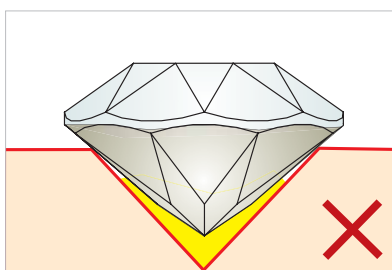
When producing cavities, the dimensions should be based on the main dimensions, including the maximum tolerance for the crystal components used, and the production tolerance. These dimensions can be requested from your Swarovski sales organization.



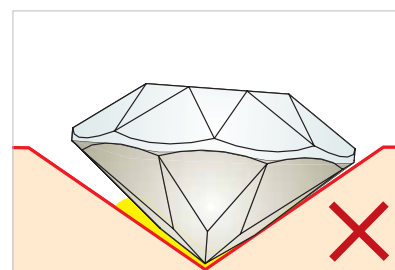
**Incorrect cavities**



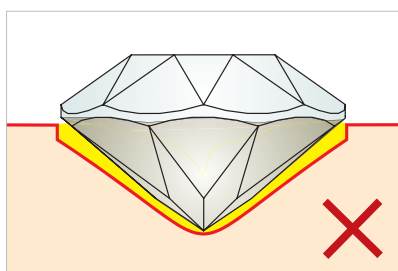
Angle too sharp



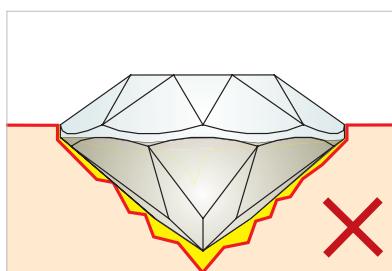
Crystal too large/cavity too small



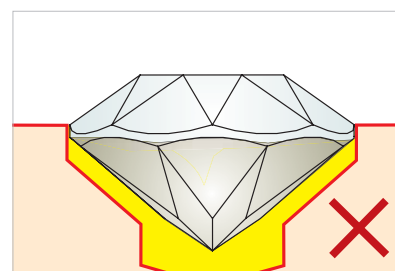
Angle too large



Rounded tip of the cavity



Cavity with uneven surface



Gap too big

### Checking the surface tension

The surface tension is an indicator for the wetting properties of the surface to be glued. A surface tension of **at least 38 mN/m** is recommended for gluing Swarovski crystals. It should also be randomly tested during production. It is best to use the Test Pen (art. 9030/000) to measure the surface tension.



1 Before gluing, mark the surface.



2 If the ink remains visible for 2 seconds, the surface is suitable for gluing.



3 If the ink disappears or forms bubbles, the surface is not suitable for gluing. In this case, the pre-treatment cleaning methods should be checked.

**Note:** On porous or absorbent materials, the surface tension cannot be checked with the Test Pen. If the Test Pen is used on highly polluted surfaces (e.g. grease, oil) or on material like wood, the Test Pen might be polluted as well and cannot be used anymore.

### Pre-treatment

If the surface tension is below 38 mN/m, the following pre-treatment cleaning methods, applied in the correct order, can be effective in reaching the right level. After each cleaning process, the surface tension has to be checked again.



TYPES OF CLEANING	PRE-TREATMENT CLEANING METHODS
<p><b>1 Mechanical cleaning</b></p> <p>This involves sanding, blasting, or brushing but is usually not necessary for jewelry.</p>	<ul style="list-style-type: none"> <li>▪ Removal of dirt, rust, scale, and residues of varnish</li> <li>▪ Roughening the surface</li> </ul>
<p><b>2 Washing and degreasing</b></p> <p>It is important to ascertain that the tensides do not contain silicone, as this would impair adhesion.</p> <p>When using solvents it is advisable to test the durability of the surface to be cleaned beforehand to avoid any damage. <b>Solvents containing substances with a high boiling point should not be used</b> due to the risk of residue. If using cleaning solvents, wait a few minutes to allow them to evaporate.</p>	<ul style="list-style-type: none"> <li>▪ Cleaning with tenside solutions, rinsing with de-ionized water</li> <li>▪ Cleaning with isopropyl alcohol/ethanol</li> <li>▪ Cleaning with acetone (MEK/ethyl acetate)</li> <li>▪ Cleaning with a cleaning solvent: should not contain high boiling point substances (risk of residue)</li> </ul>



TYPES OF CLEANING		PRE-TREATMENT CLEANING METHODS
<p><b>3 Physical cleaning and activation</b></p> <p>These cleaning methods can be applied if mechanical cleaning or washing and degreasing are either not possible or have not resulted in a surface tension of &gt;38 mN/m. Therefore the pre-treatment cleaning method used should be done on a case-by-case basis.</p>	<ul style="list-style-type: none"> <li>▪ <b>Flame treatment via a blow torch</b> The surface to be treated is exposed to the flame of a torch very briefly. When using special gas mixtures, surface silication can also be carried out, so as to apply a more adhesive coating.</li> <li>▪ <b>Corona treatment</b> An electric corona discharge is briefly applied to the surface.</li> <li>▪ <b>Plasma treatment</b> Plasma treatment offers precise cleaning and activates the surface via an ionized gas.</li> </ul>	
<p><b>4 Chemical cleaning and primers</b></p> <p>Applying a primer improves adhesion and helps to prevent corrosion.</p>	<ul style="list-style-type: none"> <li>▪ Applying small amounts of solvent and activating the surface.</li> <li>▪ Applying a primer.</li> </ul>	



The selection of the best gluing system is the next stage in ensuring a long-lasting application. When selecting the most suitable glue, the following factors should be considered:

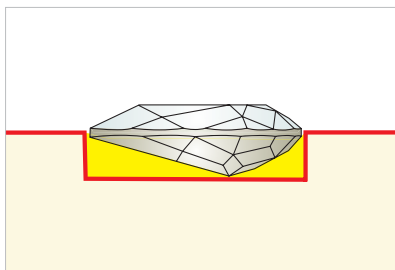


- The type of cavities/the resulting gluing gap
- The size of the crystals/gluing surface
- The gluing properties and finish required
- The type of base material

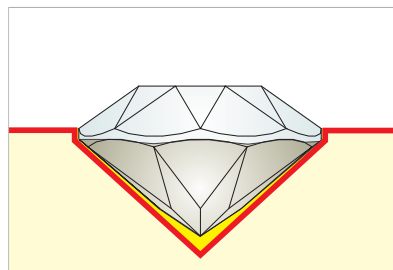
#### The type of cavities/the resulting gluing gap

When selecting an adhesive, it is also important to consider the gluing gap that results from the type of cavity chosen. For cavities offering a **large gluing gap, soft and gap-filling** glues such as silicone glue are recommended to avoid tension in the glue joint.

Epoxyethane/polyurethane glues offer **greater strength** and can be used for cavities with a **small gluing gap**.



Large gluing gap



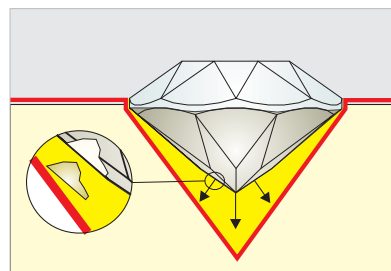
Small gluing gap

#### The size of the crystals/gluing surface

Please note that when gluing small crystals, glues with higher shearing strengths (e.g. epoxy resin glue CG 500 (A+B)) should be used. Further information can be found in the manufacturer's technical data sheets.

### The gluing properties and finish required

When selecting glues, it is important to consider properties such as **pot life, viscosity, color, curing time, ease of dosing, and shrinkage**. Further information can be found in the manufacturer’s technical data sheets. Adhesives tend to shrink during curing. There will be a greater amount of **shrinkage** if the wrong glue has been chosen, it is hardened under the wrong conditions, or if there is an incorrectly sized cavity (too much space around the crystal). The tension thus created can damage the foiling and the crystals may even detach. Glues that are very hard after curing and shrink considerably are not suitable for Swarovski crystals with foiling.



The foiling is torn from the crystal because of excessive **glue shrinkage** (shown in yellow).

### The type of base material

The following table provides a selection of commonly known and globally available adhesives that are suitable for different uses and materials. Application tests are advisable to make sure the chosen glue fulfills the specific needs of your application.

**Viscosity:** Measure of a fluid’s resistance to gradual deformation by shear/tensile stress. It corresponds to the informal notion of “thickness”.

**Color:** Description of the glue’s color type after curing.  
**Bonding:** Depending on the carrier material, the bonding of the glues can vary.

#### Viscosity types

low	thin fluid
med	medium
high	pasty

#### Bonding types

+	sufficient or excellent bonding can be reached
o	sufficient bonding is possible
-	sufficient bonding is nearly impossible

	TWO-COMPONENT EPOXY RESIN GLUES						POLYURETHANE GLUES			CYANE-ACRYLATE GLUES	UV GLUES		SILICONE GLUES	ONE-COMPONENT SYSTEM	DOUBLE SIDED TAPES	DISPERSIONS & CONTACT GLUE		
	CG 500 (A+B)	CG 610 (A+B)	UHU plus endfest 300	Araldite® 2011	DELO-DUOPOX AD821	3M™ Scotch-Weld™ DP 190	Araldite® 2028-1	3M™ Scotch-Weld™ DP 610	DELO-PUR 9895	LOCTITE® 401™	DELO-PHOTOBOND GB368	DELO-PHOTOBOND 4494	ELASTOSIL® N 2199	DELOMONOPOX AD066	3M™	Hobby Line Schmuckstein Kleber	Bostik 1475	CHRISANNE
Color	translucent	translucent	beige	beige	beige	white/gray	transparent	transparent	beige	transparent	transparent	transparent	transparent	beige	transparent	transparent	beige	white
Viscosity	med	low	high	high	med	high	low	high	high	low	med	med	high	med	-	med	high	high
Crystal	+	+	o	+	+	+	o	o	o	-	+	+	-	+	o			
Glass	+	+	o	+	+	+	o	o	o	-	+	+	-	o	o			
Ceramics	+	+	-	o	+	+	+	+	+	-	-	-	o	o	o			
Stone	+	+	-	o	+	+	+	+	+	-	-	-	o	o	o			
Aluminum	+	+	+	+	+	+	+	+	+	o	+ <sup>1</sup>	+ <sup>1</sup>	o	+	o			
Brass	+	+	+	+	+	+	+	+	+	o	+ <sup>1</sup>	+ <sup>1</sup>	o	+	o			
Silver	+	+	+	+	+	+	+	+	+	o	+ <sup>1</sup>	+ <sup>1</sup>	o	+	o			
Steel	+	+	+	+	+	+	+	+	+	o	+ <sup>1</sup>	+ <sup>1</sup>	o	+	o			
PC	+	+	-	o	+	+	o	o	o	+	o <sup>1</sup>	+ <sup>1</sup>	o	-	o			
PS	+	+	-	o	+	+	o	o	o	+	o <sup>1</sup>	o <sup>1</sup>	o	-	o			
PVC/ABS	+	o	-	o	+	+	o	o	o	+	o <sup>1</sup>	o <sup>1</sup>	o	-	o			
PMMA	+	o	-	o	+	+	o	o	o	+	+ <sup>1</sup>	o <sup>1</sup>	o	-	o			
Paper	o	o	-	o	o	o	o	o	o	o	-	-	o	-	o	o	o	o
Cork	o	o	-	o	o	o	o	o	o	-	-	-	o	-	o		o	
Wood	o	o	-	o	o	o	o	o	o	-	-	-	o	-	o		o	o
Textiles <sup>2</sup>	-	-	-	-	-	-	-	o	-	-	-	-	-	-	-	o	o	o

<sup>1</sup> The second gluing part has to be UV transparent.

<sup>2</sup> For permanent (wash-resistant) application a Hotfix application is suggested.

### CG 500 (A+B) Two-component epoxy resin glue

CG 500 (A+B) is a high-performance gluing system for both foiled and unfoiled Swarovski crystals, exclusively distributed by Swarovski for professional use within the jewelry segment and other industries such as accessories, interiors, and electronics.

#### Main advantages of CG 500 (A+B)

- Ideal mechanical resistance
- Ideal chemical resistance
- Future-oriented solution
- Diverse areas of application

#### IDEAL MECHANICAL RESISTANCE

CG 500 (A+B) **absorbs impacts and withstands distortion**. In addition, maximum elasticity protects the crystal foiling.



XILION Chatons that have been glued with CG 500 (A+B) remain in the cavities after extreme mechanical stress due to **optimal shock absorbance** (up to 500%).



XILION Chatons that have been glued with a **standard epoxy resin** fall out of their cavities after extreme mechanical stress due to its **poor shock absorbance** (around 10%).

#### IDEAL CHEMICAL RESISTANCE

CG 500 (A+B) OFFERS EXCELLENT CHEMICAL RESISTANCE AGAINST:	
Humidity	CG 500 (A+B) prevents infiltration of humidity into the glue and thus any corrosion. Jewelry pieces can be stored and worn in places with high humidity.
Perspiration	CG 500 (A+B) prevents infiltration of perspiration into the glue and thus avoids corrosion. The glued Swarovski products are not damaged by perspiration.
Salt and chlorinated water	CG 500 (A+B) protects Swarovski crystals when they are exposed to salt or chlorinated water. The glued Swarovski products are not damaged during swimming.

## DIVERSE AREAS OF APPLICATION

<b>CG 500 (A+B) OFFERS IDEAL ADHESION FEATURES ON:</b>	
Metals	E.g. Application of Swarovski products on plated surfaces, brass, stainless steel, titanium, gold, rhodium, and silver within the jewelry industry
Gluable synthetics and rubber	E.g. Application of Swarovski crystals on ABS, PMMA, PVC etc. within the accessories and electronics industries
Glass, crystal, wood, stone, cork, and porcelain	E.g. Application of Swarovski products in the interior and home décor industries

### CG 500 (A+B) technical data

Mixture ratio (A:B)	1:1 (by weight)
Pot life at room temperature (23 °C/73.4 °F), quantity applied: 1 g	15 min.
Complete curing time at room temperature (23 °C/73.4 °F)	24 h
Complete curing time in oven (40 °C/104 °F)	12 h
Complete curing time in oven (70 °C/158 °F)	2 h
Complete curing time in oven (100 °C/212 °F)	1 h
Handling time at room temperature (23 °C/73.4 °F)	3 h
Elasticity	500%
Viscosity (mixed)	15.000 +/- 5.000 mPa*s

### Mixing CG 500 (A+B) two-component glue

The exact mixing of the two-component glue is especially important. Only a fully homogenous mixture leads to the desired results. Care must be taken to follow the manufacturer's instructions.



1 Weigh out the two glue components at a ratio of 1:1.



2 Mix the two components until a homogenous result is achieved.



3 Put the glue in a dispenser.



4 Attach the dispensing tip to the syringe.

## CG 610 (A+B) two-component epoxy resin glue

The CG 610 (A+B) two-component epoxy resin glue was specially developed for gluing Swarovski crystals of very small sizes, starting with PP 0. Depending on the area of application the adhesive can be used for crystals up to the size of PP 14.

### Key Features:

- Suitable for gluing very small crystals (starting with size PP 0)
- Low viscosity allows an easier dosing of small glue quantities
- Cost saving due to long pot life (140 min.)

### Available Packaging Sizes

The CG 610 (A+B) adhesive is available in the following two packaging sizes and in two regional versions\*:



**CG 610 (A+B) 50 g cartridge**  
(33.3 g resin + 16.7 g hardener)  
(Europe/America/Asia)



**CG 610 (A+B) 750 g box**  
(500 g resin + 250 g hardener)  
(Europe/America/Asia)

\*Please note: The composition of the adhesive is the same for both versions; the different description on the packaging is due to local legal requirements. It is mandatory to order accordingly.

### Technical Data

Mixing ratio (A : B)	2 : 1 (resin : hardener) by weight
Pot life at room temperature (23 °C/73.4 °F) – quantity applied: 1 g	140 min.
Complete curing time at room temperature (23 °C/73.4 °F)	72 h
Complete curing time in oven (40 °C/104 °F)	12 h
Complete curing time in oven (70 °C/158 °F)	4 h
Complete curing time in oven (100 °C/212 °F)	1.5 h
Handling time at room temperature (23 °C/73.4 °F)	16 h
Elasticity (break extension at 23 °C/73.4 °F)	46.5 %
Viscosity, mixed (23 °C/73.4 °F)	1.750 +/- 250 mPa*s

### Areas of Application

The following table provides an overview of the glue's bonding on different materials:

MATERIAL	BONDING
Crystal	+
Glass	+
Ceramics	+
Stone	+
Aluminium	+
Brass	+
Silver	+
Steel	+
PC	+
PS	+
PVC/ABS	o
PMMA	o

#### Bonding types

- + sufficient or excellent bonding can be reached
- o sufficient bonding is possible
- sufficient bonding is nearly impossible

### Mixing CG 610 (A+B) two-component glue

The **50 g cartridge** of CG 610 is designed in a way that the containing resin and hardener do not have to be mixed together by the user. Just attach a dispensing gun and the dispensing tip (delivered with the 50 g adhesive package) to the cartridge and start gluing.



When using glue of the **750 g box**, resin and hardener have to be mixed. First, weigh the two glue components at a ratio of 2 : 1 (resin : hardener). It is very important to keep an exact mixing ratio of the two components to achieve maximum adhesion. Mix then the two components well for at least one minute. Only a fully homogenous mixture leads to the desired results.



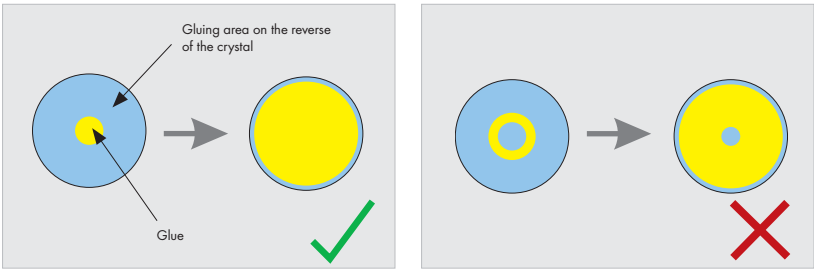
When a homogenous mixture is achieved, put the glue into a dispenser/syringe and attach a dispensing tip.

**Dosage**

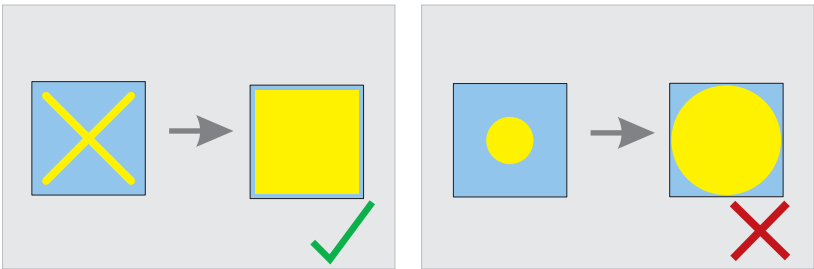
The glue can be precisely dispensed via a variety of dosage systems. Dispensers with a vacuum connection prevent the glue from dripping and reduce the amount of cleaning needed. The correct amount of glue will additionally protect the foiling from external influences. Attention must be paid to the application and quantity of the glue.

**GLUE APPLICATION**

**Irrespective of the shape of the gluing area**, the glue should be applied as follows:



With a **round** gluing area, a dot of glue in the centre is sufficient. When the crystal is applied, the glue will be evenly distributed in the gluing gap. To glue a single spot, aim the dispensing needle just above the spot to be glued and lift it slowly upward to avoid any glue spreading out sideways.

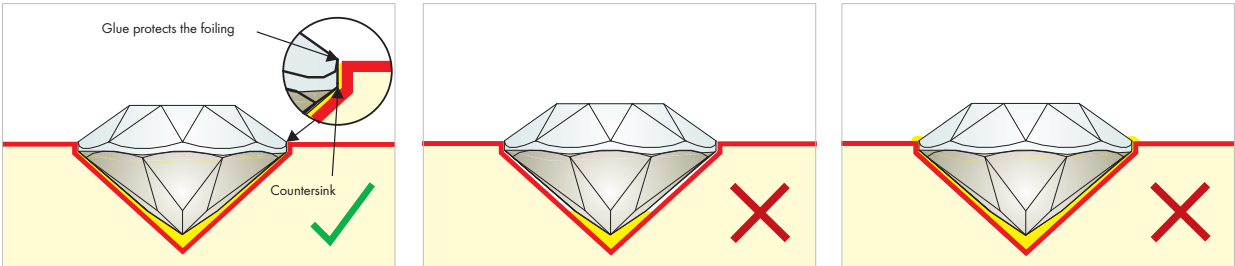


With a **square or rectangular** gluing area, apply a cross of glue to ensure it is evenly spread into the corners.

**GLUE QUANTITY**

When selecting the amount of glue to dispense, ensure that when setting and pressing down on the crystal, the glue spreads to the edges, thus offering additional protection for the foiling.

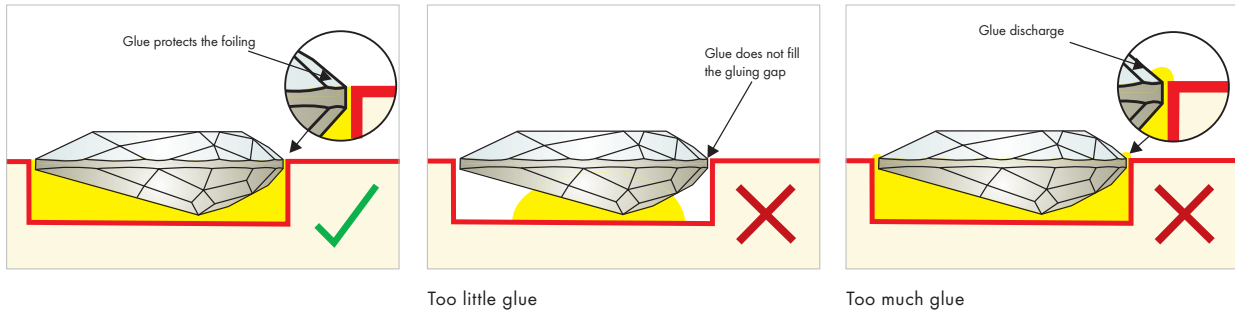
**Round Stone**



Too little glue

Too much glue

## Fancy Stone



## Half Hole Pendants

Two different types of adhesive can be used to affix the single Half Hole Pendant to the metal cap: UV glue and two-component epoxy resin glue.

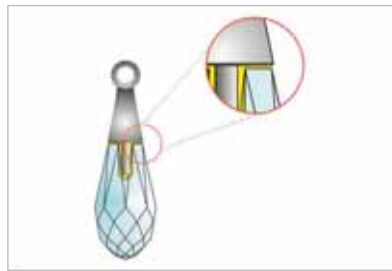
If using UV glue, the crystal must be permeable to UV light. This applies for the following Half Hole Pendant colors and effects: Crystal, Crystal AB, and Amethyst. Best results in internal tests were achieved using the UV glue DELO-PHOTOBOND GB 368.

Please note that some crystal colors absorb UV light and are thus unsuitable for use with UV glues: Siam, Smoky Quartz, and Jet. In this case using epoxy resin glue is suggested. In internal tests, the best bond was achieved using CG 500 (A+B).

As colors and effects not explicitly mentioned may provide variable results, in these cases it is recommended to perform application tests with UV glue or to choose the option of gluing with epoxy resin glue. For further information about commonly known and globally available glues and their adhesion on metal, please consult the Application Manual on our business website [SWAROVSKI.COM/PROFESSIONAL](http://SWAROVSKI.COM/PROFESSIONAL).



1 To achieve precise and consistent results, it is suggested to use a dosage system. Choose a dispensing tip with a diameter smaller than 1 mm and put a dot of glue into the pendant's hole. The amount of glue used depends on the type of adhesive and its curing behavior; performing application tests is therefore recommended.



2 After setting the metal cap into the hole, the glue should be evenly distributed in the gluing gap and spread over the edges to also affix the metal part on top of the crystal. Remove excess glue before it is hardening, e.g. with a cotton wipe soaked in isopropyl alcohol.



## Setting

Once the glue has been dispensed the Swarovski product can be positioned. Pick up the crystals, for example with a wax stick or tweezers, apply them to the gluing position, and press down gently.

For preparing **Chatons** for the positioning process, a **Chaton Sieve** can be helpful. Take the black sieve (for size PP 0 - PP 1, art. 9030/003), the gray sieve (for size PP 2 – PP 20, art. 9030/001) or the blue sieve (for size PP 21 – SS 34, art. 9030/002) according to the Chatons' sizes. As each sieve provides two sides with different cavity sizes, make sure to choose the sieve type and side that perfectly matches the Chatons to be set. Place some crystals onto the sieve. By slightly shaking the tool and wiping over it with glove-covered fingers, the majority of Chatons automatically turn into the suitable position for gluing (table pointing upwards).



**Chaton Sieve** for Chatons size PP 0 – PP 1  
(art. 9030/003)



**Chaton Sieve** for Chatons size PP 2 – PP 20  
(art. 9030/001)



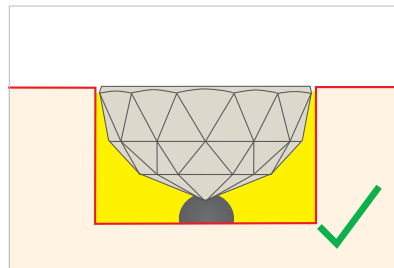
**Chaton Sieve** for Chatons size PP 21 – SS 34  
(art. 9030/002)

As a next step the Chatons can easily be picked up from the Chaton Sieve using a tool like the wax stick, tweezers, or a vacuum pick-up system. The use of a silicone wax stick is not recommended as this can impair the adhesion and the brilliance of the crystals.

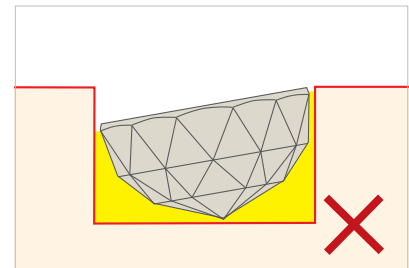
Apply the crystals to the gluing position and press down gently. When working with cavities with large gluing gaps, the following aids assist in ensuring the optimum positioning:



A cross (or a similar tool) prevents the crystal from tipping over. Press the crystal down flat on the material using the chosen tool.



To prevent the crystal from sinking or tipping during the hardening process, a small **plasticine ball** can be used to fix it in place.



### Post-cleaning

Excess glue that escapes during setting can be carefully removed using a cotton wipe that has been soaked in a solvent, e.g. isopropyl alcohol. It must be removed **while the glue is hardening**, as dried glue cannot be fully removed. Remember to follow the glue manufacturer's instructions, as well as considering the resistance of the base material. **?!**

### Curing

The curing time of the glue depends mainly on the **temperature**, or on the **humidity** in the case of silicone glues. Please note the glue manufacturer's instructions.

To minimize shrinking and tension during hardening, we recommend a **maximum curing temperature of 50 °C (122 °F)**, with the exception of two-component epoxy resin glue CG 500 (A+B).

CG 500 (A+B) can be cured at a maximum temperature of **100 °C (212 °F)**, without any changes to its properties. **?!**

## OVERVIEW OF THE APPLICATION PROCESSES



1 The surface must be correctly pre-treated before gluing (e.g. cleaning, degreasing, sanding).



2 The glue should be applied with a dispenser.



3 Pick up the crystal, e.g. with the wax stick.



4 Carefully place the crystal in the cavity and press it down gently; post-clean and cure.

## PRODUCT-SPECIFIC APPLICATION INSTRUCTIONS

### Applying UV-transparent materials

When using UV glue, **at least one part** of the materials must be translucent for **UV light**. On a metal surface for example, only crystals without foiling can be applied. Similarly, foiled crystals can only be glued to UV-transparent materials. Please note that some crystal and glass colors as well as UV-stabilized plastics absorb UV light and are thus unsuitable for UV glues.



1 The surfaces to be glued must be properly pre-treated to achieve a sufficient surface tension. This can be tested via a Test Pen (art. 9030/000).



2 Dispense the UV glue.



3 Press down on the crystal, until the glue completely covers the gluing area.



4 Cure the glue for a few seconds using a UV light (following the manufacturer's instructions), and remove any excess glue using a cleaning agent. The curing process can then be continued, according to the manufacturer's instructions.

**Note:** It is recommended that UV-protective eyewear is worn during curing, to prevent injury. Please follow the manufacturer's instructions.

## Applying Synthetics Hotfix on solid surfaces (with external glue)



1 The surfaces to be glued must be properly pre-treated, so as to achieve sufficient surface tension.



2 Apply the correct amount of glue onto the carrier material.



3 Elapse the glue equally on the material.



4 Position the motif in the desired location and press down firmly for a few minutes.



5 Glue that escapes during positioning can be carefully removed using a cotton wipe.



6 During curing it is suggested to put some weight on the motif.

## Applying Self-adhesive Elements

### APPLYING CRYSTAL TATTOOS

Crystal Tattoos are coated with a **dermatologically tested** glue that poses no threat to health and can therefore be applied directly to the skin.



1 Clean the skin with soap.



2 Peel off the white protective film at an acute angle.



3 Position the motif in the desired location and press down firmly for around 10 seconds.



4 Carefully remove the transparent film at an acute angle and press down on the motif again.

**Note:** Please read the additional instructions on working with Crystal Tattoos at the end of this manual.

## APPLYING CRYSTAL-IT



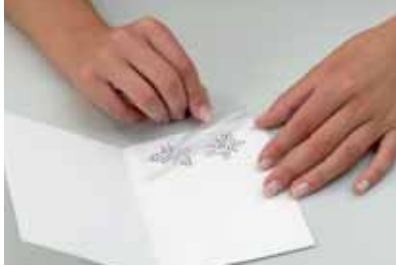
1 Press the crystals onto the transparent film.



2 Peel off the white protective film at an acute angle.



3 Position the motif in the location desired and press down firmly for around 10 seconds.



4 Carefully remove the transparent film at an acute angle and press down on the motif again.

## Applying other Self-adhesive Elements

### DRY APPLICATION



1 The surfaces to be glued must be properly pre-treated, so as to achieve sufficient surface tension.



2 Press the motif onto the transparent film.



3 Peel off the white protective film at an acute angle.



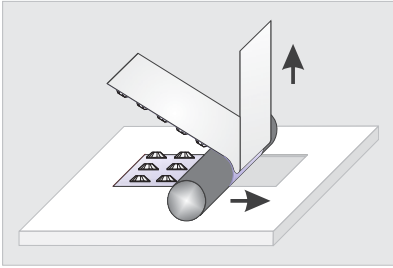
4 Position the motif in the location desired and press down firmly for around 10 seconds.



5 Carefully remove the transparent film at an acute angle and press down on the motif again.

**Note:** Prevent the self-adhesive back from sticking together, as separating it can cause damage. The minimum application temperature is 18 °C (64 °F), with the glue fully hardening after 72 hours.

For applications on surfaces subject to high mechanical stresses, it is recommended that a cavity is produced.



When applying Synthetics-it and Chatons, remove the white protective film during application in the pre-produced cavity.

When producing cavities, the dimensions should consider the tolerance of the product and the production tolerance. The tolerances of the product can be requested from your Swarovski representative.



### WET APPLICATION

For larger motifs and those that must be positioned accurately on surfaces, a wet application is recommended. It is essential, however, that the base does not absorb the soap water that is used here.



1 Moisten the cleaned surface with soap water.



2 Carefully peel off the white protective film at an acute angle, and carefully position the product on the wet surface. After positioning it, press down on the soap water beneath the motif, e.g. using a rubber roller.



3 Carefully remove the transparent film at an acute angle and leave the surface to dry.

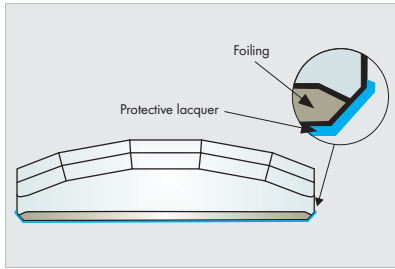


4 After drying, press down firmly on the motif again, e.g. using a rubber roller.



## Applying Flat Backs No Hotfix for mosaic tiles

Due to their dimensions (outer dimensions and height) and coating (protective lacquer), selected Flat Backs No Hotfix have been tailored specially for use in tiles and mosaics.



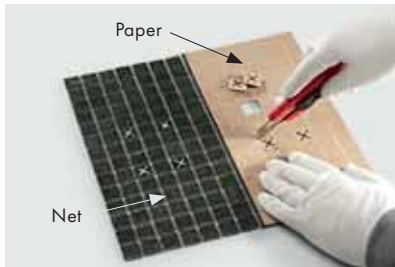
Protective lacquer is applied to the foiling of all crystals, and fully covers the reflective surface. Protective lacquer prevents moisture, cleaning agents, etc. from coming into direct contact with the reflective layer, which can lead to corrosion and damage the crystal.

Long-term, satisfactory solutions can only be achieved with **paper-glued** mosaic tiles and the use of recommended tile glues and joint sealers. When working with **net-glued** mosaics, their absorption and storage of moisture means the **support net** must be **completely removed** in the areas where the crystals are to be applied.

Find suppliers for tile glues and joint sealers on the supplier list on page 43. Solvent-resistant and alkaline tile glues and joint sealers are not recommended.

### UNSUITABLE AREAS OF APPLICATION

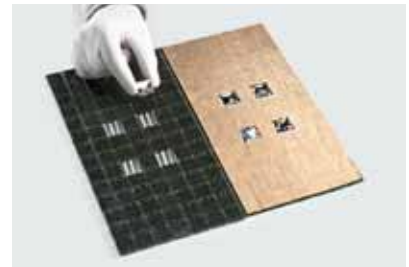
- In swimming baths and steam rooms
- In contact with chlorine and other aggressive cleaning agents
- In saunas, due to the high temperatures and moisture
- Outside



1 Cut out the marked tile area and remove it from the mosaic.



2 Apply the tile glue to the prepared base according to the manufacturer's instructions, then carefully position the mosaic tile and press down.



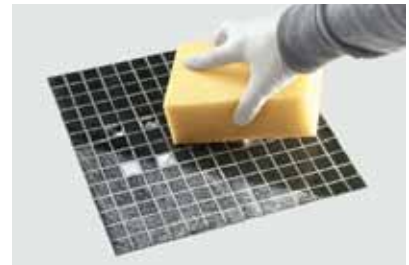
3 Place the individual crystals in the gaps and lightly press down.



4 Before curing, remove any excess glue with a damp sponge; follow the manufacturer's information regarding curing.



5 After curing, remove the paper support. Following this, the mosaic can be grouted with a soft rubber scraper.



6 Excess joint sealer can be removed with a wet sponge during curing.

**Note:** Please be aware that many tile glues and joint sealers can contain abrasive materials, which can lead to scratching of the crystal. To avoid damaging the crystal, these parts should be carefully cleaned with mild, pH-neutral cleaning agents and cleaning sponges.

## USEFUL INFORMATION

### Applications on silver jewelry

Without protection, silver jewelry can turn yellow or black with time due to chemical reactions. To slow or stop these reactions the surface of silver jewelry is often covered with a temporary (wax-based) or permanent protective coat (varnish-based). Tarnishing on the surface of the metal often results in a decline in the surface tension under the recommended 38 mN/m.

TARNISHING PREVENTION SYSTEMS	
<b>Temporary protection against tarnishing:</b>	<b>Permanent protection against tarnishing:</b>
▪ Wax-based	▪ Varnish-based
▪ Low surface tension	▪ Surface tension depends on varnish
<b>Recommendation:</b> Protect the rest of the piece after gluing	<b>Recommendation:</b> Use a tarnishing protection system with sufficient surface tension

### Protective film

A self-adhesive film can protect against dirt during the application process and aid in positioning.

#### BLIND HOLE



1 To protect the surface of the material used (e.g. metal, tiles, etc.) from dirt, a self-adhesive film can be applied.



2 It is then cut out along the previously produced cavities.



3 The crystal can now be glued into the cavity. Once any excess glue has been removed, the adhesive film can be removed following curing.



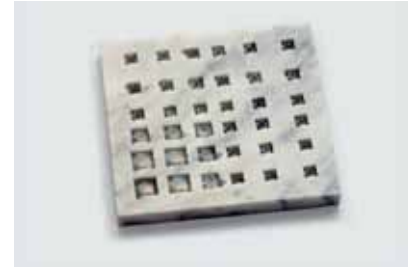
## END-TO-END CAVITIES



1 Apply a self-adhesive film to the **front** of the material.



2 Place the Flat Backs No Hotfix elements into the end-to-end cavity from the **back**.



3 Now fill the cavity with glue. The glue should cover the entire foiling of the crystal, so as to avoid corrosion. The self-adhesive film **prevents the glue spreading** onto the front.

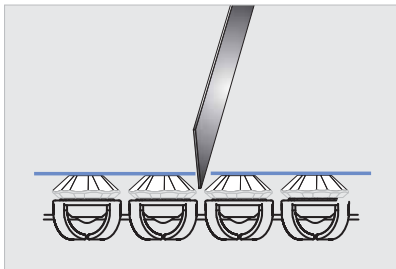


4 Once the glue has cured, the film can be removed.

**Note:** Highly viscous glues are best suited for end-to-end cavities, as they do not spread through the cracks at the front.

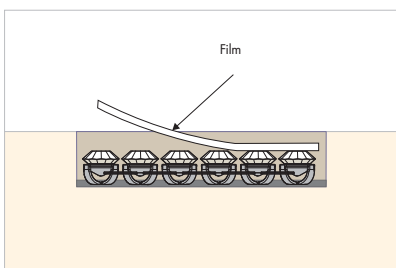
## Cutting and gluing Crystal Mesh

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



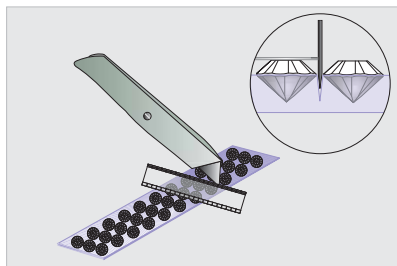
Cut the transparent film between the rows of crystals with a Stanley knife, though do not pull it away – otherwise the stability of the crystals will be lost.

When gluing flexible Crystal Mesh products, do not remove the transparent film until the glue has cured to ensure the proper alignment of the mesh.

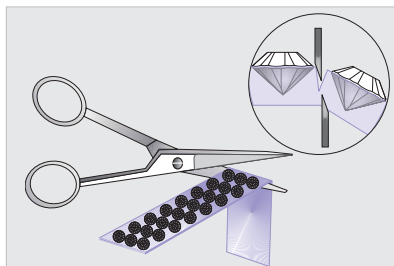


### Cutting Crystaltex Chaton Bandings and Cabochon Bandings

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 damaging the crystal.



1 Cut into the support film between the crystal rows with a Stanley knife.



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

### Applications on plastics

There are many types of synthetic materials. The following table contains information regarding the adhesive qualities of a selection of plastics.



PLASTICS	USUAL COMMERCIAL NAME	ADHESIVE QUALITIES
ABS	Abselex, Lacqran, Tynrene	good
ASA	Luran S, Geloy	good
CA	Ultraplan, Saxetat, Thodialite	good
EP	Araldite, Ferropox, Duroxyn	good
PA	Degamid, Nylon, Perlon	very difficult
PC	Polycarbafil, Lexan, Andoran	good
PE	Geberit, Hostalen G, Ferrozell	difficult
PET	Cardura, Atlas, Eralyt	difficult
PF	Formanyl, Holoplast, Kerit	good
PIB	Parapol, Oppanol, Vistanex	good
PMMA	Plexiglass, Resartglass	good
POM	Delrin, Kematal, Ertacetal	difficult
PP	Moplefan, Proplex, Verelite	difficult
PS	Hostyrene, Styropor, Noblen	good
PTFE	Teflon®, Gafflon, Ferrotron	very difficult
PVC	Marcoproplat, Ravinil, Sumilit	good
SAN	Litac, Tuf-Flex, Vestoran	good
SILICONE	Silopren, Contiduct, Corotex	difficult
UP	Celipal, Sirester, Vestopal	good

## QUICK ASSISTANCE

The following table outlines common problems and causes when gluing Swarovski crystals, 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
<b>The crystal has become discolored:</b>	
The crystal is matt or yellowed.	1, 2
The crystal seems black and dull compared to the surrounding crystals.	3
The crystal has been plated.	4
<b>The crystal has detached from the cavity without the foiling:</b>	
The crystal has become discolored.	5, 6
The crystal has detached with the mirror coating but without the platinum foiling or the glue.	7, 8, 9
<b>The crystal has detached from the cavity with the foiling:</b>	
Glue is attached to the crystal.	10, 11, 12, 13, 14
No glue is attached to the crystal anymore.	15, 16, 17
<b>Excess glue:</b>	
Before hardening.	2
After hardening.	18

CAUSE	RECOMMENDATION
1 Glue residues have not been completely removed and have been smeared over the crystal.	Use a suitable dispenser to apply exactly the right amount of glue. Dispensers with a vacuum connection prevent the glue from dripping and reduce the amount of cleaning needed.
2 Too much glue was used.	Be sure to use the exact recommended dosage and to carefully remove any excess glue, e.g. using acetone or isopropyl alcohol.
3 The axis of the cavity was already off-center in the original model or the cavity was not drilled straight in the unfinished casting.	Use a special bit when drilling the original model. This offers more precise control of the direction and depth of the drilling.
4 The jewelry was only plated after the crystals had been glued to it.	It is recommended to complete the plating before gluing the crystals.
5 A gluing gap that has not been completely filled is causing corrosion.	Make sure the exact dosage of glue is used.
6 Tensile stresses are reducing the adhesion of the mirror coating. Oxygen is penetrating between the stones and the mirroring and causing oxidization.	Use glue that is more elastic and that does not shrink as much.
7 An incorrect glue system was used.	Carry out tests with other glue systems.
8 Incorrect proportions of resin and hardener were used.	Follow the glue manufacturer's mixing instructions.
9 Cleaning agents have affected the glue and/or the protective coating.	Use less solvent or a different type of solvent.
10 Residues of polishing agent were not completely removed before plating.	Double check the type of cleaning process used.
11 A varnished piece of jewelry has not been correctly pre-treated before gluing.	Improve the adhesion of the glue, e.g. with low-pressure plasma treatment or flame treatment if necessary.
12 Too little glue was used.	Make sure the exact dosage of glue is used.
13 The cavity has the wrong shape after plating.	Re-work the original model to improve the cavity shape.
14 Electrolyte residues have not been completely removed.	Double check the type of cleaning process used.

CAUSE		RECOMMENDATION
15	The specified processing time was exceeded and as a result the glue has already hardened.	Reduce the processing time.
16	Too little glue was used.	Make sure the exact dosage of glue is used.
17	General glue problems.	Follow the manufacturer's instructions. Check the conditions under which the glue is stored. Excess solvent could have corroded the glue and/or the foiling.
18	The jewelry piece was put under stress before the glue had hardened.	Make sure the glue has hardened, for example before transporting the jewelry.





## 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

								
<b>General Recommendations</b>		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 <sup>1</sup>		✓						✓
Flat Backs Hotfix	XILION Rose & XIRIUS Rose <sup>1</sup>	✓						✓
	Framed Flat Backs	✓						✓
	Creation Stones	✓						✓
	Creation Stones Plus <sup>2</sup>				✓			✓
	Cabochons				✓			✓
Sew-on Articles		✓						✓
Self-adhesive Elements						✓		✓
Transfers	XILION Transfers & XIRIUS Transfers	✓						✓
	Creation, Diamond	✓						✓
	Metallic & Mezzo Transfers		✓					✓
	Creation Transfers Plus <sup>2</sup>				✓			✓
	Pearl Transfers				✓			✓
Synthetics Hotfix	Crystal Fabric		✓					✓
	Crystal Rocks & Crystal Fine Rocks		✓					✓
	Graphic Fabric & Graphic (Fine) Rocks				✓			✓
	Crystal Medley		✓					✓
	Crystalltex <sup>3</sup>		✓					✓
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 <sup>1</sup>		✓			✓
Flat Backs Hotfix	XILION Rose & XIRIUS Rose <sup>1</sup>	✓		✓	
	Framed Flat Backs			✓	
	Creation Stones	✓		✓	
	Creation Stones Plus <sup>2</sup>		✓		✓
	Cabochons	✓		✓	
Sew-on Articles		✓			✓
Self-adhesive Elements		✓			✓
Transfers	XILION Transfers & XIRIUS Transfers	✓		✓	
	Creation, Diamond	✓		✓	
	Metallic & Mezzo Transfers		✓	✓	
	Creation Transfers Plus <sup>2</sup>		✓		✓
	Pearl Transfers	✓		✓	
Synthetics Hotfix	Crystal Fabric		✓	✓	
	Crystal Rocks & Crystal Fine Rocks		✓	✓	
	Graphic Fabric & Graphic (Fine) Rocks		✓	✓	
	Crystal Medley		✓	✓	
	Crystaltex <sup>3</sup>		✓	✓	
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 <sup>1</sup>			✓	✓	
Flat Backs Hotfix	XILION Rose & XIRIUS Rose <sup>1</sup>	✓	✓	✓	
	Framed Flat Backs	✓	✓	✓	
	Creation Stones	✓	✓	✓	
	Creation Stones Plus <sup>2</sup>	✓	✓	✓	
	Cabochons	✓	✓	✓	
Sew-on Articles		✓	✓	✓	
Self-adhesive Elements					✓
Transfers	XILION Transfers & XIRIUS Transfers	✓	✓	✓	
	Creation, Diamond	✓	✓	✓	
	Metallic & Mezzo Transfers		✓	✓	
	Creation Transfers Plus <sup>2</sup>	✓	✓	✓	
	Pearl Transfers	✓	✓	✓	
Synthetics Hotfix	Crystal Fabric		✓	✓	
	Crystal Rocks & Crystal Fine Rocks		✓	✓	
	Graphic Fabric & Graphic (Fine) Rocks		✓	✓	
	Crystal Medley		✓	✓	
	Crystaltex <sup>3</sup>		✓	✓	
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](http://SWAROVSKI.COM/PROFESSIONAL)