



PELI GLASS PRODUCTS B.V.

Lusters - An Introduction

Lusters are varnish-like preparations, based on metal and/or precious metal-containing organic compounds, with resin solutions as film formers. When fired on glass, porcelain, enamel, tiles or earthenware they produce very thin, intensively colored and lustrous layers, which give them their metallic iridescent finish.

Lusters can be applied with either a brush or spraying and are mixed with the appropriate thinning oil, depending on the application method.

In order to properly apply lusters, a thin wet layer should be applied in order to avoid cracking or chipping off. The thinner the better! After firing, a very thin layer (0.01 – 0.05 microns) of metal / metal oxides will remain on the surface of the substrate.

These materials are not pigments and therefore cannot usually be mixed with each other to achieve predictable and desired results – but blue and red lusters can be mixed with each other.

The DH 26 thinning oil for brush application will evaporate during brushing so if one intends to cover a large surface, consider spraying.

Lusters on art objects are expected to have a long useful life since these do not regularly come into contact with detergents. However, lusters are not dishwasher resistant and when applied to dinnerware they will fade with time.

Lusters should be stored in a cool, dry place (the refrigerator is recommended, at roughly 7°C).

The red luster preparations have a shelf life of 6 months, and all the other luster preparations and the Glanzpalladium (silver)

and Glanzgold (gold) have a shelf life of 12 months.

The Glanzpalladium or Glanzgold can be thinned with either thinning oil (DH 26 or DH 100).

Always apply lusters in a well-ventilated area (fume booth or canopy) and use appropriate protective equipment. These products are shipped as hazardous materials.

TESTING

We recommend testing of these materials so you determine your best application method. Take a opaque substrate (you can see the application better on a non-transparent substrate) and apply different layers: thick-medium-thin side by side. After drying break the substrate in two halves, fire one piece and then put them together again. Then you will have a reference for unfired versus fired.

SPRAYING

Use a nozzle of 0.2-0.4 mm with an air pressure of 2-3 atmospheres. The mixing recommended mixing ratio is 2 parts luster to 1 part DH 100 thinner (thinning oil for spray application).

BRUSHING

Lusters can be thinned, or in some cases, applied undiluted to the glass with a brush, and then allowed to dry.

Mother of Pearl luster (LU578) should be applied with a brush in order to get a slightly variable thickness application. This creates the shimmering effect of different colors and is desired. The LU578 luster tends to crack or chip if applied in thick layers so some dilution is recommended (5-10%).

We estimate an average use for brushing lusters of approximately 0.16–0.20 g/100 cm², depending on application and dilution.

Careful, lusters and the Glanz colors are very aggressive on paintbrushes. Use separate equipment and clean immediately with thinning oil or turpentine or paint thinner after use. Only use brushes made from animal hair as synthetic materials will be destroyed by the solvents. Keep the brushes clean at all times, as dust is the #1 enemy of all precious metal products.

Consider keeping the brushes either in a cigar box (with some DH 26 on damp pieces of cloth inside) or put some DH 26 in a wide-mouth glass jar, bundle some brushes with a strip of cloth and place them into the jar. The bristles will not touch the liquid but the solvent-saturated atmosphere prevents the bristles from drying out. Dry bristles always collect more dust as natural hair can easily generate static electricity.

DRYING

At room temperature (20°C), allow approximately 12 hours before firing. In a drying cabinet (70°C), allow approximately ½ hour.

If the drying of the lusters is incomplete then the proper color doesn't develop and the luster will not adhere to the glass properly.

FIRING

The firing conditions depend on the material that the luster has been painted onto. For glass, the lusters may be fired between 500–600°C.

In order to burn off the organic materials from the lusters, good ventilation of the oven is necessary at least up to 500°C. Therefore, leave the slightly open until 500°C. Take about 1 – 1.5 hours to get to temperature – the material can be fired to a maximum temperature anywhere between 500–600°C, and then hold at that temperature for 10 minutes.

Fast firing allows for a reduction in overall firing time but with an increase in the maximum temperature.

To fire at the lower end of the firing range temperature then increase the temperature more slowly and soak at the maximum temperature longer.

Firing is dependent on the oven type, the requirements of the specific paint, and the size and thickness of the glass.

So experiment! You must find for yourself what works best for you.