
TURNING
DREAMS
INTO
REALITY

Application Methods

Swarovski Created Stones allow you to stand out from competitors and create significant added value for your products. We offer this practical introduction to created stone setting as a tool to identify the application methods most relevant to your business, complete with illustrations to inspire you to bejewel your products with Swarovski Created Stones.

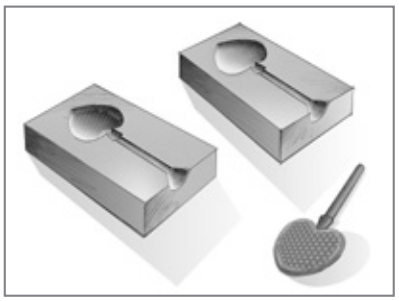
Casting in place / Lost wax casting

This technique is the standard method for setting stones in the fine jewelry industry. It is ideal for stone-intensive designs and metals like brass, silver, gold, along with other metals with a low melting points. Casting of stainless steel is not possible.

Mostly stones up to 3 mm can be cast in place and works best with round stones, rather than fancy shapes, as they are difficult to set properly.

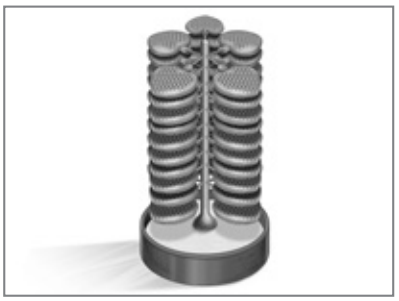
Recommended for :
- Stone intensive designs
- Jewelry-like components
- Brass, silver, gold and other metals with low to medium melting point

Advantages :
- High quality
- Many design possibilities

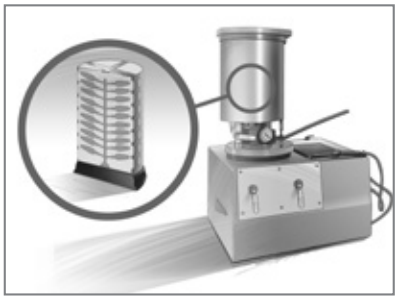


1 Liquid wax is injected into a rubber mold to create a wax model. Duplicates of the wax model are made from the same mold.

2 A vacuum needle is then used to mount stones by hand onto each of the wax models.



3 All the wax models are soldered on the so-called wax tree.



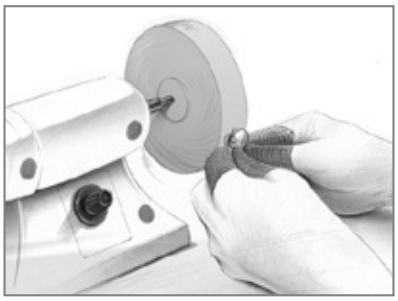
4 The wax tree is placed in a crucible. A machine is then used to inject investment, usually plaster, into the space surrounding the wax tree.

5 The crucible is heated in an oven, the burn out furnace, to melt and 'burn out' the wax. There is now empty space where the wax tree used to be. Only the investment remains.

6 A casting machine next fills the investment with a choice of liquid metal (gold, silver,brass or alloys). By using pressure from above and vacuum from below, the casting machine not only ensures that the metal quickly fills the empty space but also that no air bubbles remain within the newly cast jewelry pieces.

7 After casting, four hours are needed for the crucible to cool down to room temperature. The crucible is then quenched in water, also at room temperature, to dissolve the investment. The remaining metal tree is then jet cleaned with water before it is acid cleaned, for example with a 20% phosphoric acid solution.

8 The casting process is now complete and the individual jewelry pieces can be cut off the metal tree.



9 The individual jewelry pieces can now be finished and polished.

CNC

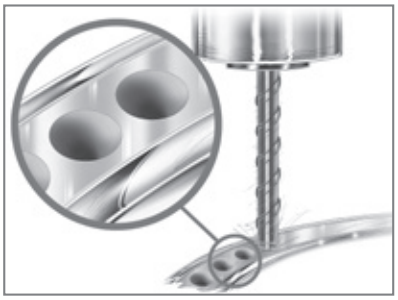
CNC Setting was invented by the watch industry in the late 80`s and is one of the most advanced stone setting methods. The same design can easily be reproduced in high quantities with very high precision.

Recommended for :
- Stone intensive designs
- Stainless steel
- Aluminum
- Brass & Chromium
- Big Volumes

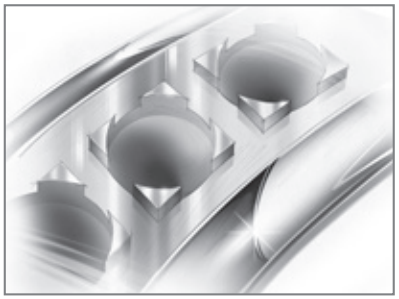
Advantages :
- High quality setting, jewelry-like look
- Very precise dimensions
- Many design possibilities
- Setting can be done on curved surfaces as well

1 A CAD/CAM technical drawing of the stone-set part must be created first.

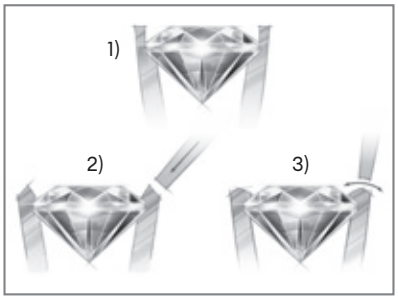
2 The CAD/CAM drawing is used to program the CNC machine.



3 The CNC machine first mills the cavities into the metal part.



4 Next, the prongs are milled out of the metal part.



5 The stone setting is usually done manually in 3 steps:
1) The stone is placed into the cavity.
2) The prongs are bent over the edge of the stone.
3) The prongs are rounded and polished.

6 The manual beading and polishing of the prongs is often done under a microscope.

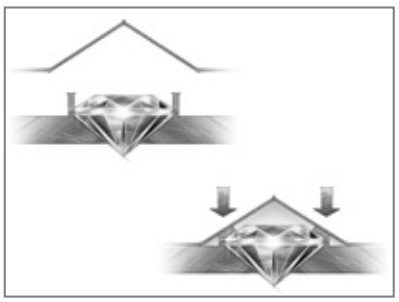
7 The CNC set metal part is now finished.

Bezel Setting

The earliest known technique of attaching stones to jewelry. A bezel setting holds a gemstone securely, and the low, protective profile it creates, makes a bezel setting a good choice for people with active lifestyles. Bezel setting offers better protection of the stone and is ideal for cabochons or faceted stones.

Recommended for :
- Single stones, big stones
- Stainless steel, brass
- Thin metal, low thickness

Advantages :
- Low weight
- Low cost



1 In preparation, a strip of metal is bent into the exact shape and size of the selected stone. After the stone has been inserted into the cavity, a setting tool is used to press the metal strip onto the stone. The metal strip is now bend over the edge of the stone.

2 In the above illustration, you can see exactly how the stone sits in the bezel setting.

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