The Foil's Resistance – an Important Condition for Soldering

Soldering (also soft soldering) is a traditional method for joining cup chains using a molten solder (i.e. a soldering wire), thus forming them into final fashion jewellery products.
Unlike ***brazing*** (also hard soldering), this method is used for joining cup chains or individual cups already set with fashion jewellery stones. This method has the added advantage of high labour productivity.
On the other hand, one disadvantage of soldering, compared with brazing, is a lower joint strength and a higher heat stress affecting the stones during the soldering process.

Temperature conditions for soldering

Although the solder's melting point is ca 220°C (428°F), the actual temperature affecting the stones may be far higher. Using the oxy-hydrogen blowpipe, the temperature of the flame's centre reaches ca 3000°C (5432°F).

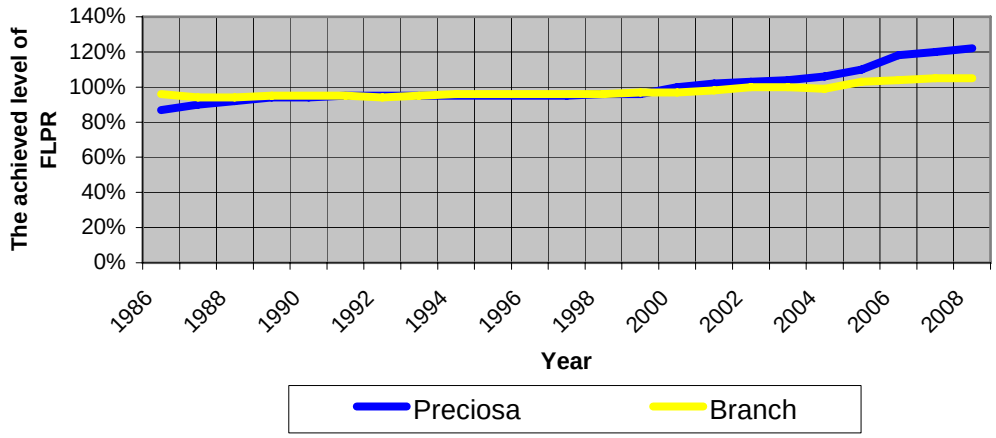
The risks of a wrong soldering technique

If the soldering technique has not been fully mastered, it is fairly easy to unconsciously exceed the foiling limitary point of resistibility (FLPR). This usually results from an unbalanced combination of temperature and time. In that event, apparent or concealed damage to the stones always occurs. The concealed damage usually doesn't manifest itself until after the subsequent operations, such as degreasing or electroplating, have been carried out. The stones damaged by high soldering temperature have a dull appearance.

Foiling Limitary Point of Resistibility (FLPR)

Being well aware of the importance of the FLPR parameter, Preciosa constantly advances the FLRP´s frontiers to achieve a greater working comfort.
For decades, fashion jewellery stones by Preciosa have been considered to be among the most resistant in today's world market. Steady improvements to the foiling formula have made it possible to continuously raise the level of FLPR and help keep ahead of the other products on the market. A quality foil (i.e. the reflexive layer on the stone's back) enables the manufacturer to reduce the impact of some faults in the soldering technique, contributes to the immaculate appearance of the final product and ensures that the manufacturer can achieve the highest possible manufacturing productivity.

The development of FLPR between 1986 - 2008



Useful advice:
If you want to ensure high labour productivity and simultaneously avoid unnecessary costs associated with the necessity of replacing huge numbers of damaged stones and resetting good ones, we recommend using either individual stones or complete fashion jewellery components from Preciosa. The highest level of FLPR is guaranteed.
Besides using top-quality stones and fashion jewellery components from Preciosa, you can also raise your labour productivity by creating optimum working conditions – ranging from using top-quality components and adequate working tools to following tested manufacturing procedures.